

Nemoral		Cropping system 1: Willow			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Willow I	<u>Tillage</u> Plough and disk harrow:	40-50 cm	35 cm	40-50 cm	35 cm
	h ha ⁻¹ : MJ h ⁻¹ :	3.8 883.32	2.9 883.32	2.9 883.32	2.3 883.32
Willow I	<u>Sowing</u> Season:	Spring	Spring	Spring	Spring
	Planter Amount (plant ha ⁻¹): h ha ⁻¹ : MJ h ⁻¹ :	10000 2.9 380.73	8000 2.9 380.73	10000 2.2 380.73	8000 2.2 380.73
Willow I	<u>Crop practices</u>				
	Fertilization:	Planting	Planting	Planting	Planting
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :	120-120-180-100	30-60-90-50	120-120-180-100	30-60-90-50
	Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ :	1.0 218.99	0.8 218.99	0.8 218.99	0.6 218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):	0.25	0.25	0.25	0.25
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	- 0.5 218.99	- 0.5 218.99	- 0.3 218.99	- 0.3 218.99
Willow II-III	<u>Harvest</u> Season:	Late Winter	Late Winter	Late Winter	Late Winter
	Cut&Chip harvester+Lorry h ha ⁻¹ : MJ h ⁻¹ :	0.7 3726.2	0.6 3726.2	0.4 3726.2	0.3 3726.2
	Yield harvest (t ha ⁻¹ yr ⁻¹):	8.0	5.0	9.0	8.0
	Water content (%):	50	50	50	50
	Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	6.8 50	4.3 50	7.5 50	6.8 50
Willow III	<u>Crop practices</u>				
	Fertilization:	Top dressing	Top dressing	Top dressing	Top dressing
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :	120-0-0-0	30-0-0-0	120-0-0-0	30-0-0-0
	Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ :	1.0 218.99	0.8 218.99	0.8 218.99	0.6 218.99
	Mechanical weed control h ha ⁻¹ : MJ h ⁻¹ :	1.6 218.99	1.6 218.99	0.9 218.99	0.9 218.99
Willow IV-V	<u>Harvest</u> Season:	Late Winter	Late Winter	Late Winter	Late Winter
	Cut&Chip harvester+Lorry h ha ⁻¹ : MJ h ⁻¹ :	0.7 3726.2	0.6 3726.2	0.4 3726.2	0.3 3726.2
	Yield harvest (t ha ⁻¹ yr ⁻¹):	16.0	10.0	18.0	16.0
	Water content (%):	50	50	50	50
	Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	13.5 50	8.5 50	15.3 50	13.5 50
Willow V	<u>Crop practices</u>				
	Fertilization:	Top dressing	Top dressing	Top dressing	Top dressing
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :	0	0	0	0
	Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ :	1.0 218.99	0.8 218.99	0.8 218.99	0.6 218.99
	Mechanical weed control h ha ⁻¹ : MJ h ⁻¹ :	1.6 218.99	1.6 218.99	0.9 218.99	0.9 218.99

Nemoral		Cropping system 2: Reed canary grass			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Reed canary grass I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :		0-20 cm 2.1 883.32	30-40 cm 2.2 883.32	0-20 cm 1.6 883.32
Reed canary grass I	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 20 kg ha ⁻¹ 0.4 380.73	Spring 20 kg ha ⁻¹ 0.4 380.73	Spring 20 kg ha ⁻¹ 0.2 380.73	Spring 20 kg ha ⁻¹ 0.2 380.73
Reed canary grass I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 140-30-130-0 1.1 218.99 1.2 - 0.5 218.99	Sowing 50-10-40-0 1.0 218.99 1.2 - 0.5 218.99	Sowing 140-30-130-0 0.9 218.99 1.2 - 0.3 218.99	Sowing 50-10-40-0 0.7 218.99 1.2 - 0.3 218.99
Reed canary grass II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 140-30-130-0 1.1 218.99	Top dressing 50-10-40-0 1.0 218.99	Top dressing 140-30-130-0 0.9 218.99	Top dressing 50-10-40-0 0.7 218.99
Reed canary grass II	<u>Harvest</u> Season: Maize Chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring 1.2 825.55 13.6 23 11.5 23	Spring 1.0 825.55 11.7 23 10.0 23	Spring 1.0 825.55 15.5 23 13.0 23	Spring 0.8 825.55 13.6 23 11.5 23
Reed canary grass III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 0-0-0-0 1.1 218.99	Top dressing 0-0-0-0 1.0 218.99	Top dressing 0-0-0-0 0.9 218.99	Top dressing 0-0-0-0 0.7 218.99
Reed canary grass III	<u>Harvest</u> Season: Maize Chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring 1.2 825.55 13.6 23 11.5 23	Spring 1.0 825.55 11.7 23 10.0 23	Spring 1.0 825.55 15.5 23 13.0 23	Spring 0.8 825.55 13.6 23 11.5 23

Nemoral Cropping system 3: Pea – Cereal (barley) - Rapeseed						
Yr			Marginal land		Agricultural land	
			High input	Low input	High input	Low input
Pea I	<u>Tillage</u>	Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 1.2 323.50	0-15cm 0.8 323.50	0-25 cm 0.9 323.50	0-15 cm 0.7 323.50
Pea I	<u>Sowing</u>	Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73
Pea I	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 30-100-0-0 0.9 218.99 0.27 - 0.5 218.99	Sowing 0-70-0-0 0.7 218.99 0.15 - 0.5 218.99	Sowing 30-100-0-0 0.6 218.99 0.27 - 0.3 218.99	Sowing 0-70-0-0 0.5 218.99 0.15 - 0.3 218.99
Pea I	<u>Harvest</u>	Season: Combine harvester h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 9.6 18/24 4.0 18/24 5.0 18/24	Spring/Summer 0.7 825.55 6.0 18/24 3.0 18/24 3.5 18/24	Spring/Summer 0.6 825.55 12.0 18/24 5.0 18/24 6.5 18/24	Spring/Summer 0.5 825.55 9.6 18/24 4.0 18/24 5.0 18/24
Barley II	<u>Tillage</u>	Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 2.1 883.32	No tillage	0-25 cm 1.6 883.32	No tillage
Barley II	<u>Sowing</u>	Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 150 kg ha ⁻¹ 0.4 380.73	Autumn 150 kg ha ⁻¹ 0.5 380.73	Autumn 150 kg ha ⁻¹ 0.2 380.73	Autumn 150 kg ha ⁻¹ 0.3 380.73
Barley II	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 30-100-50-0 1.1 218.99 0.27 - 0.5 218.99	Sow.+Top dress. 10-50-30-0 1.0 218.99 0.15 - 0.5 218.99	Sow.+Top dress. 30-100-50-0 0.9 218.99 0.27 - 0.3 218.99	Sow.+Top dress. 10-50-30-0 0.7 218.99 0.15 - 0.3 218.99
Barley II	<u>Harvest</u>	Season: Combine harvester h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 5.4 17 2.6 13 2.8 20	Spring/Summer 0.7 825.55 4.4 17 2.1 13 2.3 20	Spring/Summer 0.6 825.55 8.0 17 3.9 13 4.1 20	Spring/Summer 0.5 825.55 5.4 17 2.6 13 2.8 20
Rapeseed III	<u>Tillage</u>	Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-30 cm 2.9 883.32	0-10 cm 2.1 883.32	0-30 cm 2.3 883.32	0-10 cm 1.6 883.32
Rapeseed III	<u>Sowing</u>	Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73
Rapeseed III	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress 190-80-70-0 1.1 218.99 1.0 - 0.5 218.99	Sow.+Top dress 100-40-40-0 1.0 218.99 0.5 - 0.5 218.99	Sow.+Top dress 190-80-70-0 0.9 218.99 1.0 - 0.3 218.99	Sow.+Top dress 100-40-40-0 0.7 218.99 0.5 - 0.3 218.99
Rapeseed III	<u>Harvest</u>	Season: Combine harvester: h ha ⁻¹ :	Spring/Summer 0.8	Spring/Summer 0.7	Spring/Summer 0.6	Spring/Summer 0.5

III		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	5.4	3.1	8.2	5.4
	Water content	(%):	15	15	15	15
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	1.8	1.0	2.8	1.8
	Water content	(%):	9.0	9.0	9.0	9.0
	Yield straw	(t ha ⁻¹ yr ⁻¹):	3.5	2.0	5.2	3.5
	Water content	(%):	15.0	15.0	15.0	15.0

Nemoral Cropping system 4: Hemp - Rapeseed – Pea						
Yr			Marginal land		Agricultural land	
			High input	Low input	High input	Low input
Hemp I	<u>Tillage</u>	Plough and disk harrow:	35-40 cm	15-30 cm	35-40 cm	15-30 cm
		h ha ⁻¹ :	2.9	2.5	2.2	1.8
		MJ h ⁻¹ :	883.32	883.32	883.32	883.32
Hemp I	<u>Sowing</u>	Season:	Spring	Spring	Spring	Spring
		Amount:	40 kg ha ⁻¹	40 kg ha ⁻¹	40 kg ha ⁻¹	40 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Hemp I	<u>Crop practices</u>					
	Fertilization:		Sow.+Top dress	Sow.+Top dress	Sow.+Top dress	Sow.+Top dress
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		140-60-120-0	80-30-60-0	140-60-120-0	80-30-60-0
	Fertilizer distributor	h ha ⁻¹ :	1.1	1.0	0.9	0.7
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
	Mechanical weed control		h ha ⁻¹ :	1.6	0.9	0.9
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
Hemp I	<u>Harvest</u>	Season:	Summer	Summer	Summer	Summer
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	9.0	6.0	10	9.0
	Water content	(%):	20	20	20	20
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	0.5	0.3	0.5	0.5
	Water content	(%):	14.0	14.0	14.0	14.0
	Yield straw	(t ha ⁻¹ yr ⁻¹):	6.7	4.5	7.5	6.7
	Water content	(%):	14.0	14.0	14.0	14.0
Rapeseed II	<u>Tillage</u>	Plough and disk harrow:	0-30 cm	0-10 cm	0-30 cm	0-10 cm
		h ha ⁻¹ :	2.9	2.1	2.3	1.6
		MJ h ⁻¹ :	883.32	883.32	883.32	883.32
Rapeseed II	<u>Sowing</u>	Season:	Autumn	Autumn	Autumn	Autumn
		Amount:	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Rapeseed II	<u>Crop practices</u>					
	Fertilization:		Sow.+Top dress	Sow.+Top dress	Sow.+Top dress	Sow.+Top dress
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		190-80-70-0	100-40-40-0	190-80-70-0	100-40-40-0
	Fertilizer distributor	h ha ⁻¹ :	1.1	1.0	0.9	0.7
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		1.0	0.5	1.0	0.5
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer	h ha ⁻¹ :	0.5	0.5	0.3	0.3
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
Rapeseed II	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	5.4	3.1	8.2	5.4
	Water content	(%):	15	15	15	15
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	1.8	1.0	2.8	1.8
	Water content	(%):	9.0	9.0	9.0	9.0
	Yield straw	(t ha ⁻¹ yr ⁻¹):	3.5	2.0	5.2	3.5
	Water content	(%):	15.0	15.0	15.0	15.0
Pea III	<u>Tillage</u>	Cultivator:	0-25 cm	0-15cm	0-25 cm	0-15 cm
		h ha ⁻¹ :	1.2	0.8	0.9	0.7
		MJ h ⁻¹ :	323.50	323.50	323.50	323.50
Pea III	<u>Sowing</u>	Season:	Autumn	Autumn	Autumn	Autumn
		Amount:	200 kg ha ⁻¹	200 kg ha ⁻¹	180 kg ha ⁻¹	180 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Pea III	<u>Crop practices</u>					
	Fertilization:		Sowing	Sowing	Sowing	Sowing
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		30-100-0-0	0-70-0-0	30-100-0-0	0-70-0-0
	Fertilizer distributor	h ha ⁻¹ :	0.9	0.7	0.6	0.5
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		0.27	0.15	0.27	0.15
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer	h ha ⁻¹ :	0.5	0.5	0.3	0.3
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
Pea III	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	9.6	6.0	12.0	9.6

	Water content (%)	18/24	18/24	18/24	18/24
	Yield marketable product (t ha ⁻¹ yr ⁻¹)	4.0	3.0	5.0	4.0
	Water content (%)	18/24	18/24	18/24	18/24
	Yield straw (t ha ⁻¹ yr ⁻¹)	5.0	3.5	6.5	5.0
	Water content (%)	18/24	18/24	18/24	18/24

Cropping system 5: Rapeseed-Cereal (barley)-Pea-Rapeseed						
Yr	Nemoral		Marginal land		Agricultural land	
			High input	Low input	High input	Low input
Rapeseed I	<u>Tillage</u>	Plough and disk harrow:	0-30 cm	0-10 cm	0-30 cm	0-10 cm
		h ha ⁻¹ :	2.9	2.1	2.3	1.6
		MJ h ⁻¹ :	883.32	883.32	883.32	883.32
Rapeseed I	<u>Sowing</u>	Season:	Autumn	Autumn	Autumn	Autumn
		Amount:	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Rapeseed I	<u>Crop practices</u>					
	Fertilization:		Sow.+Top dress	Sow.+Top dress	Sow.+Top dress	Sow.+Top dress
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		190-80-70-0	100-40-40-0	190-80-70-0	100-40-40-0
	Fertilizer distributor h ha ⁻¹ :		1.1	1.0	0.9	0.7
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		1.0	0.5	1.0	0.5
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer h ha ⁻¹ :		0.5	0.5	0.3	0.3
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
Rapeseed I	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	5.4	3.1	8.2	5.4
	Water content	(%):	15	15	15	15
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	1.8	1.0	2.8	1.8
	Water content	(%):	9.0	9.0	9.0	9.0
	Yield straw	(t ha ⁻¹ yr ⁻¹):	3.5	2.0	5.2	3.5
	Water content	(%):	15.0	15.0	15.0	15.0
Barley II	<u>Tillage</u>	Plough and disk harrow:	0-25 cm	No tillage	0-25 cm	No tillage
		h ha ⁻¹ :	2.1		1.6	
		MJ h ⁻¹ :	883.32		883.32	
Barley II	<u>Sowing</u>	Season:	Autumn	Autumn	Autumn	Autumn
		Amount:	150 kg ha ⁻¹	150 kg ha ⁻¹	150 kg ha ⁻¹	150 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.5	0.2	0.3
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Barley II	<u>Crop practices</u>					
	Fertilization:		Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		60-100-50-0	20-50-30-0	60-100-50-0	20-50-30-0
	Fertilizer distributor h ha ⁻¹ :		1.1	1.0	0.9	0.7
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		0.27	0.15	0.27	0.15
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer h ha ⁻¹ :		0.5	0.5	0.3	0.3
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
Barley II	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	5.4	4.4	8.0	5.4
	Water content	(%):	17	17	17	17
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	2.6	2.1	3.9	2.6
	Water content	(%):	13	13	13	13
	Yield straw	(t ha ⁻¹ yr ⁻¹):	2.8	2.3	4.1	2.8
	Water content	(%):	20	20	20	20
Pea III	<u>Tillage</u>	Cultivator:	0-25 cm	0-15cm	0-25 cm	0-15 cm
		h ha ⁻¹ :	1.2	0.8	0.9	0.7
		MJ h ⁻¹ :	323.50	323.50	323.50	323.50
Pea III	<u>Sowing</u>	Season:	Autumn	Autumn	Autumn	Autumn
		Amount:	200 kg ha ⁻¹	200 kg ha ⁻¹	180 kg ha ⁻¹	180 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Pea III	<u>Crop practices</u>					
	Fertilization:		Sowing	Sowing	Sowing	Sowing
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		30-100-0-0	0-70-0-0	30-100-0-0	0-70-0-0
	Fertilizer distributor h ha ⁻¹ :		0.9	0.7	0.6	0.5
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		0.27	0.15	0.27	0.15
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer h ha ⁻¹ :		0.5	0.5	0.3	0.3
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99

Pea III	<u>Harvest</u> Season:		Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	9.6	6.0	12.0	9.6
	Water content	(%):	18/24	18/24	18/24	18/24
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	4.0	3.0	5.0	4.0
	Water content	(%):	18/24	18/24	18/24	18/24
	Yield straw	(t ha ⁻¹ yr ⁻¹):	5.0	3.5	6.5	5.0
	Water content	(%):	18/24	18/24	18/24	18/24
Rapes eed IV	<u>Tillage</u> Plough and disk harrow:		0-30 cm	0-10 cm	0-30 cm	0-10 cm
		h ha ⁻¹ :	2.9	2.1	2.3	1.6
		MJ h ⁻¹ :	883.32	883.32	883.32	883.32
Rapes eed IV	<u>Sowing</u> Season:		Autumn	Autumn	Autumn	Autumn
		Amount:	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Rapes eed IV	<u>Crop practices</u>					
	Fertilization:		Sow.+Top dress	Sow.+Top dress	Sow.+Top dress	Sow.+Top dress
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		100-80-70-0	50-40-40-0	100-80-70-0	50-40-40-0
	Fertilizer distributor	h ha ⁻¹ :	1.1	1.0	0.9	0.7
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		1.0	0.5	1.0	0.5
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
Crop sprayer	h ha ⁻¹ :	0.5	0.5	0.3	0.3	
	MJ h ⁻¹ :	218.99	218.99	218.99	218.99	
Rapes eed IV	<u>Harvest</u> Season:		Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	5.4	3.1	8.2	5.4
	Water content	(%):	15	15	15	15
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	1.8	1.0	2.8	1.8
	Water content	(%):	9.0	9.0	9.0	9.0
	Yield straw	(t ha ⁻¹ yr ⁻¹):	3.5	2.0	5.2	3.5
	Water content	(%):	15.0	15.0	15.0	15.0

Nemoral Cropping system 6: Rapeseed-Flax-Sunflower						
Yr			Marginal land		Agricultural land	
			High input	Low input	High input	Low input
Rapeseed I	<u>Tillage</u>	Plough and disk harrow:	0-30 cm	0-10 cm	0-30 cm	0-10 cm
		h ha ⁻¹ :	2.9	2.1	2.3	1.6
		MJ h ⁻¹ :	883.32	883.32	883.32	883.32
Rapeseed I	<u>Sowing</u>	Season:	Autumn	Autumn	Autumn	Autumn
		Amount:	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Rapeseed I	<u>Crop practices</u>					
	Fertilization:		Sow.+Top dress	Sow.+Top dress	Sow.+Top dress	Sow.+Top dress
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		190-80-70-0	100-40-40-0	190-80-70-0	100-40-40-0
	Fertilizer distributor h ha ⁻¹ :		1.1	1.0	0.9	0.7
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		1.0	0.5	1.0	0.5
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer h ha ⁻¹ :		0.5	0.5	0.3	0.3
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
Rapeseed I	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	5.4	3.1	8.2	5.4
	Water content	(%):	15	15	15	15
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	1.8	1.0	2.8	1.8
	Water content	(%):	9.0	9.0	9.0	9.0
	Yield straw	(t ha ⁻¹ yr ⁻¹):	3.5	2.0	5.2	3.5
	Water content	(%):	15.0	15.0	15.0	15.0
Flax II	<u>Tillage</u>	Plough and disk harrow:	0-30 cm	0-10 cm	0-30 cm	0-10 cm
		h ha ⁻¹ :	2.5	2.0	1.9	1.6
		MJ h ⁻¹ :	883.32	883.32	883.32	883.32
Flax II	<u>Sowing</u>	Season:	Spring	Spring	Spring	Spring
		Amount:	100 kg ha ⁻¹	100 kg ha ⁻¹	100 kg ha ⁻¹	100 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Flax II	<u>Crop practices</u>					
	Fertilization:		Sowing	Sow.+Top dress	Sowing	Sow.+Top dress
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		120-150-75-0	90-100-50-0	120-150-75-0	70-100-50-0
	Fertilizer distributor h ha ⁻¹ :		1.1	1.0	0.9	0.7
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		1.5	0.8	1.5	0.8
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer h ha ⁻¹ :		0.5	0.5	0.3	0.3
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
Flax II	<u>Harvest</u>	Season:	Late summer/fall	Late summer/fall	Late summer/fall	Late summer/fall
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	5.7	4.1	6.8	5.7
	Water content	(%):	20	20	20	20
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	1.2	0.9	1.4	1.2
	Water content	(%):	9.0	9.0	9.0	9.0
	Yield straw	(t ha ⁻¹ yr ⁻¹):	3.4	2.4	4.0	3.4
	Water content	(%):	14.0	14.0	14.0	14.0
Sunflower III	<u>Tillage</u>	Plough and disk harrow:	25-40 cm	15-25 cm	25-40 cm	15-25 cm
		h ha ⁻¹ :	2.9	2.1	2.2	1.6
		MJ h ⁻¹ :	883.32	883.32	883.32	883.32
Sunflower III	<u>Sowing</u>	Season:	Spring	Spring	Spring	Spring
		Amount:	6	5	6	5
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Sunflower III	<u>Crop practices</u>					
	Fertilization:		Sow.+Top dressing	Sow.+Top dressing	Sow.+Top dressing	Sow.+Top dressing
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		140-90-200-0	80-50-100-0	140-90-200-0	80-50-100-0
	Fertilizer distributor h ha ⁻¹ :		1.1	1.0	0.9	0.7
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		0.8	0.5	0.8	0.5
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer h ha ⁻¹ :		0.5	0.5	0.3	0.3
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
Sunflower III	<u>Harvest</u>	Season:	Summer	Summer	Summer	Summer
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5

III		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	4.0	3.5	10.0	4.0
	Water content	(%):	12-13	12-13	12-13	12-13
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	1.3	1.0	2.5	1.3
	Water content	(%):	12-13	12-13	12-13	12-13
	Yield straw	(t ha ⁻¹ yr ⁻¹):	2.2	2.0	6.0	2.2
	Water content	(%):	12-13	12-13	12-13	12-13

Nemoral		Cropping system 7: Red clover-Rapeseed-Flax			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Red clover I	<u>Tillage</u> Disk harrow:	0-30 cm	0-15 cm	0-30 cm	0-15 cm
	h ha ⁻¹ : MJ h ⁻¹ :	2.5 323.50	2.0 323.50	1.9 323.50	1.6 323.50
Red clover I	<u>Sowing</u> Season:	Spring	Spring	Spring	Spring
	Amount kg ha ⁻¹ : Seed drill h ha ⁻¹ : MJ h ⁻¹ :	25 0.4 380.73	25 0.4 380.73	25 0.2 380.73	25 0.2 380.73
Red clover I	<u>Crop practices</u> Fertilization:	Sowing	Sowing	Sowing	Sowing
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ :	0-40-0-0 1.1 202.19	0-20-0-0 1.1 202.19	0-40-0-0 0.7 202.19	0-20-0-0 0.7 202.19
Red clover I	<u>Harvest</u> Season:	Late summer/fall	Late summer/fall	Late summer/fall	Late summer/fall
	Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield (t ha ⁻¹ yr ⁻¹): Water content (%):	0.7 825.55 3.1 70	0.7 825.55 3.0 70	0.5 825.55 3.5 70	0.5 825.55 3.4 70
Rapeseed II	<u>Tillage</u> Plough and disk harrow:	0-30 cm	0-10 cm	0-30 cm	0-10 cm
	h ha ⁻¹ : MJ h ⁻¹ :	2.9 883.32	2.1 883.32	2.3 883.32	1.6 883.32
Rapeseed II	<u>Sowing</u> Season:	Autumn	Autumn	Autumn	Autumn
	Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	5/7 kg ha ⁻¹ 0.4 380.73	5/7 kg ha ⁻¹ 0.4 380.73	5/7 kg ha ⁻¹ 0.2 380.73	5/7 kg ha ⁻¹ 0.2 380.73
Rapeseed II	<u>Crop practices</u> Fertilization:	Sow.+Top dress	Sow.+Top dress	Sow.+Top dress	Sow.+Top dress
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	100-80-70-0 1.1 218.99 1.0 - 0.5 218.99	50-40-40-0 1.0 218.99 0.5 - 0.5 218.99	100-80-70-0 0.9 218.99 1.0 - 0.3 218.99	50-40-40-0 0.7 218.99 0.5 - 0.3 218.99
Rapeseed II	<u>Harvest</u> Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer
	Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	0.8 825.55 5.4 15 1.8 9.0 3.5 15.0	0.7 825.55 3.1 15 1.0 9.0 2.0 15.0	0.6 825.55 8.2 15 2.8 9.0 5.2 15.0	0.5 825.55 5.4 15 1.8 9.0 3.5 15.0
Flax III	<u>Tillage</u> Plough and disk harrow:	0-30 cm	0-10 cm	0-30 cm	0-10 cm
	h ha ⁻¹ : MJ h ⁻¹ :	2.5 883.32	2.0 883.32	1.9 883.32	1.6 883.32
Flax III	<u>Sowing</u> Season:	Spring	Spring	Spring	Spring
	Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	100 kg ha ⁻¹ 0.4 380.73	100 kg ha ⁻¹ 0.4 380.73	100 kg ha ⁻¹ 0.2 380.73	100 kg ha ⁻¹ 0.2 380.73
Flax III	<u>Crop practices</u> Fertilization:	Sowing	Sow.+Top dress	Sowing	Sow.+Top dress
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	120-150-75-0 1.1 218.99 1.5 - 0.5 218.99	90-100-50-0 1.0 218.99 0.8 - 0.5 218.99	120-150-75-0 0.9 218.99 1.5 - 0.3 218.99	90-100-50-0 0.7 218.99 0.8 - 0.3 218.99
Flax III	<u>Harvest</u> Season:	Late summer/fall	Late summer/fall	Late summer/fall	Late summer/fall
	Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	0.8 825.55 5.7 20 1.2 9.0 3.4 14.0	0.7 825.55 4.1 20 0.9 9.0 2.4 14.0	0.6 825.55 6.8 20 1.4 9.0 4.0 14.0	0.5 825.55 5.7 20 1.2 9.0 3.4 14.0

Continental		Cropping system 1: Poplar			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Poplar I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	40-50 cm 3.8 883.32	35 cm 2.9 883.32	40-50 cm 2.9 883.32	35 cm 2.3 883.32
Poplar I	<u>Sowing</u> Season: Amount (plant ha ⁻¹): Planter h ha ⁻¹ : MJ h ⁻¹ :	Spring 10000 2.9 380.73	Spring 8000 2.9 380.73	Spring 10000 2.2 380.73	Spring 8000 2.2 380.73
Poplar I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Planting 100-40-160-200 1.0 218.99 0.25 - 0.5 218.99	Planting 30-5-20-50 0.8 218.99 0.25 - 0.5 218.99	Planting 100-40-160-200 0.8 218.99 0.25 - 0.3 218.99	Planting 30-5-20-50 0.6 218.99 0.25 - 0.3 218.99
Poplar II-III	<u>Harvest</u> Season: Cut&Chip harvester+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Late Winter 0.7 3726.2 9 50 7.5 50	Late Winter 0.6 3726.2 6 50 5.1 50	Late Winter 0.4 3726.2 12 50 10 50	Late Winter 0.3 3726.2 9 50 7.5 50
Poplar III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Mechanical weed control h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 100-0-0-0 1.0 218.99 1.6 218.99	Top dressing 30-0-0-0 0.8 218.99 1.6 218.99	Top dressing 100-0-0-0 0.8 218.99 0.9 218.99	Top dressing 30-0-0-0 0.6 218.99 0.9 218.99
Poplar IV-V	<u>Harvest</u> Season: Cut&Chip harvester+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Late Winter 0.7 3726.2 18 50 15.3 50	Late Winter 0.6 3726.2 12 50 10.2 50	Late Winter 0.4 3726.2 24 50 20.4 50	Late Winter 0.3 3726.2 18 50 15.3 50
Poplar V	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Mechanical weed control h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 0 1.0 218.99 1.6 218.99	Top dressing 0 0.8 218.99 1.6 218.99	Top dressing 0 0.8 218.99 0.9 218.99	Top dressing 0 0.6 218.99 0.9 218.99

Continental		Cropping system 2: Miscanthus			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Miscanthus I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-40 cm 2.95 883.32	0-20 cm 2.1 883.32	0-40 cm 2.3 883.32	0-20 cm 1.6 883.32
Miscanthus I	<u>Sowing (transplant)</u> Season: Amount: Planter h ha ⁻¹ : MJ h ⁻¹ :	Spring 10000 rhiz. ha ⁻¹ 2.9 380.73	Spring 10000 rhiz. ha ⁻¹ 2.9 380.73	Spring 10000 rhiz. ha ⁻¹ 2.2 380.73	Spring 10000 rhiz. ha ⁻¹ 2.2 380.73
Miscanthus I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 80-40-40-40 1.0 218.99 1.2 - 0.5 218.99	Sowing 40-15-15-15 0.8 218.99 1.2 - 0.5 218.99	Sowing 80-40-40-40 0.8 218.99 1.2 - 0.3 218.99	Sowing 40-15-15-15 0.6 218.99 1.2 - 0.3 218.99
Miscanthus I	<u>Harvest</u> Season: Maize chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring 1.2 825.55 15 40 12.5 40	Spring 1.2 825.55 12.5 40 10.5 40	Spring 1.0 825.55 16.5 40 14.0 40	Spring 0.8 825.55 15 40 12.5 40
Miscanthus II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 50-0-0-0 0.9 218.99 - - - -	- - - - - - -	Top dressing 50-0-0-0 0.7 218.99 - - - -	- - - - - - -
Miscanthus II	<u>Harvest</u> Season: Maize chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring 1.2 825.55 30 40 25 40	Spring 1.2 825.55 25 40 21 40	Spring 1.0 825.55 33 40 28 40	Spring 0.8 825.55 30 40 25 40
Miscanthus III	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 50-0-0-0 0.9 218.99 - - - -	- - - - - - -	Top dressing 50-0-0-0 0.7 218.99 - - - -	- - - - - - -
Miscanthus III	<u>Harvest</u> Season: Maize chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring 1.2 825.55 30 40 25 40	Spring 1.2 825.55 25 40 21 40	Spring 1.0 825.55 33 40 28 40	Spring 0.8 825.55 30 40 25 40

Continental Cropping system 3a: Cereal (wheat)-Maize-Sunflower-Sorghum-Red clover						
Yr			Marginal land		Agricultural land	
			High input	Low input	High input	Low input
Wheat I	<u>Tillage</u>	Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 2.1 883.32	No tillage	0-25 cm 1.6 883.32	No tillage
Wheat I	<u>Sowing</u>	Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 230 kg ha ⁻¹ 0.4 380.73	Autumn 250 kg ha ⁻¹ 0.5 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.3 380.73
Wheat I	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 100-140-0-0 1.1 218.99 0.27 0 0.5 218.99	Sow.+Top dress. 50-65-0 1.0 218.99 0.15 0 0.5 218.99	Sow.+Top dress. 100-140-0-0 0.9 218.99 0.27 0 0.3 218.99	Sow.+Top dress. 50-65-0-0 0.7 218.99 0.15 0 0.3 218.99
Wheat I	<u>Harvest</u>	Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 5.0 16.0 3.0 13 2.0 20	Spring/Summer 0.7 825.55 3.5 16.0 2.1 13 1.4 20	Spring/Summer 0.6 825.55 9.9 16.0 6.0 13 3.9 20	Spring/Summer 0.5 825.55 5.0 16.0 3.0 13 2.0 20
Maize II	<u>Tillage</u>	Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	30-40 cm 2.9 883.32	0-20 cm 2.1 883.32	30-40 cm 2.2 883.32	0-20 cm 1.6 883.32
Maize II	<u>Sowing</u>	Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 25 kg ha ⁻¹ 0.4 380.73	Spring 25 kg ha ⁻¹ 0.4 380.73	Spring 25 kg ha ⁻¹ 0.2 380.73	Spring 25 kg ha ⁻¹ 0.2 380.73
Maize II	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 200-100-80-0 1.1 218.99 2 - 0.5 218.99	Sow.+Top dress. 100-50-40-0 1.0 218.99 1.5 - 0.5 218.99	Sow.+Top dress. 200-100-80-0 0.9 218.99 2 - 0.3 218.99	Sow.+Top dress. 100-50-40-0 0.7 218.99 1.5 - 0.3 218.99
Maize II	<u>Harvest</u>	Season: Maize chopper+Lorry: h ha ⁻¹ : MJ h ⁻¹ : Yield (t ha ⁻¹ yr ⁻¹): Water content (%): Yield grain (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Autumn 1.0 825.55 36 44 4.3 25 23 48	Autumn 0.9 825.55 21 44 2.5 25 13.9 48	Autumn 0.8 825.55 40 44 7.3 25 24.8 48	Autumn 0.6 825.55 36 44 4.3 25 24 48
Sunflower III	<u>Tillage</u>	Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	25-40 cm 2.9 883.32	15-25 cm 2.1 883.32	25-40 cm 2.2 883.32	15-25 cm 1.6 883.32
Sunflower III	<u>Sowing</u>	Season: Amount(kg ha ⁻¹): Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 6 0.4 380.73	Spring 5 0.4 380.73	Spring 6 0.2 380.73	Spring 5 0.2 380.73
Sunflower III	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dressing 140-90-200-0 1.1 218.99 0.8 - 0.5 218.99	Sow.+Top dressing 80-50-100-0 1.0 218.99 0.5 - 0.5 218.99	Sow.+Top dressing 140-90-200-0 0.9 218.99 0.8 - 0.3 218.99	Sow.+Top dressing 80-50-100-0 0.7 218.99 0.5 - 0.3 218.99
Sunflower III	<u>Harvest</u>	Season:	Summer	Summer	Summer	Summer

wer III	Combine harvester:	h ha ⁻¹ : MJ h ⁻¹ :	0.8 825.55	0.7 825.55	0.6 825.55	0.5 825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	4.0	3.5	10.0	4.0
	Water content	(%):	12-13	12-13	12-13	12-13
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	1.3	1.0	2.5	1.3
	Water content	(%):	12-13	12-13	12-13	12-13
	Yield straw	(t ha ⁻¹ yr ⁻¹):	2.2	2.0	6.0	2.2
	Water content	(%):	12-13	12-13	12-13	12-13
Sorghum IV	<u>Tillage</u> Plough and disk harrow:		0-25 cm	No tillage	0-25 cm	No tillage
		h ha ⁻¹ : MJ h ⁻¹ :	2.1 883.32		1.6 883.32	
Sorghum IV	<u>Sowing</u> Season:		Spring	Spring	Spring	Spring
	Amount:		10 kg ha ⁻¹	10 kg ha ⁻¹	10 kg ha ⁻¹	10 kg ha ⁻¹
Sorghum IV	Seed drill	h ha ⁻¹ : MJ h ⁻¹ :	0.4 380.73	0.5 380.73	0.2 380.73	0.3 380.73
	<u>Crop practices</u>					
Sorghum IV	Fertilization:		Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		110-100-60-0	80-75-20-0	110-100-60-0	80-75-20-0
	Fertilizer distributor	h ha ⁻¹ : MJ h ⁻¹ :	1.1 218.99	1.0 218.99	0.9 218.99	0.7 218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		1.0	0.5	1.0	0.5
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer	h ha ⁻¹ : MJ h ⁻¹ :	0.5 218.99	0.5 218.99	0.3 218.99	0.3 218.99
	Sorghum IV	<u>Harvest</u> Season:		Autumn	Autumn	Autumn
Maize Chopper+Lorry		h ha ⁻¹ : MJ h ⁻¹ :	1.0 883.32	0.9 825.55	0.8 825.55	0.6 825.55
Yield harvest		(t ha ⁻¹ yr ⁻¹):	62	40	75	62
Water content		(%):	67	67	67	67
Seed Yield		(t ha ⁻¹ yr ⁻¹):	3.4	2.2	4.1	3.4
Water content		(%):	18.0	18.0	18.0	18.0
Yield straw		(t ha ⁻¹ yr ⁻¹):	49	31	59	49
Water content		(%):	70	70	70	70
Red clover V	<u>Tillage</u> Disk harrow:		0-30 cm	0-15 cm	0-30 cm	0-15 cm
		h ha ⁻¹ : MJ h ⁻¹ :	2.5 323.50	2.0 323.50	1.9 323.50	1.6 323.50
Red clover V	<u>Sowing</u> Season:		Spring	Spring	Spring	Spring
	Amount kg ha ⁻¹ :		25	25	25	25
Red clover V	Seed drill	h ha ⁻¹ : MJ h ⁻¹ :	0.4 380.73	0.4 380.73	0.2 380.73	0.2 380.73
	<u>Crop practices</u>					
Red clover V	Fertilization:		Sowing	Sowing	Sowing	Sowing
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		0-40-0-0	0-20-0-0	0-40-0-0	0-20-0-0
	Fertilizer distributor	h ha ⁻¹ : MJ h ⁻¹ :	1.1 218.99	1.1 218.99	0.7 218.99	0.7 218.99
Red clover V	<u>Harvest</u> Season:		Late summer/Fall	Late summer/Fall	Late summer/Fall	Late summer/Fall
	Combine harvester:	h ha ⁻¹ : MJ h ⁻¹ :	0.7 825.55	0.7 825.55	0.5 825.55	0.5 825.55
	Yield (t ha ⁻¹ yr ⁻¹):		3.1	3.0	3.5	3.4
	Water content (%):		70	70	70	70

Continental Cropping system 3b: Pea-Maize-Sunflower-Sorghum- Red clover						
Yr			Marginal land		Agricultural land	
			High input	Low input	High input	Low input
Pea I	<u>Tillage</u>	Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 1.2 323.50	0-15cm 0.8 323.50	0-25 cm 0.9 323.50	0-15 cm 0.7 323.50
Pea I	<u>Sowing</u>	Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73
Pea I	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 30-100-0-0 0.9 218.99 0.27 - 0.5 218.99	Sowing 0-70-0-0 0.7 218.99 0.15 - 0.5 218.99	Sowing 30-100-0-0 0.6 218.99 0.27 - 0.3 218.99	Sowing 0-70-0-0 0.5 218.99 0.15 - 0.3 218.99
Pea I	<u>Harvest</u>	Season: Combine harvester h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 9.6 18/24 4.0 18/24 5.0 18/24	Spring/Summer 0.7 825.55 6.0 18/24 3.0 18/24 3.5 18/24	Spring/Summer 0.6 825.55 12.0 18/24 5.0 18/24 6.5 18/24	Spring/Summer 0.5 825.55 9.6 18/24 4.0 18/24 5.0 18/24
Maize II	<u>Tillage</u>	Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	30-40 cm 2.9 883.32	0-20 cm 2.1 883.32	30-40 cm 2.2 883.32	0-20 cm 1.6 883.32
Maize II	<u>Sowing</u>	Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 25 kg ha ⁻¹ 0.4 380.73	Spring 25 kg ha ⁻¹ 0.4 380.73	Spring 25 kg ha ⁻¹ 0.2 380.73	Spring 25 kg ha ⁻¹ 0.2 380.73
Maize II	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 100-100-80-0 1.1 218.99 2 - 0.5 218.99	Sow.+Top dress. 50-50-40-0 1.0 218.99 1.5 - 0.5 218.99	Sow.+Top dress. 100-100-80-0 0.9 218.99 2 - 0.3 218.99	Sow.+Top dress. 50-50-40-0 0.7 218.99 1.5 - 0.3 218.99
Maize II	<u>Harvest</u>	Season: Maize Chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield grain (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Autumn 1.0 825.55 36 44 4.3 25 23 48	Autumn 0.9 825.55 21 44 2.5 25 13.9 48	Autumn 0.8 825.55 40 44 7.3 25 24.8 48	Autumn 0.6 825.55 36 44 4.3 25 24 48
Sunflower III	<u>Tillage</u>	Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	25-40 cm 2.9 883.32	15-25 cm 2.1 883.32	25-40 cm 2.2 883.32	15-25 cm 1.6 883.32
Sunflower III	<u>Sowing</u>	Season: Amount(kg ha ⁻¹): Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 6 0.4 380.73	Spring 5 0.4 380.73	Spring 6 0.2 380.73	Spring 5 0.2 380.73
Sunflower III	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dressing 140-90-200-0 1.1 218.99 0.8 - 0.5 218.99	Sow.+Top dressing 80-50-100-0 1.0 218.99 0.5 - 0.5 218.99	Sow.+Top dressing 140-90-200-0 0.9 218.99 0.8 - 0.3 218.99	Sow.+Top dressing 80-50-100-0 0.7 218.99 0.5 - 0.3 218.99
Sunflower	<u>Harvest</u>	Season: Combine harvester: h ha ⁻¹ :	Summer 0.8	Summer 0.7	Summer 0.6	Summer 0.5

III	Yield harvest Water content Yield marketable product Water content Yield straw Water content	MJ h ⁻¹ : (t ha ⁻¹ yr ⁻¹): (%): (t ha ⁻¹ yr ⁻¹): (%): (t ha ⁻¹ yr ⁻¹): (%):	825.55 4.0 12-13 1.3 12-13 2.2 12-13	825.55 3.5 12-13 1.0 12-13 2.0 12-13	825.55 10.0 12-13 2.5 12-13 6.0 12-13	825.55 4.0 12-13 1.3 12-13 2.2 12-13
Sorghum IV	<u>Tillage</u> Plough and disk harrow:		0-25 cm 2.1 883.32	No tillage	0-25 cm 1.6 883.32	No tillage
Sorghum IV	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 10 kg ha ⁻¹ 0.4 380.73	Spring 10 kg ha ⁻¹ 0.5 380.73	Spring 10 kg ha ⁻¹ 0.2 380.73	Spring 10 kg ha ⁻¹ 0.3 380.73	Spring 10 kg ha ⁻¹ 0.3 380.73
Sorghum IV	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 110-100-60-0 1.1 218.99 1.0 - 0.5 218.99	Sow.+Top dress. 80-75-20-0 1.0 218.99 0.5 - 0.5 218.99	Sow.+Top dress. 110-100-60-0 0.9 218.99 1.0 - 0.3 218.99	Sow.+Top dress. 80-75-20-0 0.7 218.99 0.5 - 0.3 218.99	Sow.+Top dress. 110-100-60-0 0.6 218.99 0.5 - 0.3 218.99
Sorghum IV	<u>Harvest</u> Season: Maize Chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Autumn 1.0 883.32 83 67 5.3 18.0 76.7 70	Autumn 0.9 825.55 53 67 3.4 18.0 49.0 70	Autumn 0.8 825.55 100 67 6.4 18.0 92.4 70	Autumn 0.6 825.55 83 67 5.3 18.0 76.7 70	Autumn 0.6 825.55 83 67 5.3 18.0 76.7 70
Red clover V	<u>Tillage</u> Disk harrow:		0-30 cm 2.5 323.50	0-15 cm 2.0 323.50	0-30 cm 1.9 323.50	0-15 cm 1.6 323.50
Red clover V	<u>Sowing</u> Season: Amount kg ha ⁻¹ : Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 25 0.4 380.73	Spring 25 0.4 380.73	Spring 25 0.2 380.73	Spring 25 0.2 380.73	Spring 25 0.2 380.73
Red clover V	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ :	Sowing 0-40-0-0 1.1 218.99	Sowing 0-20-0-0 1.1 218.99	Sowing 0-40-0-0 0.7 218.99	Sowing 0-20-0-0 0.7 218.99	Sowing 0-20-0-0 0.7 218.99
Red clover V	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield (t ha ⁻¹ yr ⁻¹): Water content (%):	Late summer/Fall 0.7 825.55 3.1 70	Late summer/Fall 0.7 825.55 3.0 70	Late summer/Fall 0.5 825.55 3.5 70	Late summer/Fall 0.5 825.55 3.4 70	Late summer/Fall 0.5 825.55 3.4 70

Continental		Cropping system 4: Flax-Cereal (wheat)-Pea			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Flax I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-30 cm 2.5 883.32	0-10 cm 2.0 883.32	0-30 cm 1.9 883.32	0-10 cm 1.6 883.32
Flax I	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 100 kg ha ⁻¹ 0.4 380.73	Spring 100 kg ha ⁻¹ 0.4 380.73	Spring 100 kg ha ⁻¹ 0.2 380.73	Spring 100 kg ha ⁻¹ 0.2 380.73
Flax I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 120-150-75-0 1.1 218.99 1.5 - 0.5 218.99	Sow.+Top dress 90-100-50-0 1.0 218.99 0.8 - 0.5 218.99	Sowing 120-150-75-0 0.9 218.99 1.5 - 0.3 218.99	Sow.+Top dress 90-100-50-0 0.7 218.99 0.8 - 0.3 218.99
Flax I	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Late summer/fall 0.8 825.55 8.5 20 1.8 9.0 6.9 14.0	Late summer/fall 0.7 825.55 6.9 20 1.4 9.0 4.1 14.0	Late summer/fall 0.6 825.55 9.6 20 2.0 9.0 5.7 14.0	Late summer/fall 0.5 825.55 8.5 20 1.8 9.0 6.9 14.0
Wheat II	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 2.1 883.32	No tillage	0-25 cm 1.6 883.32	No tillage
Wheat II	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 230 kg ha ⁻¹ 0.4 380.73	Autumn 250 kg ha ⁻¹ 0.5 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.3 380.73
Wheat II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 100-140-0-0 1.1 218.99 0.27 0 0.5 218.99	Sow.+Top dress. 50-65-0 1.0 218.99 0.15 0 0.5 218.99	Sow.+Top dress. 100-140-0-0 0.9 218.99 0.27 0 0.3 218.99	Sow.+Top dress. 50-65-0-0 0.7 218.99 0.15 0 0.3 218.99
Wheat II	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 5.0 16.0 3.0 13 2.0 20	Spring/Summer 0.7 825.55 3.5 16.0 2.1 13 1.4 20	Spring/Summer 0.6 825.55 9.9 16.0 6.0 13 3.9 20	Spring/Summer 0.5 825.55 5.0 16.0 3.0 13 2.0 20
Pea III	<u>Tillage</u> Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 1.2 323.50	0-15cm 0.8 323.50	0-25 cm 0.9 323.50	0-15 cm 0.7 323.50
Pea III	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73
Pea III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 30-100-0-0 0.9 218.99 0.27 - 0.5 218.99	Sowing 0-70-0-0 0.7 218.99 0.27 - 0.5 218.99	Sowing 30-100-0-0 0.6 218.99 0.27 - 0.3 218.99	Sowing 0-70-0-0 0.5 218.99 0.27 - 0.3 218.99

Pea III	Harvest	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer
			Combine harvester:	h ha ⁻¹ : MJ h ⁻¹ :	0.8 825.55	0.7 825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	9.6	6.0	12.0	9.6
	Water content	(%):	18/24	18/24	18/24	18/24
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	4.0	3.0	5.0	4.0
	Water content	(%):	18/24	18/24	18/24	18/24
	Yield straw	(t ha ⁻¹ yr ⁻¹):	5.0	3.5	6.5	5.0
	Water content	(%):	18/24	18/24	18/24	18/24

Continental Cropping system 5: Maize-Sugar beet-Sorghum						
Yr			Marginal land		Agricultural land	
			High input	Low input	High input	Low input
Maize I	<u>Tillage</u>	Plough and disk harrow:	30-40 cm	0-20 cm	30-40 cm	0-20 cm
		h ha ⁻¹ :	2.9	2.1	2.2	1.6
		MJ h ⁻¹ :	883.32	883.32	883.32	883.32
Maize I	<u>Sowing</u>	Season:	Spring	Spring	Spring	Spring
		Amount:	25 kg ha ⁻¹	25 kg ha ⁻¹	25 kg ha ⁻¹	25 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Maize I	<u>Crop practices</u>					
	Fertilization:		Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		200-100-80-0	100-50-40-0	200-100-80-0	100-50-40-0
	Fertilizer distributor h ha ⁻¹ :		1.1	1.0	0.9	0.7
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		2	1.5	2	1.5
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer h ha ⁻¹ :		0.5	0.5	0.3	0.3
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
Maize I	<u>Harvest</u>	Season:	Autumn	Autumn	Autumn	Autumn
	Maize Chopper+Lorry	h ha ⁻¹ :	1.0	0.9	0.8	0.6
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	36	21	40	36
	Water content	(%):	44	44	44	44
	Yield grain	(t ha ⁻¹ yr ⁻¹):	4.3	2.5	7.3	4.3
	Water content	(%):	25	25	25	25
	Yield straw	(t ha ⁻¹ yr ⁻¹):	23	13.9	24.8	24
	Water content	(%):	48	48	48	48
Sugar beet II	<u>Tillage</u>	Plough and disk harrow:	40-50 cm	20-25 cm	40-50 cm	20-25 cm
		h ha ⁻¹ :	3.8	2.1	2.9	1.6
		MJ h ⁻¹ :	883.32	883.32	883.32	883.32
Sugar beet II	<u>Sowing</u>	Season:	Spring	Spring	Spring	Spring
		Amount :	1 kg ha ⁻¹	1 kg ha ⁻¹	1 kg ha ⁻¹	1 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Sugar beet II	<u>Crop practices</u>					
	Fertilization:		Sowing	Sowing	Sowing	Sowing
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		140-180-200-40	60-100-100-25	140-180-200-40	60-100-100-25
	Fertilizer distributor h ha ⁻¹ :		1.1	1.0	0.9	0.7
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		3.5	2.0	3.5	2.0
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer h ha ⁻¹ :		0.5	0.5	0.3	0.3
	MJ h ⁻¹ :		202.19	202.19	202.19	202.19
Sugar beet II	<u>Harvest</u>	Season:	Summer	Summer	Summer	Summer
	Beet harvester	h ha ⁻¹ :	1.5	1.3	1.5	1.2
		MJ h ⁻¹ :	883.32	883.32	883.32	883.32
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	136	115	149	136
	Water content	(%):	75	75	75	75
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	78	66	92	78
	Water content	(%):	75	75	75	75
	Yield straw	(t ha ⁻¹ yr ⁻¹):	58	49	61	58
	Water content	(%):	75	75	75	75
Sorghum III	<u>Tillage</u>	Plough and disk harrow:	0-25 cm	No tillage	0-25 cm	No tillage
		h ha ⁻¹ :	2.1		1.6	
		MJ h ⁻¹ :	883.32		883.32	
Sorghum III	<u>Sowing</u>	Season:	Spring	Spring	Spring	Spring
		Amount:	10 kg ha ⁻¹	10 kg ha ⁻¹	10 kg ha ⁻¹	10 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.5	0.2	0.3
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Sorghum III	<u>Crop practices</u>					
	Fertilization:		Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		110-100-60-0	80-75-20-0	110-100-60-0	80-75-20-0
	Fertilizer distributor h ha ⁻¹ :		1.1	1.0	0.9	0.7
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		1.0	0.5	1.0	0.5
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer h ha ⁻¹ :		0.5	0.5	0.3	0.3
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
Sorghum	<u>Harvest</u>	Season:	Autumn	Autumn	Autumn	Autumn

um III	Maize Chopper+Lorry	h ha ⁻¹ :	1.0	0.9	0.8	0.6
		MJ h ⁻¹ :	883.32	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	62	40	75	62
	Water content	(%):	67	67	67	67
	Seed Yield	(t ha ⁻¹ yr ⁻¹):	3.4	2.2	4.1	3.4
	Water content	(%):	18.0	18.0	18.0	18.0
	Yield straw	(t ha ⁻¹ yr ⁻¹):	49	31	59	49
	Water content	(%):	70	70	70	70

Continental Cropping system 6: Rapeseed- Flax- Sunflower						
Yr			Marginal land		Agricultural land	
			High input	Low input	High input	Low input
Rapeseed I	<u>Tillage</u>	Plough and disk harrow:	0-30 cm	0-10 cm	0-30 cm	0-10 cm
		h ha ⁻¹ :	2.9	2.1	2.3	1.6
		MJ h ⁻¹ :	883.32	883.32	883.32	883.32
Rapeseed I	<u>Sowing</u>	Season:	Autumn	Autumn	Autumn	Autumn
		Amount:	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Rapeseed I	<u>Crop practices</u>					
	Fertilization:		Sow.+Top dress	Sow.+Top dress	Sow.+Top dress	Sow.+Top dress
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		190-80-70-0	100-40-40-0	190-80-70-0	100-40-40-0
	Fertilizer distributor h ha ⁻¹ :		1.1	1.0	0.9	0.7
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		1.2	0.6	1.2	0.6
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer h ha ⁻¹ :		0.5	0.5	0.3	0.3
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
Rapeseed I	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	8.2	3.6	12.9	8.2
	Water content	(%):	15	15	15	15
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	2.7	1.2	4.4	2.7
	Water content	(%):	9.0	9.0	9.0	9.0
	Yield straw	(t ha ⁻¹ yr ⁻¹):	5.2	2.3	8.1	5.2
	Water content	(%):	15.0	15.0	15.0	15.0
Flax II	<u>Tillage</u>	Plough and disk harrow:	0-30 cm	0-10 cm	0-30 cm	0-10 cm
		h ha ⁻¹ :	2.5	2.0	1.9	1.6
		MJ h ⁻¹ :	883.32	883.32	883.32	883.32
Flax II	<u>Sowing</u>	Season:	Spring	Spring	Spring	Spring
		Amount:	100 kg ha ⁻¹	100 kg ha ⁻¹	100 kg ha ⁻¹	100 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Flax II	<u>Crop practices</u>					
	Fertilization:		Sowing	Sow.+Top dress	Sowing	Sow.+Top dress
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		120-150-75-0	90-100-50-0	120-150-75-0	90-100-50-0
	Fertilizer distributor h ha ⁻¹ :		1.1	1.0	0.9	0.7
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		1.5	0.8	1.5	0.8
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer h ha ⁻¹ :		0.5	0.5	0.3	0.3
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
Flax II	<u>Harvest</u>	Season:	Late summer/fall	Late summer/fall	Late summer/fall	Late summer/fall
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	8.5	6.9	9.6	8.5
	Water content	(%):	20	20	20	20
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	1.8	1.4	2.0	1.8
	Water content	(%):	9.0	9.0	9.0	9.0
	Yield straw	(t ha ⁻¹ yr ⁻¹):	6.9	4.1	5.7	6.9
	Water content	(%):	14.0	14.0	14.0	14.0
Sunflower III	<u>Tillage</u>	Cultivator:	25-40 cm	15-25 cm	25-40 cm	15-25 cm
		h ha ⁻¹ :	2.9	2.1	2.2	1.6
		MJ h ⁻¹ :	883.32	883.32	883.32	883.32
Sunflower III	<u>Sowing</u>	Season:	Spring	Spring	Spring	Spring
		Amount(kg ha ⁻¹):	6	5	6	5
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Sunflower III	<u>Crop practices</u>					
	Fertilization:		Sow.+Top dressing	Sow.+Top dressing	Sow.+Top dressing	Sow.+Top dressing
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		140-90-200-0	80-50-100-0	140-90-200-0	80-50-100-0
	Fertilizer distributor h ha ⁻¹ :		1.1	1.0	0.9	0.7
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		0.8	0.5	0.8	0.5
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer h ha ⁻¹ :		0.5	0.5	0.3	0.3
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
Sunflower III	<u>Harvest</u>	Season:	Summer	Summer	Summer	Summer

wer III	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	4.0	3.5	10.0	4.0
	Water content	(%):	12-13	12-13	12-13	12-13
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	1.3	1.0	2.5	1.3
	Water content	(%):	12-13	12-13	12-13	12-13
	Yield straw	(t ha ⁻¹ yr ⁻¹):	2.2	2.0	6.0	2.2
	Water content	(%):	12-13	12-13	12-13	12-13

Continental		Cropping system 7: Red clover-Rapeseed-Cereal (wheat)-Flax			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Red clover I	<u>Tillage</u> Disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-30 cm 2.5 323.50	0-15 cm 2.0 323.50	0-30 cm 1.9 323.50	0-15 cm 1.6 323.50
Red clover I	<u>Sowing</u> Season: Amount kg ha ⁻¹ : Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 25 0.4 380.73	Spring 25 0.4 380.73	Spring 25 0.2 380.73	Spring 25 0.2 380.73
Red clover I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ :	Sowing 0-40-0-0 1.1 218.99	Sowing 0-20-0-0 1.1 218.99	Sowing 0-40-0-0 0.7 218.99	Sowing 0-20-0-0 0.7 218.99
Red clover I	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield (t ha ⁻¹ yr ⁻¹): Water content (%):	Late summer/fall 0.7 825.55 3.1 70	Late summer/fall 0.7 825.55 3.0 70	Late summer/fall 0.5 825.55 3.5 70	Late summer/fall 0.5 825.55 3.4 70
Rapeseed II	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-30 cm 2.9 883.32	0-10 cm 2.1 883.32	0-30 cm 2.3 883.32	0-10 cm 1.6 883.32
Rapeseed II	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73
Rapeseed II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress 100-80-70-0 1.1 218.99 1.2 - 0.5 218.99	Sow.+Top dress 50-40-40-0 1.0 218.99 0.6 - 0.5 218.99	Sow.+Top dress 100-80-70-0 0.9 218.99 1.2 - 0.3 218.99	Sow.+Top dress 50-40-40-0 0.7 218.99 0.6 - 0.3 218.99
Rapeseed II	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 8.2 15 2.7 9.0 5.2 15.0	Spring/Summer 0.7 825.55 3.6 15 1.2 9.0 2.3 15.0	Spring/Summer 0.6 825.55 12.9 15 4.4 9.0 8.1 15.0	Spring/Summer 0.5 825.55 8.2 15 2.7 9.0 5.2 15.0
Wheat III	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 2.1 883.32	No tillage	0-25 cm 1.6 883.32	No tillage
Wheat III	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 230 kg ha ⁻¹ 0.4 380.73	Autumn 250 kg ha ⁻¹ 0.5 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.3 380.73
Wheat III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 100-140-0-0 1.1 218.99 0.27 - 0.5 218.99	Sow.+Top dress. 50-65-0 1.0 218.99 0.15 - 0.5 218.99	Sow.+Top dress. 100-140-0-0 0.9 218.99 0.27 - 0.3 218.99	Sow.+Top dress. 50-65-0-0 0.7 218.99 0.15 - 0.3 218.99
Wheat III	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 5.0 16.0 3.0 13 2.0 20	Spring/Summer 0.7 825.55 3.5 16.0 2.1 13 1.4 20	Spring/Summer 0.6 825.55 9.9 16.0 6.0 13 3.9 20	Spring/Summer 0.5 825.55 5.0 16.0 3.0 13 2.0 20

Flax IV	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-30 cm 2.5 883.32	0-10 cm 2.0 883.32	0-30 cm 1.9 883.32	0-10 cm 1.6 883.32
Flax IV	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 100 kg ha ⁻¹ 0.4 380.73	Spring 100 kg ha ⁻¹ 0.4 380.73	Spring 100 kg ha ⁻¹ 0.2 380.73	Spring 100 kg ha ⁻¹ 0.2 380.73
Flax IV	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 120-150-75-0 1.1 218.99 1.5 - 0.5 218.99	Sow.+Top dress 90-100-50-0 1.0 218.99 0.8 - 0.5 218.99	Sowing 120-150-75-0 0.9 218.99 1.5 - 0.3 218.99	Sow.+Top dress 90-100-50-0 0.7 218.99 0.8 - 0.3 218.99
Flax IV	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Late summer/fall 0.8 825.55 8.5 20 1.8 9.0 6.9 14.0	Late summer/fall 0.7 825.55 6.9 20 1.4 9.0 4.1 14.0	Late summer/fall 0.6 825.55 9.6 20 2.0 9.0 5.7 14.0	Late summer/fall 0.5 825.55 8.5 20 1.8 9.0 6.9 14.0

Atlantic Central		Cropping system 1: Miscanthus			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Miscanthus I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-40 cm 2.95 883.32	0-20 cm 2.1 883.32	0-40 cm 2.3 883.32	0-20 cm 1.6 883.32
Miscanthus I	<u>Sowing (transplant)</u> Season: Amount: Planter h ha ⁻¹ : MJ h ⁻¹ :	Spring 10000 rhiz. ha ⁻¹ 2.9 380.73	Spring 10000 rhiz. ha ⁻¹ 2.9 380.73	Spring 10000 rhiz. ha ⁻¹ 2.2 380.73	Spring 10000 rhiz. ha ⁻¹ 2.2 380.73
Miscanthus I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 80-40-40-40 1.0 218.99 1.2 0.5 218.99	Sowing 40-15-15-15 0.8 218.99 1.2 0.5 218.99	Sowing 80-40-40-40 0.8 218.99 1.2 0.3 218.99	Sowing 40-15-15-15 0.6 218.99 1.2 0.3 218.99
Miscanthus I	<u>Harvest</u> Season: Maize chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring 1.2 825.55 7.5 35 6.0 35	Spring 1.2 825.55 6.5 35 5.5 35	Spring 1.0 825.55 8.5 35 7.2 35	Spring 0.8 825.55 7.5 35 6.0 35
Miscanthus II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 50-0-0-0 0.9 218.99 - - -	- - - - - -	Top dressing 50-0-0-0 0.7 218.99 - - -	- - - - - -
Miscanthus II	<u>Harvest</u> Season: Maize chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring 1.2 825.55 15 35 12.5 35	Spring 1.2 825.55 13.0 35 11.0 35	Spring 1.0 825.55 17.0 35 14.5 35	Spring 0.8 825.55 15 35 12.5 35
Miscanthus III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 50-0-0-0 0.9 218.99 - - -	- - - - - -	Top dressing 50-0-0-0 0.7 218.99 - - -	- - - - - -
Miscanthus III	<u>Harvest</u> Season: Maize chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring 1.2 825.55 30.8 35 26 35	Spring 1.2 825.55 27.7 35 23.5 35	Spring 1.0 825.55 34 35 29 35	Spring 0.8 825.55 30.8 35 26 35

Atlantic Central		Cropping system 2: Poplar			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Poplar I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	40-50 cm 3.8 883.32	35 cm 2.9 883.32	40-50 cm 2.9 883.32	35 cm 2.3 883.32
Poplar I	<u>Sowing</u> Season: Amount (plant ha ⁻¹): Planter h ha ⁻¹ : MJ h ⁻¹ :	Spring 10000 2.9 380.73	Spring 8000 2.9 380.73	Spring 10000 2.2 380.73	Spring 8000 2.2 380.73
Poplar I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Planting 100-40-160-200 1.0 218.99 0.25 - 0.5 218.99	Planting 30-5-20-50 0.8 218.99 0.25 - 0.5 218.99	Planting 100-40-160-200 0.8 218.99 0.25 - 0.3 218.99	Planting 30-5-20-50 0.6 218.99 0.25 - 0.3 218.99
Poplar II-III	<u>Harvest</u> Season: Cut&Chip harvester+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Late Winter 0.7 3726.2 7 50 6 50	Late Winter 0.6 3726.2 6 50 5.1 50	Late Winter 0.4 3726.2 10 50 8.5 50	Late Winter 0.3 3726.2 7 50 6 50
Poplar III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Mechanical weed control h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 100-0-0-0 1.0 218.99 1.6 218.99	Top dressing 30-0-0-0 0.8 218.99 1.6 218.99	Top dressing 100-0-0-0 0.8 218.99 0.9 218.99	Top dressing 30-0-0-0 0.6 218.99 0.9 218.99
Poplar IV-V	<u>Harvest</u> Season: Cut&Chip harvester+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Late Winter 0.7 3726.2 14 50 12 50	Late Winter 0.6 3726.2 12 50 10.2 50	Late Winter 0.4 3726.2 20 50 17 50	Late Winter 0.3 3726.2 14 50 12.0 50
Poplar V	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Mechanical weed control h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 0-0-0-0 1.0 218.99 1.6 218.99	Top dressing 0-0-0-0 0.8 218.99 1.6 218.99	Top dressing 0-0-0-0 0.8 218.99 0.9 218.99	Top dressing 0-0-0-0 0.6 218.99 0.9 218.99

Atlantic Central		Cropping system 3: Switchgrass			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Switch grass I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	30-40 cm 2.9 883.32	0-20 cm 2.1 883.32	30-40 cm 2.2 883.32	0-20 cm 1.6 883.32
Switch grass I	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 5 kg ha ⁻¹ 0.4 380.73	Spring 5 kg ha ⁻¹ 0.4 380.73	Spring 11 kg ha ⁻¹ 0.2 380.73	Spring 5 kg ha ⁻¹ 0.2 380.73
Switch grass I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 70-120-120-0 1.1 218.99 1.2 - 0.5 218.99	Sow.+Top dress. 35-60-60-0 1.0 218.99 1.2 - 0.5 218.99	Sow.+Top dress. 100-120-120-0 0.9 218.99 1.2 - 0.3 218.99	Sow.+Top dress. 35-60-60-0 0.7 218.99 1.2 - 0.3 218.99
Switch grass I	<u>Harvest</u> Season: Maize chopper+Lorry: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Autumn 1.2 825.55 17.6 15 15 15	Autumn 1.0 825.55 11.8 15 10.0 15	Autumn 1.0 825.55 22.5 15 19.0 15	Autumn 0.8 825.55 17.6 15 15 15
Switch grass II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 30-0-0-0 0.9 218.99 - - - -	- - - - - - -	Top dressing 30-0-0-0 0.7 218.99 - - - -	- - - - - - -
Switch grass II	<u>Harvest</u> Season: Maize chopper+Lorry: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Autumn 1.2 825.55 17.6 15 15 15	Autumn 1.0 825.55 11.8 15 10.0 15	Autumn 1.0 825.55 22.5 15 19.0 15	Autumn 0.8 825.55 17.6 15 15 15
Switch grass III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 30-0-0-0 0.9 218.99 - - - -	- - - - - - -	Top dressing 30-0-0-0 0.7 218.99 - - - -	- - - - - - -
Switch grass III	<u>Harvest</u> Season: Maize chopper+Lorry: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Autumn 1.2 825.55 17.6 15 15 15	Autumn 1.0 825.55 11.8 15 10.0 15	Autumn 1.0 825.55 22.5 15 19.0 15	Autumn 0.8 825.55 17.6 15 15 15

Atlantic Central		Cropping system 4: Sugar beet-Cereal (wheat)-Pea			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Sugar beet I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	40-50 cm 3.8 883.32	20-25 cm 2.1 883.32	40-50 cm 2.9 883.32	20-25 cm 1.6 883.32
Sugar beet I	<u>Sowing</u> Season: Amount : Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 1 kg ha ⁻¹ 0.4 380.73	Spring 1 kg ha ⁻¹ 0.4 380.73	Spring 1 kg ha ⁻¹ 0.2 380.73	Spring 1 kg ha ⁻¹ 0.2 380.73
Sugar beet I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 140-180-200-40 1.1 218.99 3.5 - 0.5 202.19	Sowing 60-100-100-25 1.0 218.99 2.0 - 0.5 202.19	Sowing 140-180-200-40 0.9 218.99 3.5 - 0.3 202.19	Sowing 60-100-100-25 0.7 218.99 2.0 - 0.3 202.19
Sugar beet I	<u>Harvest</u> Season: Beet harvester h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Summer 1.5 883.32 140 75 80 75 60 75	Summer 1.3 883.32 108 75 62 75 46 75	Summer 1.5 883.32 153 75 92 75 61 75	Summer 1.2 883.32 140 75 80 75 60 75
Wheat II	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 2.1 883.32	No tillage	0-25 cm 1.6 883.32	No tillage
Wheat II	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 230 kg ha ⁻¹ 0.4 380.73	Autumn 250 kg ha ⁻¹ 0.5 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.3 380.73
Wheat II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 100-140-0-0 1.1 218.99 0.27 - 0.5 218.99	Sow.+Top dress. 50-65-0 1.0 218.99 0.15 - 0.5 218.99	Sow.+Top dress. 100-140-0-0 0.9 218.99 0.27 - 0.3 218.99	Sow.+Top dress. 50-65-0-0 0.7 218.99 0.15 - 0.3 218.99
Wheat II	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 16.0 16.0 6.4 13 6.5 20	Spring/Summer 0.7 825.55 14.0 16.0 4.7 13 7.0 20	Spring/Summer 0.6 825.55 17.0 16.0 7.5 13 7.1 20	Spring/Summer 0.5 825.55 16.0 16.0 6.4 13 6.5 20
Pea III	<u>Tillage</u> Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 1.2 323.50	0-15cm 0.8 323.50	0-25 cm 0.9 323.50	0-15 cm 0.7 323.50
Pea III	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73
Pea III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 30-100-0-0 0.9 218.99 0.27 - 0.5 218.99	Sowing 0-70-0-0 0.7 218.99 0.15 - 0.5 218.99	Sowing 30-100-0-0 0.6 218.99 0.27 - 0.3 218.99	Sowing 0-70-0-0 0.5 218.99 0.15 - 0.3 218.99
Pea	<u>Harvest</u> Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer

III	Combine harvester	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	9.6	6.0	12.0	9.6
	Water content	(%):	18/24	18/24	18/24	18/24
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	4.0	3.0	5.0	4.0
	Water content	(%):	18/24	18/24	18/24	18/24
	Yield straw	(t ha ⁻¹ yr ⁻¹):	5.0	3.5	6.5	5.0
	Water content	(%):	18/24	18/24	18/24	18/24

Atlantic Central							
Cropping system 5: Rapeseed-Cereal (wheat)-Pea-Rapeseed							
Yr				Marginal land		Agricultural land	
				High input	Low input	High input	Low input
Rapeseed I	<u>Tillage</u>	Plough and disk harrow:		0-30 cm	0-10 cm	0-30 cm	0-10 cm
		h ha ⁻¹ :		2.9	2.1	2.3	1.6
		MJ h ⁻¹ :		883.32	883.32	883.32	883.32
Rapeseed I	<u>Sowing</u>	Season:		Autumn	Autumn	Autumn	Autumn
		Amount:		5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :		0.4	0.4	0.2	0.2
		MJ h ⁻¹ :		380.73	380.73	380.73	380.73
Rapeseed I	<u>Crop practices</u>						
	Fertilization:			Sow.+Top dress	Sow.+Top dress	Sow.+Top dress	Sow.+Top dress
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :			190-80-70-0	100-40-40-0	190-80-70-0	100-40-40-0
	Fertilizer distributor	h ha ⁻¹ :		1.1	1.0	0.9	0.7
		MJ h ⁻¹ :		218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):			1.5	0.75	1.5	0.75
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):			-	-	-	-
	Crop sprayer	h ha ⁻¹ :		0.5	0.5	0.3	0.3
		MJ h ⁻¹ :		218.99	218.99	218.99	218.99
Rapeseed I	<u>Harvest</u>	Season:		Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer
	Combine harvester:	h ha ⁻¹ :		0.8	0.7	0.6	0.5
		MJ h ⁻¹ :		825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):		10	5.2	13.7	10
	Water content	(%):		15	15	15	15
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):		3.2	1.8	4.8	3.2
	Water content	(%):		9.0	9.0	9.0	9.0
	Yield straw	(t ha ⁻¹ yr ⁻¹):		6.4	3.4	8.5	6.4
	Water content	(%):		15.0	15.0	15.0	15.0
Wheat II	<u>Tillage</u>	Plough and disk harrow:		0-25 cm	No tillage	0-25 cm	No tillage
		h ha ⁻¹ :		2.1		1.6	
		MJ h ⁻¹ :		883.32		883.32	
Wheat II	<u>Sowing</u>	Season:		Autumn	Autumn	Autumn	Autumn
		Amount:		230 kg ha ⁻¹	250 kg ha ⁻¹	180 kg ha ⁻¹	180 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :		0.4	0.5	0.2	0.3
		MJ h ⁻¹ :		380.73	380.73	380.73	380.73
Wheat II	<u>Crop practices</u>						
	Fertilization:			Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :			100-140-0-0	50-65-0	100-140-0-0	50-65-0-0
	Fertilizer distributor	h ha ⁻¹ :		1.1	1.0	0.9	0.7
		MJ h ⁻¹ :		218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):			0.27	0.15	0.27	0.15
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):			-	-	-	-
	Crop sprayer	h ha ⁻¹ :		0.5	0.5	0.3	0.3
		MJ h ⁻¹ :		218.99	218.99	218.99	218.99
Wheat II	<u>Harvest</u>	Season:		Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer
	Combine harvester:	h ha ⁻¹ :		0.8	0.7	0.6	0.5
		MJ h ⁻¹ :		825.55	825.55	825.55	825.55
	Yield	(t ha ⁻¹ yr ⁻¹):		16.0	14.0	17.0	16.0
	Water content	(%):		16.0	16.0	16.0	16.0
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):		6.4	4.7	7.5	6.4
	Water content	(%):		13	13	13	13
	Yield straw	(t ha ⁻¹ yr ⁻¹):		6.5	7.0	7.1	6.5
	Water content	(%):		20	20	20	20
Pea III	<u>Tillage</u>	Cultivator:		0-25 cm	0-15cm	0-25 cm	0-15 cm
		h ha ⁻¹ :		1.2	0.8	0.9	0.7
		MJ h ⁻¹ :		323.50	323.50	323.50	323.50
Pea III	<u>Sowing</u>	Season:		Autumn	Autumn	Autumn	Autumn
		Amount:		200 kg ha ⁻¹	200 kg ha ⁻¹	180 kg ha ⁻¹	180 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :		0.4	0.4	0.2	0.2
		MJ h ⁻¹ :		380.73	380.73	380.73	380.73
Pea III	<u>Crop practices</u>						
	Fertilization:			Sowing	Sowing	Sowing	Sowing
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :			30-100-0-0	0-70-0-0	30-100-0-0	0-70-0-0
	Fertilizer distributor	h ha ⁻¹ :		0.9	0.7	0.6	0.5
		MJ h ⁻¹ :		218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):			0.27	0.15	0.27	0.15
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):			-	-	-	-
	Crop sprayer	h ha ⁻¹ :		0.5	0.5	0.3	0.3
		MJ h ⁻¹ :		218.99	218.99	218.99	218.99

Pea III	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer
	Combine harvester	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	9.6	6.0	12.0	9.6
	Water content	(%):	18/24	18/24	18/24	18/24
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	4.0	3.0	5.0	4.0
	Water content	(%):	18/24	18/24	18/24	18/24
	Yield straw	(t ha ⁻¹ yr ⁻¹):	5.0	3.5	6.5	5.0
	Water content	(%):	18/24	18/24	18/24	18/24
Rapes eed IV	<u>Tillage</u>	Plough and disk harrow:	0-30 cm	0-10 cm	0-30 cm	0-10 cm
		h ha ⁻¹ :	2.9	2.1	2.3	1.6
		MJ h ⁻¹ :	883.32	883.32	883.32	883.32
Rapes eed IV	<u>Sowing</u>	Season:	Autumn	Autumn	Autumn	Autumn
		Amount:	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Rapes eed IV	<u>Crop practices</u>					
	Fertilization:		Sow.+Top dress	Sow.+Top dress	Sow.+Top dress	Sow.+Top dress
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		100-80-70-0	50-40-40-0	100-80-70-0	50-40-40-0
	Fertilizer distributor	h ha ⁻¹ :	1.1	1.0	0.9	0.7
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		1.5	0.75	1.5	0.75
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
Crop sprayer	h ha ⁻¹ :	0.5	0.5	0.3	0.3	
	MJ h ⁻¹ :	218.99	218.99	218.99	218.99	
Rapes eed IV	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	10	5.2	13.7	10
	Water content	(%):	15	15	15	15
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	3.2	1.8	4.8	3.2
	Water content	(%):	9.0	9.0	9.0	9.0
	Yield straw	(t ha ⁻¹ yr ⁻¹):	6.4	3.4	8.5	6.4
	Water content	(%):	15.0	15.0	15.0	15.0

Atlantic Central Cropping system 6: Flax-Cereal (wheat)-Pea						
Yr			Marginal land		Agricultural land	
			High input	Low input	High input	Low input
Flax I	<u>Tillage</u>	Plough and disk harrow:	0-30 cm	0-10 cm	0-30 cm	0-10 cm
		h ha ⁻¹ :	2.5	2.0	1.9	1.6
		MJ h ⁻¹ :	883.32	883.32	883.32	883.32
Flax I	<u>Sowing</u>	Season:	Spring	Spring	Spring	Spring
		Amount:	100 kg ha ⁻¹	100 kg ha ⁻¹	100 kg ha ⁻¹	100 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Flax I	<u>Crop practices</u>					
	Fertilization:		Sowing	Sow.+Top dress	Sowing	Sow.+Top dress
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		120-150-75-0	90-100-50-0	120-150-75-0	90-100-50-0
	Fertilizer distributor	h ha ⁻¹ :	1.1	1.0	0.9	0.7
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		1.5	0.8	1.5	0.8
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer	h ha ⁻¹ :	0.5	0.5	0.3	0.3
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
Flax I	<u>Harvest</u>	Season:	Late summer/fall	Late summer/fall	Late summer/fall	Late summer/fall
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	5.7	4.1	6.8	5.7
	Water content	(%):	20	20	20	20
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	1.2	0.9	1.4	1.2
	Water content	(%):	9.0	9.0	9.0	9.0
	Yield straw	(t ha ⁻¹ yr ⁻¹):	3.4	2.4	4.0	3.4
	Water content	(%):	14.0	14.0	14.0	14.0
Wheat II	<u>Tillage</u>	Plough and disk harrow:	0-25 cm	No tillage	0-25 cm	No tillage
		h ha ⁻¹ :	2.1		1.6	
		MJ h ⁻¹ :	883.32		883.32	
Wheat II	<u>Sowing</u>	Season:	Autumn	Autumn	Autumn	Autumn
		Amount:	230 kg ha ⁻¹	250 kg ha ⁻¹	180 kg ha ⁻¹	180 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.5	0.2	0.3
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Wheat II	<u>Crop practices</u>					
	Fertilization:		Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		100-140-0-0	50-65-0	100-140-0-0	50-65-0-0
	Fertilizer distributor	h ha ⁻¹ :	1.1	1.0	0.9	0.7
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		0.27	0.15	0.27	0.15
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer	h ha ⁻¹ :	0.5	0.5	0.3	0.3
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
Wheat II	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield	(t ha ⁻¹ yr ⁻¹):	16.0	14.0	17.0	16.0
	Water content	(%):	16.0	16.0	16.0	16.0
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	6.4	4.7	7.5	6.4
	Water content	(%):	13	13	13	13
	Yield straw	(t ha ⁻¹ yr ⁻¹):	6.5	7.0	7.1	6.5
	Water content	(%):	20	20	20	20
Pea III	<u>Tillage</u>	Cultivator:	0-25 cm	0-15cm	0-25 cm	0-15 cm
		h ha ⁻¹ :	1.2	0.8	0.9	0.7
		MJ h ⁻¹ :	323.50	323.50	323.50	323.50
Pea III	<u>Sowing</u>	Season:	Autumn	Autumn	Autumn	Autumn
		Amount:	200 kg ha ⁻¹	200 kg ha ⁻¹	180 kg ha ⁻¹	180 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Pea III	<u>Crop practices</u>					
	Fertilization:		Sowing	Sowing	Sowing	Sowing
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		30-100-0-0	0-70-0-0	30-100-0-0	0-70-0-0
	Fertilizer distributor	h ha ⁻¹ :	0.9	0.7	0.6	0.5
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		0.27	0.15	0.27	0.15
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer	h ha ⁻¹ :	0.5	0.5	0.3	0.3
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
Pea III	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer
	Combine harvester	h ha ⁻¹ :	0.8	0.7	0.6	0.5

		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	9.6	6.0	12.0	9.6
	Water content	(%):	18/24	18/24	18/24	18/24
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	4.0	3.0	5.0	4.0
	Water content	(%):	18/24	18/24	18/24	18/24
	Yield straw	(t ha ⁻¹ yr ⁻¹):	5.0	3.5	6.5	5.0
	Water content	(%):	18/24	18/24	18/24	18/24

Atlantic Central		Cropping system 7: Rapeseed-Flax-Red clover			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Rapeseed I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-30 cm 2.9 883.32	0-10 cm 2.1 883.32	0-30 cm 2.3 883.32	0-10 cm 1.6 883.32
Rapeseed I	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73
Rapeseed I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress 190-80-70-0 1.1 218.99 1.5 - 0.5 218.99	Sow.+Top dress 100-40-40-0 1.0 218.99 0.75 - 0.5 218.99	Sow.+Top dress 190-80-70-0 0.9 218.99 1.5 - 0.3 218.99	Sow.+Top dress 100-40-40-0 0.7 218.99 0.75 - 0.3 218.99
Rapeseed I	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 10 15 3.2 9.0 6.4 15.0	Spring/Summer 0.7 825.55 5.2 15 1.8 9.0 3.4 15.0	Spring/Summer 0.6 825.55 13.7 15 4.8 9.0 8.5 15.0	Spring/Summer 0.5 825.55 10 15 3.2 9.0 6.4 15.0
Flax II	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-30 cm 2.5 883.32	0-10 cm 2.0 883.32	0-30 cm 1.9 883.32	0-10 cm 1.6 883.32
Flax II	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 100 kg ha ⁻¹ 0.4 380.73	Spring 100 kg ha ⁻¹ 0.4 380.73	Spring 100 kg ha ⁻¹ 0.2 380.73	Spring 100 kg ha ⁻¹ 0.2 380.73
Flax II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 120-150-75-0 1.1 218.99 1.5 - 0.5 218.99	Sow.+Top dress 90-100-50-0 1.0 218.99 0.8 - 0.5 218.99	Sowing 120-150-75-0 0.9 218.99 1.5 - 0.3 218.99	Sow.+Top dress 90-100-50-0 0.7 218.99 0.8 - 0.3 218.99
Flax II	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Late summer/fall 0.8 825.55 5.7 20 1.2 9.0 3.4 14.0	Late summer/fall 0.7 825.55 4.1 20 0.9 9.0 2.4 14.0	Late summer/fall 0.6 825.55 6.8 20 1.4 9.0 4.0 14.0	Late summer/fall 0.5 825.55 5.7 20 1.2 9.0 3.4 14.0
Red clover III	<u>Tillage</u> Disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-30 cm 2.5 323.50	0-15 cm 2.0 323.50	0-30 cm 1.9 323.50	0-15 cm 1.6 323.50
Red clover III	<u>Sowing</u> Season: Amount kg ha ⁻¹ : Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 25 0.4 380.73	Spring 25 0.4 380.73	Spring 25 0.2 380.73	Spring 25 0.2 380.73
Red clover III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ :	Sowing 0-40-0-0 1.1 218.99	Sowing 0-20-0-0 1.1 218.99	Sowing 0-40-0-0 0.7 218.99	Sowing 0-20-0-0 0.7 218.99
Red clover III	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield (t ha ⁻¹ yr ⁻¹): Water content (%):	Late summer/fall 0.7 825.55 3.1 70	Late summer/fall 0.7 825.55 3.0 70	Late summer/fall 0.5 825.55 3.5 70	Late summer/fall 0.5 825.55 3.4 70

Atlantic North						
Cropping system 1: Willow						
Yr	Marginal land			Agricultural land		
		High input	Low input	High input	Low input	
Willow I	<u>Tillage</u> Plough and disk harrow:	40-50 cm	35 cm	40-50 cm	35 cm	
	h ha ⁻¹ :	3.8	2.9	2.9	2.3	
	MJ h ⁻¹ :	883.32	883.32	883.32	883.32	
Willow I	<u>Sowing</u> Season:	Spring	Spring	Spring	Spring	
	Amount (plant ha ⁻¹):	10000	8000	10000	8000	
	Planter h ha ⁻¹ :	2.9	2.9	2.2	2.2	
	MJ h ⁻¹ :	380.73	380.73	380.73	380.73	
Willow I	<u>Crop practices</u>					
	Fertilization:	Planting	Planting	Planting	Planting	
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :	120-120-180-100	30-60-90-50	120-120-180-100	30-60-90-50	
	Fertilizer distributor h ha ⁻¹ :	1.0	0.8	0.8	0.6	
	MJ h ⁻¹ :	218.99	218.99	218.99	218.99	
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):	0.25	0.25	0.25	0.25	
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):	-	-	-	-	
	Crop sprayer h ha ⁻¹ :	0.5	0.5	0.3	0.3	
	MJ h ⁻¹ :	218.99	218.99	218.99	218.99	
Willow II-III	<u>Harvest</u> Season:	Late Winter	Late Winter	Late Winter	Late Winter	
	Cut&Chip harvester+Lorry h ha ⁻¹ :	0.7	0.6	0.4	0.3	
	MJ h ⁻¹ :	3726.2	3726.2	3726.2	3726.2	
	Yield harvest (t ha ⁻¹ yr ⁻¹):	8.0	6.0	10	8.0	
	Water content (%):	50	50	50	50	
	Yield marketable product (t ha ⁻¹ yr ⁻¹):	6.8	5.1	8.5	6.8	
	Water content (%):	50	50	50	50	
Willow III	<u>Crop practices</u>					
	Fertilization:	Top dressing	Top dressing	Top dressing	Top dressing	
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :	120-0-0-0	30-0-0-0	120-0-0-0	30-0-0-0	
	Fertilizer distributor h ha ⁻¹ :	1.0	0.8	0.8	0.6	
	MJ h ⁻¹ :	218.99	218.99	218.99	218.99	
	Mechanical weed control h ha ⁻¹ :	1.6	1.6	0.9	0.9	
	MJ h ⁻¹ :	218.99	218.99	218.99	218.99	
Willow IV-V	<u>Harvest</u> Season:	Late Winter	Late Winter	Late Winter	Late Winter	
	Cut&Chip harvester+Lorry h ha ⁻¹ :	0.7	0.6	0.4	0.3	
	MJ h ⁻¹ :	3726.2	3726.2	3726.2	3726.2	
	Yield harvest (t ha ⁻¹ yr ⁻¹):	16.0	12.0	20	16.0	
	Water content (%):	50	50	50	50	
	Yield marketable product (t ha ⁻¹ yr ⁻¹):	13.5	10.0	17.0	13.5	
	Water content (%):	50	50	50	50	
Willow V	<u>Crop practices</u>					
	Fertilization:	Top dressing	Top dressing	Top dressing	Top dressing	
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :	0-0-0-0	0-0-0-0	0-0-0-0	0-0-0-0	
	Fertilizer distributor h ha ⁻¹ :	1.0	0.8	0.8	0.6	
	MJ h ⁻¹ :	218.99	218.99	218.99	218.99	
	Mechanical weed control h ha ⁻¹ :	1.6	1.6	0.9	0.9	
	MJ h ⁻¹ :	218.99	218.99	218.99	218.99	

Atlantic North		Cropping system 2: Poplar			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Poplar I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	40-50 cm 3.8 883.32	35 cm 2.9 883.32	40-50 cm 2.9 883.32	35 cm 2.3 883.32
Poplar I	<u>Sowing</u> Season: Amount (plant ha ⁻¹): Planter h ha ⁻¹ : MJ h ⁻¹ :	Spring 10000 2.9 380.73	Spring 8000 2.9 380.73	Spring 10000 2.2 380.73	Spring 8000 2.2 380.73
Poplar I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Planting 100-40-160-200 1.0 218.99 0.25 - 0.5 218.99	Planting 30-5-20-50 0.8 218.99 0.25 - 0.5 218.99	Planting 100-40-160-200 0.8 218.99 0.25 - 0.3 218.99	Planting 30-5-20-50 0.6 218.99 0.25 - 0.3 218.99
Poplar II-III	<u>Harvest</u> Season: Cut&Chip harvester+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Late Winter 0.7 3726.2 7 50 6 50	Late Winter 0.6 3726.2 6 50 5.1 50	Late Winter 0.4 3726.2 10 50 8.5 50	Late Winter 0.3 3726.2 7 50 6 50
Poplar III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Mechanical weed control h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 100-0-0-0 1.0 218.99 1.6 218.99	Top dressing 30-5-20-50 0.8 218.99 1.6 218.99	Top dressing 100-0-0-0 0.8 218.99 0.9 218.99	Top dressing 30-5-20-50 0.6 218.99 0.9 218.99
Poplar IV-V	<u>Harvest</u> Season: Cut&Chip harvester+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Late Winter 0.7 3726.2 14.0 50 12.0 50	Late Winter 0.6 3726.2 12 50 10.2 50	Late Winter 0.4 3726.2 20.0 50 17.0 50	Late Winter 0.3 3726.2 14 50 12.0 50
Poplar V	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Mechanical weed control h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 0-0-0-0 1.0 218.99 1.6 218.99	Top dressing 0-0-0-0 0.8 218.99 1.6 218.99	Top dressing 0-0-0-0 0.8 218.99 0.9 218.99	Top dressing 0-0-0-0 0.6 218.99 0.9 218.99

Atlantic North		Cropping system 3: Miscanthus			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Miscanthus I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-40 cm 2.95 883.32	0-20 cm 2.1 883.32	0-40 cm 2.3 883.32	0-20 cm 1.6 883.32
Miscanthus I	<u>Sowing (transplant)</u> Season: Amount: Planter h ha ⁻¹ : MJ h ⁻¹ :	Spring 10000 rhiz. ha ⁻¹ 2.9 380.73	Spring 10000 rhiz. ha ⁻¹ 2.9 380.73	Spring 10000 rhiz. ha ⁻¹ 2.2 380.73	Spring 10000 rhiz. ha ⁻¹ 2.2 380.73
Miscanthus I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 80-40-40-40 1.0 218.99 1.2 - 0.5 218.99	Sowing 40-15-15-15 0.8 218.99 1.2 - 0.5 218.99	Sowing 80-40-40-40 0.8 218.99 1.2 - 0.3 218.99	Sowing 40-15-15-15 0.6 218.99 1.2 - 0.3 218.99
Miscanthus I	<u>Harvest</u> Season: Maize chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring 1.2 825.55 7.0 35 6.0 35	Spring 1.2 825.55 6.0 35 5.1 35	Spring 1.0 825.55 10.0 35 8.5 35	Spring 0.8 825.55 7.0 35 6.0 35
Miscanthus II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 50-0-0-0 0.9 218.99 - - - -	- - - - - - -	Top dressing 50-0-0-0 0.7 218.99 - - - -	- - - - - - -
Miscanthus II	<u>Harvest</u> Season: Maize chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring 1.2 825.55 15.4 35 13 35	Spring 1.2 825.55 12.3 35 10.5 35	Spring 1.0 825.55 18.5 35 16 35	Spring 0.8 825.55 15.4 35 13 35
Miscanthus III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 50-0-0-0 0.9 218.99 - - - -	- - - - - - -	Top dressing 50-0-0-0 0.7 218.99 - - - -	- - - - - - -
Miscanthus III	<u>Harvest</u> Season: Maize chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring 1.2 825.55 15.4 35 13 35	Spring 1.2 825.55 12.3 35 10.5 35	Spring 1.0 825.55 18.5 35 16 35	Spring 0.8 825.55 15.4 35 13 35

Atlantic North						
Cropping system 4: Switchgrass						
Yr	Marginal land			Agricultural land		
		High input	Low input	High input	Low input	
Switch grass I	<u>Tillage</u> Plough and disk harrow:	30-40 cm	0-20 cm	30-40 cm	0-20 cm	
	h ha ⁻¹ :	2.9	2.1	2.2	1.6	
	MJ h ⁻¹ :	883.32	883.32	883.32	883.32	
Switch grass I	<u>Sowing</u> Season:	Spring	Spring	Spring	Spring	
	Amount:	11 kg ha ⁻¹	5 kg ha ⁻¹	11 kg ha ⁻¹	5 kg ha ⁻¹	
	Seed drill h ha ⁻¹ :	0.4	0.4	0.2	0.2	
	MJ h ⁻¹ :	380.73	380.73	380.73	380.73	
Switch grass I	<u>Crop practices</u>					
	Fertilization:	Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.	
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :	70-120-120-0	35-60-60-0	100-120-120-0	35-60-60-0	
	Fertilizer distributor h ha ⁻¹ :	1.1	1.0	0.9	0.7	
	MJ h ⁻¹ :	218.99	218.99	218.99	218.99	
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):	1.2	1.2	1.2	1.2	
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):	-	-	-	-	
	Crop sprayer h ha ⁻¹ :	0.5	0.5	0.3	0.3	
	MJ h ⁻¹ :	218.99	218.99	218.99	218.99	
Switch grass I	<u>Harvest</u> Season:	Autumn	Autumn	Autumn	Autumn	
	Maize chopper+Lorry h ha ⁻¹ :	1.2	1.0	1.0	0.8	
	MJ h ⁻¹ :	825.55	825.55	825.55	825.55	
	Yield harvest (t ha ⁻¹ yr ⁻¹):	11.8	8.2	16.5	11.8	
	Water content (%):	15	15	15	15	
	Yield marketable product (t ha ⁻¹ yr ⁻¹):	10.0	7.0	14.0	10.0	
	Water content (%):	15	15	15	15	
Switch grass II	<u>Crop practices</u>					
	Fertilization:	Top dressing	-	Top dressing	-	
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :	30-0-0-0	-	30-0-0-0	-	
	Fertilizer distributor h ha ⁻¹ :	0.9	-	0.7	-	
	MJ h ⁻¹ :	218.99	-	218.99	-	
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):	-	-	-	-	
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):	-	-	-	-	
	Crop sprayer h ha ⁻¹ :	-	-	-	-	
	MJ h ⁻¹ :	-	-	-	-	
Switch grass II	<u>Harvest</u> Season:	Autumn	Autumn	Autumn	Autumn	
	Maize chopper+Lorry: h ha ⁻¹ :	1.2	1.0	1.0	0.8	
	MJ h ⁻¹ :	825.55	825.55	825.55	825.55	
	Yield harvest (t ha ⁻¹ yr ⁻¹):	11.8	8.2	16.5	11.8	
	Water content (%):	15	15	15	15	
	Yield marketable product (t ha ⁻¹ yr ⁻¹):	10.0	7.0	14.0	10.0	
	Water content (%):	15	15	15	15	
Switch grass III	<u>Crop practices</u>					
	Fertilization:	Top dressing	-	Top dressing	-	
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :	30-0-0-0	-	30-0-0-0	-	
	Fertilizer distributor h ha ⁻¹ :	0.9	-	0.7	-	
	MJ h ⁻¹ :	218.99	-	218.99	-	
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):	-	-	-	-	
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):	-	-	-	-	
	Crop sprayer h ha ⁻¹ :	-	-	-	-	
	MJ h ⁻¹ :	-	-	-	-	
Switch grass III	<u>Harvest</u> Season:	Autumn	Autumn	Autumn	Autumn	
	Maize chopper+Lorry h ha ⁻¹ :	1.2	1.0	1.0	0.8	
	MJ h ⁻¹ :	825.55	825.55	825.55	825.55	
	Yield harvest (t ha ⁻¹ yr ⁻¹):	11.8	8.2	16.5	11.8	
	Water content (%):	15	15	15	15	
	Yield marketable product (t ha ⁻¹ yr ⁻¹):	10.0	7.0	14.0	10.0	
	Water content (%):	15	15	15	15	

Atlantic North							Cropping system 5: Rapeseed-Cereal (barley)-Flax					
Yr				Marginal land			Agricultural land					
				High input		Low input		High input		Low input		
Rapeseed I	<u>Tillage</u>	Plough and disk harrow:		0-30 cm		0-10 cm		0-30 cm		0-10 cm		
		h ha ⁻¹ :		2.9		2.1		2.3		1.6		
		MJ h ⁻¹ :		883.32		883.32		883.32		883.32		
Rapeseed I	<u>Sowing</u>	Season:		Autumn		Autumn		Autumn		Autumn		
		Amount:		5/7 kg ha ⁻¹		5/7 kg ha ⁻¹		5/7 kg ha ⁻¹		5/7 kg ha ⁻¹		
	Seed drill	h ha ⁻¹ :		0.4		0.4		0.2		0.2		
		MJ h ⁻¹ :		380.73		380.73		380.73		380.73		
Rapeseed I	<u>Crop practices</u>			Sow.+Top dress		Sow.+Top dress		Sow.+Top dress		Sow.+Top dress		
	Fertilization:			190-80-70-0		100-40-40-0		190-80-70-0		100-40-40-0		
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :			1.1		1.0		0.9		0.7		
	Fertilizer distributor h ha ⁻¹ :			218.99		218.99		218.99		218.99		
	MJ h ⁻¹ :			1.5		0.75		1.5		0.75		
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):			-		-		-		-		
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):			0.5		0.5		0.3		0.3		
	Crop sprayer h ha ⁻¹ :			218.99		218.99		218.99		218.99		
	MJ h ⁻¹ :											
Rapeseed I	<u>Harvest</u>	Season:		Spring/Summer		Spring/Summer		Spring/Summer		Spring/Summer		
	Combine harvester:	h ha ⁻¹ :		0.8		0.7		0.6		0.5		
		MJ h ⁻¹ :		825.55		825.55		825.55		825.55		
	Yield harvest	(t ha ⁻¹ yr ⁻¹):		7.0		4.5		9.4		7.0		
	Water content	(%):		15		15		15		15		
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):		2.3		1.5		3.2		2.3		
	Water content	(%):		9.0		9.0		9.0		9.0		
	Yield straw	(t ha ⁻¹ yr ⁻¹):		4.5		2.9		5.9		4.5		
	Water content	(%):		15.0		15.0		15.0		15.0		
Barley II	<u>Tillage</u>	Plough and disk harrow:		0-25 cm		No tillage		0-25 cm		No tillage		
		h ha ⁻¹ :		2.1				1.6				
		MJ h ⁻¹ :		883.32				883.32				
Barley II	<u>Sowing</u>	Season:		Autumn		Autumn		Autumn		Autumn		
		Amount:		150 kg ha ⁻¹		150 kg ha ⁻¹		150 kg ha ⁻¹		150 kg ha ⁻¹		
	Seed drill	h ha ⁻¹ :		0.4		0.5		0.2		0.3		
		MJ h ⁻¹ :		380.73		380.73		380.73		380.73		
Barley II	<u>Crop practices</u>			Sow.+Top dress.		Sow.+Top dress.		Sow.+Top dress.		Sow.+Top dress.		
	Fertilization:			30-100-50-0		10-50-30-0		30-100-50-0		10-50-30-0		
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :			1.1		1.0		0.9		0.7		
	Fertilizer distributor h ha ⁻¹ :			218.99		218.99		218.99		218.99		
	MJ h ⁻¹ :			0.27		0.15		0.27		0.15		
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):			-		-		-		-		
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):			0.5		0.5		0.3		0.3		
	Crop sprayer h ha ⁻¹ :			218.99		218.99		218.99		218.99		
	MJ h ⁻¹ :											
Barley II	<u>Harvest</u>	Season:		Spring/Summer		Spring/Summer		Spring/Summer		Spring/Summer		
	Combine harvester:	h ha ⁻¹ :		0.8		0.7		0.6		0.5		
		MJ h ⁻¹ :		825.55		825.55		825.55		825.55		
	Yield harvest	(t ha ⁻¹ yr ⁻¹):		14.0		12.0		16.5		14.0		
	Water content	(%):		17		17		17		17		
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):		6.1		5.0		7.2		6.1		
	Water content	(%):		13		13		13		13		
	Yield straw	(t ha ⁻¹ yr ⁻¹):		5.9		5.2		6.9		5.9		
	Water content	(%):		20		20		20		20		
Flax III	<u>Tillage</u>	Plough and disk harrow:		0-30 cm		0-10 cm		0-30 cm		0-10 cm		
		h ha ⁻¹ :		2.5		2.0		1.9		1.6		
		MJ h ⁻¹ :		883.32		883.32		883.32		883.32		
Flax III	<u>Sowing</u>	Season:		Spring		Spring		Spring		Spring		
		Amount:		100 kg ha ⁻¹		100 kg ha ⁻¹		100 kg ha ⁻¹		100 kg ha ⁻¹		
	Seed drill	h ha ⁻¹ :		0.4		0.4		0.2		0.2		
		MJ h ⁻¹ :		380.73		380.73		380.73		380.73		
Flax III	<u>Crop practices</u>			Sowing		Sow.+Top dress		Sowing		Sow.+Top dress		
	Fertilization:			120-150-75-0		90-100-50-0		120-150-75-0		90-100-50-0		
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :			1.1		1.0		0.9		0.7		
	Fertilizer distributor h ha ⁻¹ :			218.99		218.99		218.99		218.99		
	MJ h ⁻¹ :			1.5		0.8		1.5		0.8		
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):			-		-		-		-		
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):			0.5		0.5		0.3		0.3		
	Crop sprayer h ha ⁻¹ :			218.99		218.99		218.99		218.99		
	MJ h ⁻¹ :											
Flax III	<u>Harvest</u>	Season:		Late summer/fall		Late summer/fall		Late summer/fall		Late summer/fall		
	Combine harvester:	h ha ⁻¹ :		0.8		0.7		0.6		0.5		

		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	5.7	4.1	6.8	5.7
	Water content	(%):	20	20	20	20
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	1.2	0.9	1.4	1.2
	Water content	(%):	9.0	9.0	9.0	9.0
	Yield straw	(t ha ⁻¹ yr ⁻¹):	3.4	2.4	4.0	3.4
	Water content	(%):	14.0	14.0	14.0	14.0

Atlantic North							
Cropping system 6: Hemp-Cereal (barley)-Pea							
Yr				Marginal land		Agricultural land	
				High input	Low input	High input	Low input
Hemp I	<u>Tillage</u>	Plough and disk harrow:	35-40 cm	15-30 cm	35-40 cm	15-30 cm	
			h ha ⁻¹ : 2.9	2.5	2.2	1.8	
			MJ h ⁻¹ : 883.32	883.32	883.32	883.32	
Hemp I	<u>Sowing</u>	Season:	Spring	Spring	Spring	Spring	
			Amount:	40 kg ha ⁻¹	40 kg ha ⁻¹	40 kg ha ⁻¹	40 kg ha ⁻¹
			Seed drill	Seed drill	Seed drill	Seed drill	
			h ha ⁻¹ : 0.4	0.4	0.2	0.2	
			MJ h ⁻¹ : 380.73	380.73	380.73	380.73	
Hemp I	<u>Crop practices</u>	Fertilization:	Sow.+Top dress	Sow.+Top dress	Sow.+Top dress	Sow.+Top dress	
			Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :	140-60-120-0	80-30-60-0	140-60-120-0	80-30-60-0
			Fertilizer distributor	Fertilizer distributor	Fertilizer distributor	Fertilizer distributor	
			h ha ⁻¹ : 1.1	1.0	0.9	0.7	
			MJ h ⁻¹ : 218.99	218.99	218.99	218.99	
			Mechanical weed control	Mechanical weed control	Mechanical weed control	Mechanical weed control	
			h ha ⁻¹ : 1.6	1.6	0.9	0.9	
			MJ h ⁻¹ : 218.99	218.99	218.99	218.99	
Hemp I	<u>Harvest</u>	Season:	Summer	Summer	Summer	Summer	
			Combine harvester:	h ha ⁻¹ : 0.8	0.7	0.6	0.5
			MJ h ⁻¹ : 825.55	825.55	825.55	825.55	
			Yield harvest	Yield harvest	Yield harvest	Yield harvest	
			(t ha ⁻¹ yr ⁻¹): 15.8	9.0	19.0	15.8	
			Water content	Water content	Water content	Water content	
			(%): 20	20	20	20	
			Yield marketable product	Yield marketable product	Yield marketable product	Yield marketable product	
			(t ha ⁻¹ yr ⁻¹): 0.8	0.5	1.0	0.8	
			Water content	Water content	Water content	Water content	
			(%): 14.0	14.0	14.0	14.0	
			Yield straw	Yield straw	Yield straw	Yield straw	
			(t ha ⁻¹ yr ⁻¹): 11.8	6.7	14.2	11.8	
			Water content	Water content	Water content	Water content	
			(%): 14.0	14.0	14.0	14.0	
Barley II	<u>Tillage</u>	Plough and disk harrow:	0-25 cm	No tillage	0-25 cm	No tillage	
			h ha ⁻¹ : 2.1		1.6		
			MJ h ⁻¹ : 883.32	883.32			
Barley II	<u>Sowing</u>	Season:	Autumn	Autumn	Autumn	Autumn	
			Amount:	150 kg ha ⁻¹	150 kg ha ⁻¹	150 kg ha ⁻¹	150 kg ha ⁻¹
			Seed drill	Seed drill	Seed drill	Seed drill	
			h ha ⁻¹ : 0.4	0.5	0.2	0.3	
			MJ h ⁻¹ : 380.73	380.73	380.73	380.73	
Barley II	<u>Crop practices</u>	Fertilization:	Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.	
			Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :	30-100-50-0	10-50-30-0	30-100-50-0	10-50-30-0
			Fertilizer distributor	Fertilizer distributor	Fertilizer distributor	Fertilizer distributor	
			h ha ⁻¹ : 1.1	1.0	0.9	0.7	
			MJ h ⁻¹ : 218.99	218.99	218.99	218.99	
			Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):	0.27	0.15	0.27	
			Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):	-	-	-	
			Crop sprayer	h ha ⁻¹ : 0.5	0.3	0.3	
			MJ h ⁻¹ : 218.99	218.99	218.99	218.99	
Barley II	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer	
			Combine harvester:	h ha ⁻¹ : 0.8	0.7	0.6	0.8
			MJ h ⁻¹ : 825.55	825.55	825.55	825.55	
			Yield harvest	Yield harvest	Yield harvest	Yield harvest	
			(t ha ⁻¹ yr ⁻¹): 14.0	12.0	16.5	14.0	
			Water content	Water content	Water content	Water content	
			(%): 17	17	17	17	
			Yield marketable product	Yield marketable product	Yield marketable product	Yield marketable product	
			(t ha ⁻¹ yr ⁻¹): 6.1	5.0	7.2	6.1	
			Water content	Water content	Water content	Water content	
			(%): 13	13	13	13	
			Yield straw	Yield straw	Yield straw	Yield straw	
			(t ha ⁻¹ yr ⁻¹): 5.9	5.2	6.9	5.9	
			Water content	Water content	Water content	Water content	
			(%): 20	20	20	20	
Pea III	<u>Tillage</u>	Cultivator:	0-25 cm	0-15cm	0-25 cm	0-15 cm	
			h ha ⁻¹ : 1.2	0.8	0.9	0.7	
			MJ h ⁻¹ : 323.50	323.50	323.50	323.50	
Pea III	<u>Sowing</u>	Season:	Autumn	Autumn	Autumn	Autumn	
			Amount:	200 kg ha ⁻¹	200 kg ha ⁻¹	180 kg ha ⁻¹	180 kg ha ⁻¹
			Seed drill	Seed drill	Seed drill	Seed drill	
			h ha ⁻¹ : 0.4	0.4	0.2	0.2	
			MJ h ⁻¹ : 380.73	380.73	380.73	380.73	
Pea III	<u>Crop practices</u>	Fertilization:	Sowing	Sowing	Sowing	Sowing	
			Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :	30-100-0-0	0-70-0-0	30-100-0-0	0-70-0-0
			Fertilizer distributor	Fertilizer distributor	Fertilizer distributor	Fertilizer distributor	
			h ha ⁻¹ : 0.9	0.7	0.6	0.5	
			MJ h ⁻¹ : 218.99	218.99	218.99	218.99	
			Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):	0.27	0.15	0.27	
			Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):	-	-	-	
			Crop sprayer	h ha ⁻¹ : 0.5	0.3	0.3	
			MJ h ⁻¹ : 218.99	218.99	218.99	218.99	
Pea III	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer	
			Combine harvester:	h ha ⁻¹ : 0.8	0.7	0.6	0.5
			MJ h ⁻¹ : 825.55	825.55	825.55	825.55	
			Yield harvest	Yield harvest	Yield harvest	Yield harvest	
			(t ha ⁻¹ yr ⁻¹): 9.6	6.0	12.0	9.6	

	Water content (%)	18/24	18/24	18/24	18/24
	Yield marketable product (t ha ⁻¹ yr ⁻¹)	4.0	3.0	5.0	4.0
	Water content (%)	18/24	18/24	18/24	18/24
	Yield straw (t ha ⁻¹ yr ⁻¹)	5.0	3.5	6.5	5.0
	Water content (%)	18/24	18/24	18/24	18/24

Atlantic North							
Cropping system 7: Rapeseed-Pea-Wheat							
Yr				Marginal land		Agricultural land	
				High input	Low input	High input	Low input
Rapeseed I	<u>Tillage</u>	Plough and disk harrow:		0-30 cm	0-10 cm	0-30 cm	0-10 cm
		h ha ⁻¹ :	2.9	2.1	2.3	1.6	
		MJ h ⁻¹ :	883.32	883.32	883.32	883.32	
Rapeseed I	<u>Sowing</u>	Season:	Autumn	Autumn	Autumn	Autumn	
		Amount:	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2	
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73	
Rapeseed I	<u>Crop practices</u>						
	Fertilization:		Sow.+Top dress	Sow.+Top dress	Sow.+Top dress	Sow.+Top dress	
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		190-80-70-0	100-40-40-0	190-80-70-0	100-40-40-0	
	Fertilizer distributor	h ha ⁻¹ :	1.1	1.0	0.9	0.7	
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99	
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		1.5	0.75	1.5	0.75	
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-	
	Crop sprayer	h ha ⁻¹ :	0.5	0.5	0.3	0.3	
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99	
Rapeseed I	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer	
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5	
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55	
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	7.0	4.5	9.4	7.0	
	Water content	(%):	15	15	15	15	
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	2.3	1.5	3.2	2.3	
	Water content	(%):	9.0	9.0	9.0	9.0	
	Yield straw	(t ha ⁻¹ yr ⁻¹):	4.5	2.9	5.9	4.5	
	Water content	(%):	15.0	15.0	15.0	15.0	
Pea II	<u>Tillage</u>	Cultivator:	0-25 cm	0-15cm	0-25 cm	0-15 cm	
		h ha ⁻¹ :	1.2	0.8	0.9	0.7	
		MJ h ⁻¹ :	323.50	323.50	323.50	323.50	
Pea II	<u>Sowing</u>	Season:	Autumn	Autumn	Autumn	Autumn	
		Amount:	200 kg ha ⁻¹	200 kg ha ⁻¹	180 kg ha ⁻¹	180 kg ha ⁻¹	
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2	
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73	
Pea II	<u>Crop practices</u>						
	Fertilization:		Sowing	Sowing	Sowing	Sowing	
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		30-100-0-0	0-70-0-0	30-100-0-0	0-70-0-0	
	Fertilizer distributor	h ha ⁻¹ :	0.9	0.7	0.6	0.5	
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99	
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		0.27	0.15	0.27	0.15	
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-	
	Crop sprayer	h ha ⁻¹ :	0.5	0.5	0.3	0.3	
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99	
Pea II	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer	
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5	
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55	
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	9.6	6.0	12.0	9.6	
	Water content	(%):	18/24	18/24	18/24	18/24	
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	4.0	3.0	5.0	4.0	
	Water content	(%):	18/24	18/24	18/24	18/24	
	Yield straw	(t ha ⁻¹ yr ⁻¹):	5.0	3.5	6.5	5.0	
	Water content	(%):	18/24	18/24	18/24	18/24	
Wheat III	<u>Tillage</u>	Plough and disk harrow:	0-25 cm	No tillage	0-25 cm	No tillage	
		h ha ⁻¹ :	2.1		1.6		
		MJ h ⁻¹ :	883.32		883.32		
Wheat III	<u>Sowing</u>	Season:	Autumn	Autumn	Autumn	Autumn	
		Amount:	230 kg ha ⁻¹	250 kg ha ⁻¹	180 kg ha ⁻¹	180 kg ha ⁻¹	
	Seed drill	h ha ⁻¹ :	0.4	0.5	0.2	0.3	
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73	
Wheat III	<u>Crop practices</u>						
	Fertilization:		Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.	
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		100-140-0-0	50-65-0	100-140-0-0	50-65-0-0	
	Fertilizer distributor	h ha ⁻¹ :	1.1	1.0	0.9	0.7	
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99	
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		0.27	0.15	0.27	0.15	
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-	
	Crop sprayer	h ha ⁻¹ :	0.5	0.5	0.3	0.3	
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99	
Wheat III	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer	

	Combine harvester:	h ha^{-1} :	0.8	0.7	0.6	0.5
		MJ h^{-1} :	825.55	825.55	825.55	825.55
	Yield harvest	$(\text{t ha}^{-1} \text{ yr}^{-1})$:	17.0	15.5	18.5	17.0
	Water content	(%)	16.0	16.0	16.0	16.0
	Yield marketable product	$(\text{t ha}^{-1} \text{ yr}^{-1})$:	7.7	6.4	8.5	7.7
	Water content	(%)	13	13	13	13
	Yield straw	$(\text{t ha}^{-1} \text{ yr}^{-1})$:	7.0	6.8	7.5	7.0
	Water content	(%)	20	20	20	20

Atlantic North						
Cropping system 8: Rapeseed-Cereal (barley)-Pea-Rapeseed						
Yr	Marginal land			Agricultural land		
			High input	Low input	High input	Low input
Rapeseed I	<u>Tillage</u>	Plough and disk harrow:	0-30 cm	0-10 cm	0-30 cm	0-10 cm
		h ha ⁻¹ :	2.9	2.1	2.3	1.6
		MJ h ⁻¹ :	883.32	883.32	883.32	883.32
Rapeseed I	<u>Sowing</u>	Season:	Autumn	Autumn	Autumn	Autumn
		Amount:	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Rapeseed I	<u>Crop practices</u>					
	Fertilization:		Sow.+Top dress	Sow.+Top dress	Sow.+Top dress	Sow.+Top dress
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		190-80-70-0	100-40-40-0	190-80-70-0	100-40-40-0
	Fertilizer distributor	h ha ⁻¹ :	1.1	1.0	0.9	0.7
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		1.5	0.75	1.5	0.75
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer	h ha ⁻¹ :	0.5	0.5	0.3	0.3
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
Rapeseed I	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	7.0	4.5	9.4	7.0
	Water content	(%):	15	15	15	15
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	2.3	1.5	3.2	2.3
	Water content	(%):	9.0	9.0	9.0	9.0
	Yield straw	(t ha ⁻¹ yr ⁻¹):	4.5	2.9	5.9	4.5
	Water content	(%):	15.0	15.0	15.0	15.0
Barley II	<u>Tillage</u>	Plough and disk harrow:	0-25 cm	No tillage	0-25 cm	No tillage
		h ha ⁻¹ :	2.1		1.6	
		MJ h ⁻¹ :	883.32		883.32	
Barley II	<u>Sowing</u>	Season:	Autumn	Autumn	Autumn	Autumn
		Amount:	150 kg ha ⁻¹	150 kg ha ⁻¹	150 kg ha ⁻¹	150 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.5	0.2	0.3
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Barley II	<u>Crop practices</u>					
	Fertilization:		Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		30-100-50-0	10-50-30-0	30-100-50-0	10-50-30-0
	Fertilizer distributor	h ha ⁻¹ :	1.1	1.0	0.9	0.7
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		0.27	0.15	0.27	0.15
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer	h ha ⁻¹ :	0.5	0.5	0.3	0.3
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
Barley II	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.8
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	14.0	12.0	16.5	14.0
	Water content	(%):	17	17	17	17
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	6.1	5.0	7.2	6.1
	Water content	(%):	13	13	13	13
	Yield straw	(t ha ⁻¹ yr ⁻¹):	5.9	5.2	6.9	5.9
	Water content	(%):	20	20	20	20
Pea III	<u>Tillage</u>	Cultivator:	0-25 cm	0-15cm	0-25 cm	0-15 cm
		h ha ⁻¹ :	1.2	0.8	0.9	0.7
		MJ h ⁻¹ :	323.50	323.50	323.50	323.50
Pea III	<u>Sowing</u>	Season:	Autumn	Autumn	Autumn	Autumn
		Amount:	200 kg ha ⁻¹	200 kg ha ⁻¹	180 kg ha ⁻¹	180 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Pea III	<u>Crop practices</u>					
	Fertilization:		Sowing	Sowing	Sowing	Sowing
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		30-100-0-0	0-70-0-0	30-100-0-0	0-70-0-0
	Fertilizer distributor	h ha ⁻¹ :	0.9	0.7	0.6	0.5
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		0.27	0.15	0.27	0.15
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer	h ha ⁻¹ :	0.5	0.5	0.3	0.3
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
Pea III	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5

	Yield harvest Water content Yield marketable product Water content Yield straw Water content	MJ h ⁻¹ : (t ha ⁻¹ yr ⁻¹): (%): (t ha ⁻¹ yr ⁻¹): (%): (t ha ⁻¹ yr ⁻¹): (%):	825.55 9.6 18/24 4.0 18/24 5.0 18/24	825.55 6.0 18/24 3.0 18/24 3.5 18/24	825.55 12.0 18/24 5.0 18/24 6.5 18/24	825.55 9.6 18/24 4.0 18/24 5.0 18/24
Rapes eed IV	<u>Tillage</u> Plough and disk harrow:		0-30 cm 2.9 MJ h ⁻¹ : 883.32	0-10 cm 2.1 MJ h ⁻¹ : 883.32	0-30 cm 2.3 MJ h ⁻¹ : 883.32	0-10 cm 1.6 MJ h ⁻¹ : 883.32
Rapes eed IV	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :		Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73
Rapes eed IV	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :		Sow.+Top dress 100-80-70-0 1.1 218.99 1.5 - 0.5 218.99	Sow.+Top dress 50-40-40-0 1.0 218.99 0.75 - 0.5 218.99	Sow.+Top dress 100-80-70-0 0.9 218.99 1.5 - 0.3 218.99	Sow.+Top dress 50-40-40-0 0.7 218.99 0.75 - 0.3 218.99
Rapes eed IV	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):		Spring/Summer 0.8 825.55 7.0 15 2.3 9.0 4.5 15.0	Spring/Summer 0.7 825.55 4.5 15 1.5 9.0 2.9 15.0	Spring/Summer 0.6 825.55 9.4 15 3.2 9.0 5.9 15.0	Spring/Summer 0.5 825.55 7.0 15 2.3 9.0 4.5 15.0

Atlantic North		Cropping system 9: Flax-Wheat-Pea			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Flax I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-30 cm 2.5 883.32	0-10 cm 2.0 883.32	0-30 cm 1.9 883.32	0-10 cm 1.6 883.32
Flax I	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 100 kg ha ⁻¹ 0.4 380.73	Spring 100 kg ha ⁻¹ 0.4 380.73	Spring 100 kg ha ⁻¹ 0.2 380.73	Spring 100 kg ha ⁻¹ 0.2 380.73
Flax I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 120-150-75-0 1.1 218.99 1.5 - 0.5 218.99	Sow.+Top dress 90-100-50-0 1.0 218.99 0.8 - 0.5 218.99	Sowing 120-150-75-0 0.9 218.99 1.5 - 0.3 218.99	Sow.+Top dress 90-100-50-0 0.7 218.99 0.8 - 0.3 218.99
Flax I	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Late summer/fall 0.8 825.55 5.7 20 1.2 9.0 3.4 14.0	Late summer/fall 0.7 825.55 4.1 20 0.9 9.0 2.4 14.0	Late summer/fall 0.6 825.55 6.8 20 1.4 9.0 4.0 14.0	Late summer/fall 0.5 825.55 5.7 20 1.2 9.0 3.4 14.0
Wheat II	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 2.1 883.32	No tillage	0-25 cm 1.6 883.32	No tillage
Wheat II	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 230 kg ha ⁻¹ 0.4 380.73	Autumn 250 kg ha ⁻¹ 0.5 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.3 380.73
Wheat II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 100-140-0-0 1.1 218.99 0.27 - 0.5 218.99	Sow.+Top dress. 50-65-0 1.0 218.99 0.15 - 0.5 218.99	Sow.+Top dress. 100-140-0-0 0.9 218.99 0.27 - 0.3 218.99	Sow.+Top dress. 50-65-0-0 0.7 218.99 0.15 - 0.3 218.99
Wheat II	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 17.0 16.0 7.7 13 7.0 20	Spring/Summer 0.7 825.55 15.5 16.0 6.4 13 6.8 20	Spring/Summer 0.6 825.55 18.5 16.0 8.5 13 7.5 20	Spring/Summer 0.5 825.55 17.0 16.0 7.7 13 7.0 20
Pea III	<u>Tillage</u> Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 1.2 323.50	0-15cm 0.8 323.50	0-25 cm 0.9 323.50	0-15 cm 0.7 323.50
Pea III	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73
Pea III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 30-100-0-0 0.9 218.99 0.27 - 0.5 218.99	Sowing 0-70-0-0 0.7 218.99 0.15 - 0.5 218.99	Sowing 30-100-0-0 0.6 218.99 0.27 - 0.3 218.99	Sowing 0-70-0-0 0.5 218.99 0.15 - 0.3 218.99
Pea	<u>Harvest</u> Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer

III	Combine harvester:	h ha^{-1} :	0.8	0.7	0.6	0.5
		MJ h^{-1} :	825.55	825.55	825.55	825.55
	Yield harvest	$(\text{t ha}^{-1} \text{ yr}^{-1})$:	9.6	6.0	12.0	9.6
	Water content	(%)	18/24	18/24	18/24	18/24
	Yield marketable product	$(\text{t ha}^{-1} \text{ yr}^{-1})$:	4.0	3.0	5.0	4.0
	Water content	(%)	18/24	18/24	18/24	18/24
	Yield straw	$(\text{t ha}^{-1} \text{ yr}^{-1})$:	5.0	3.5	6.5	5.0
	Water content	(%)	18/24	18/24	18/24	18/24

Atlantic North		Cropping system 10: Rapeseed-Flax-Red clover			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Rapeseed I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-30 cm 2.9 883.32	0-10 cm 2.1 883.32	0-30 cm 2.3 883.32	0-10 cm 1.6 883.32
Rapeseed I	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73
Rapeseed I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress 190-80-70-0 1.1 218.99 1.5 - 0.5 218.99	Sow.+Top dress 100-40-40-0 1.0 218.99 0.75 - 0.5 218.99	Sow.+Top dress 190-80-70-0 0.9 218.99 1.5 - 0.3 218.99	Sow.+Top dress 100-40-40-0 0.7 218.99 0.75 - 0.3 218.99
Rapeseed I	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 7.0 15 2.3 9.0 4.5 15.0	Spring/Summer 0.7 825.55 4.5 15 1.5 9.0 2.9 15.0	Spring/Summer 0.6 825.55 9.4 15 3.2 9.0 5.9 15.0	Spring/Summer 0.5 825.55 7.0 15 2.3 9.0 4.5 15.0
Flax II	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-30 cm 2.5 883.32	0-10 cm 2.0 883.32	0-30 cm 1.9 883.32	0-10 cm 1.6 883.32
Flax II	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 100 kg ha ⁻¹ 0.4 380.73	Spring 100 kg ha ⁻¹ 0.4 380.73	Spring 100 kg ha ⁻¹ 0.2 380.73	Spring 100 kg ha ⁻¹ 0.2 380.73
Flax II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 120-150-75-0 1.1 218.99 1.5 0.5 218.99	Sow.+Top dress 90-100-50-0 1.0 218.99 0.8 0.5 218.99	Sowing 120-150-75-0 0.9 218.99 1.5 0.3 218.99	Sow.+Top dress 90-100-50-0 0.7 218.99 0.8 0.3 218.99
Flax II	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Late summer/fall 0.8 825.55 5.7 20 1.2 9.0 3.4 14.0	Late summer/fall 0.7 825.55 4.1 20 0.9 9.0 2.4 14.0	Late summer/fall 0.6 825.55 6.8 20 1.4 9.0 4.0 14.0	Late summer/fall 0.5 825.55 5.7 20 1.2 9.0 3.4 14.0
Red clover III	<u>Tillage</u> Disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-30 cm 2.5 323.50	0-15 cm 2.0 323.50	0-30 cm 1.9 323.50	0-15 cm 1.6 323.50
Red clover III	<u>Sowing</u> Season: Amount kg ha ⁻¹ : Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 25 0.4 380.73	Spring 25 0.4 380.73	Spring 25 0.2 380.73	Spring 25 0.2 380.73
Red clover III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ :	Sowing 0-40-0-0 1.1 218.99	Sowing 0-20-0-0 1.1 218.99	Sowing 0-40-0-0 0.7 218.99	Sowing 0-20-0-0 0.7 218.99
Red clover III	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield (t ha ⁻¹ yr ⁻¹): Water content (%):	Late summer/fall 0.7 825.55 3.1 70	Late summer/fall 0.7 825.55 3.0 70	Late summer/fall 0.5 825.55 3.5 70	Late summer/fall 0.5 825.55 3.4 70

Lusitanian		Cropping system 1: Eucalyptus			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Eucalyptus I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	40-50 cm 3.8 883.32	35 cm 2.9 883.32	40-50 cm 2.9 883.32	35 cm 2.3 883.32
Eucalyptus I	<u>Sowing</u> Season: Amount (plant ha ⁻¹): Planter h ha ⁻¹ : MJ h ⁻¹ :	Spring 5000 2.3 380.73	Spring 5000 2.3 380.73	Spring 5000 1.9 380.73	Spring 5000 1.9 380.73
Eucalyptus I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Planting 195-12-130-90 1.0 218.99 0.25 - 0.5 218.99	Planting 60-5-65-45 0.8 218.99 0.25 - 0.5 218.99	Planting 125-12-132-92 0.8 218.99 0.25 - 0.3 218.99	Planting 195-12-130-90 0.6 218.99 0.25 - 0.3 218.99
Eucalyptus II-III	<u>Harvest</u> Season: Cut&Chip harvester+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Winter 0.7 3726.2 12.0 50 10.5 50	Winter 0.6 3726.2 8.0 50 6.8 50	Winter 0.4 3726.2 17.0 50 14.5 50	Winter 0.3 3726.2 12.0 50 10.5 50
Eucalyptus III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Mechanical weed control h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 70-0-0-0 0.9 218.99 1.6 218.99	- - - 1.6 218.99	Top dressing 70-0-0-0 0.6 218.99 0.9 218.99	- - - 0.9 218.99
Eucalyptus IV-V	<u>Harvest</u> Season: Cut&Chip harvester+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Winter 0.7 3726.2 24.0 50 20.4 50	Winter 0.6 3726.2 16.0 50 13.5 50	Winter 0.4 3726.2 34.0 50 29.0 50	Winter 0.3 3726.2 24.0 50 20.4 50
Eucalyptus V	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Mechanical weed control h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 70-0-0-0 0.9 218.99 1.6 218.99	- - - 1.6 218.99	Top dressing 70-0-0-0 0.6 218.99 0.9 218.99	- - - 0.9 218.99

Lusitanian		Cropping system 2: Poplar			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Poplar I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	40-50 cm 3.8 883.32	35 cm 2.9 883.32	40-50 cm 2.9 883.32	35 cm 2.3 883.32
Poplar I	<u>Sowing</u> Season: Amount (plant ha ⁻¹): Planter h ha ⁻¹ : MJ h ⁻¹ :	Spring 10000 2.9 380.73	Spring 8000 2.9 380.73	Spring 10000 2.2 380.73	Spring 8000 2.2 380.73
Poplar I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Planting 100-20-80-200 1.0 218.99 0.25 - 0.5 218.99	Planting 30-5-20-50 0.8 218.99 0.25 - 0.5 218.99	Planting 100-20-80-200 0.8 218.99 0.25 - 0.3 218.99	Planting 30-5-20-50 0.6 218.99 0.25 - 0.3 218.99
Poplar II-III	<u>Harvest</u> Season: Cut&Chip harvester+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Late Winter 0.7 3726.2 14.0 50 12.0 50	Late Winter 0.6 3726.2 10.0 50 8.5 50	Late Winter 0.4 3726.2 18.0 50 15.0 50	Late Winter 0.3 3726.2 14.0 50 12.0 50
Poplar III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Mechanical weed control h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 100-0-0-0 1.0 218.99 1.6 218.99	Top dressing 30-0-0-0 0.8 218.99 1.6 218.99	Top dressing 100-0-0-0 0.8 218.99 0.9 218.99	Top dressing 30-0-0-0 0.6 218.99 0.9 218.99
Poplar IV-V	<u>Harvest</u> Season: Cut&Chip harvester+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Late Winter 0.7 3726.2 28.0 50 24.0 50	Late Winter 0.6 3726.2 20.0 50 17.0 50	Late Winter 0.4 3726.2 34.0 50 29.0 50	Late Winter 0.3 3726.2 28.0 50 24.0 50
Poplar V	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Mechanical weed control h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 0-0-0-0 1.0 218.99 1.6 218.99	Top dressing 0-0-0-0 0.8 218.99 1.6 218.99	Top dressing 0-0-0-0 0.8 218.99 0.9 218.99	Top dressing 0-0-0-0 0.6 218.99 0.9 218.99

Lusitanian		Cropping system 3: Miscanthus			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Miscanthus I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-40 cm 2.95 883.32	0-20 cm 2.1 883.32	0-40 cm 2.3 883.32	0-20 cm 1.6 883.32
Miscanthus I	<u>Sowing (transplant)</u> Season: Amount: Planter h ha ⁻¹ : MJ h ⁻¹ :	Spring 10000 rhiz. ha ⁻¹ 2.9 380.73	Spring 10000 rhiz. ha ⁻¹ 2.9 380.73	Spring 10000 rhiz. ha ⁻¹ 2.2 380.73	Spring 10000 rhiz. ha ⁻¹ 2.2 380.73
Miscanthus I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 80-40-40-40 1.0 218.99 1.2 0.5 218.99	Sowing 40-15-15-15 0.8 218.99 1.2 0.5 218.99	Sowing 80-40-40-40 0.8 218.99 1.2 0.3 218.99	Sowing 40-15-15-15 0.6 218.99 1.2 0.3 218.99
Miscanthus I	<u>Harvest</u> Season: Maize chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring 1.2 825.55 13.0 50 11.0 50	Spring 1.2 825.55 10.0 50 8.5 50	Spring 1.0 825.55 16.0 50 13.5 50	Spring 0.8 825.55 13.0 50 11.0 50
Miscanthus II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 50-0-0-0 0.9 218.99 - - -	- - - - - -	Top dressing 50-0-0-0 0.7 218.99 - - -	- - - - - -
Miscanthus II	<u>Harvest</u> Season: Maize chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring 1.2 825.55 20.0 50 17.0 50	Spring 1.2 825.55 16 50 13.5 50	Spring 1.0 825.55 24 50 20.0 50	Spring 0.8 825.55 20.0 50 17.0 50
Miscanthus III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 50-0-0-0 0.9 218.99 - - -	- - - - - -	Top dressing 50-0-0-0 0.7 218.99 - - -	- - - - - -
Miscanthus III	<u>Harvest</u> Season: Maize chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring 1.2 825.55 40 50 34 50	Spring 1.2 825.55 32 50 27 50	Spring 1.0 825.55 48 50 41 50	Spring 0.8 825.55 40 50 34 50

Lusitanian		Cropping system 4: Pea-Cereal (wheat)-Rapeseed			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Pea I	<u>Tillage</u> Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 1.2 323.50	0-15cm 0.8 323.50	0-25 cm 0.9 323.50	0-15 cm 0.7 323.50
Pea I	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73
Pea I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 30-100-0-0 0.9 218.99 0.27 - 0.5 218.99	Sowing 0-70-0-0 0.7 218.99 0.15 - 0.5 218.99	Sowing 30-100-0-0 0.6 218.99 0.27 - 0.3 218.99	Sowing 0-70-0-0 0.5 218.99 0.15 - 0.3 218.99
Pea I	<u>Harvest</u> Season: Combine harvester h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 6.0 18/24 2.6 18/24 2.5 18/24	Spring/Summer 0.7 825.55 3.0 18/24 1.0 18/24 1.5 18/24	Spring/Summer 0.6 825.55 8.0 18/24 3.5 18/24 3.4 18/24	Spring/Summer 0.5 825.55 6.0 18/24 2.6 18/24 2.5 18/24
Wheat II	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 2.1 883.32	No tillage	0-25 cm 1.6 883.32	No tillage
Wheat II	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 230 kg ha ⁻¹ 0.4 380.73	Autumn 250 kg ha ⁻¹ 0.5 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.3 380.73
Wheat II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 100-140-0-0 1.1 218.99 0.27 - 0.5 218.99	Sow.+Top dress. 50-65-0 1.0 218.99 0.15 - 0.5 218.99	Sow.+Top dress. 100-140-0-0 0.9 218.99 0.27 - 0.3 218.99	Sow.+Top dress. 50-65-0-0 0.7 218.99 0.15 - 0.3 218.99
Wheat II	<u>Harvest</u> Season: Combine harvester h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 6.0 16.0 2.6 13 2.5 20	Spring/Summer 0.7 825.55 3.8 16.0 1.5 13 1.6 20	Spring/Summer 0.6 825.55 8.5 16.0 3.7 13 3.6 20	Spring/Summer 0.5 825.55 6.0 16.0 2.6 13 2.5 20
Rapeseed III	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-30 cm 2.9 883.32	0-10 cm 2.1 883.32	0-30 cm 2.3 883.32	0-10 cm 1.6 883.32
Rapeseed III	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73
Rapeseed III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress 160-80-70-0 1.1 218.99 0.3 - 0.5 218.99	Sow.+Top dress 80-40-40-0 1.0 218.99 0.15 - 0.5 218.99	Sow.+Top dress 160-80-70-0 0.9 218.99 0.3 - 0.3 218.99	Sow.+Top dress 80-40-40-0 0.7 218.99 0.15 - 0.3 218.99
Rapeseed III	<u>Harvest</u> Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer

eed III	Combine harvester	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	5.9	2.8	8.0	5.9
	Water content	(%):	15	15	15	15
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	1.9	0.9	2.7	1.9
	Water content	(%):	9.0	9.0	9.0	9.0
	Yield straw	(t ha ⁻¹ yr ⁻¹):	3.7	1.7	5.2	3.7
	Water content	(%):	15.0	15.0	15.0	15.0

Lusitanian Cropping system 5: Rapeseed-Cereal (wheat)-Hemp-Cereal (barley)						
Yr			Marginal land		Agricultural land	
			High input	Low input	High input	Low input
Rapeseed I	<u>Tillage</u>	Plough and disk harrow:	0-30 cm	0-10 cm	0-30 cm	0-10 cm
		h ha ⁻¹ :	2.9	2.1	2.3	1.6
		MJ h ⁻¹ :	883.32	883.32	883.32	883.32
Rapeseed I	<u>Sowing</u>	Season:	Autumn	Autumn	Autumn	Autumn
		Amount:	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Rapeseed I	<u>Crop practices</u>					
	Fertilization:		Sow.+Top dress	Sow.+Top dress	Sow.+Top dress	Sow.+Top dress
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		160-80-70-0	80-40-40-0	160-80-70-0	80-40-40-0
	Fertilizer distributor	h ha ⁻¹ :	1.1	1.0	0.9	0.7
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		0.3	0.15	0.3	0.15
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer	h ha ⁻¹ :	0.5	0.5	0.3	0.3
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
Rapeseed I	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer
	Combine harvester	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	5.9	2.8	8.0	5.9
	Water content	(%):	15	15	15	15
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	1.9	0.9	2.7	1.9
	Water content	(%):	9.0	9.0	9.0	9.0
	Yield straw	(t ha ⁻¹ yr ⁻¹):	3.7	1.7	5.2	3.7
	Water content	(%):	15.0	15.0	15.0	15.0
Wheat II	<u>Tillage</u>	Plough and disk harrow:	0-25 cm	No tillage	0-25 cm	No tillage
		h ha ⁻¹ :	2.1		1.6	
		MJ h ⁻¹ :	883.32		883.32	
Wheat II	<u>Sowing</u>	Season:	Autumn	Autumn	Autumn	Autumn
		Amount:	230 kg ha ⁻¹	250 kg ha ⁻¹	180 kg ha ⁻¹	180 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.5	0.2	0.3
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Wheat II	<u>Crop practices</u>					
	Fertilization:		Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		100-140-0-0	50-65-0	100-140-0-0	50-65-0-0
	Fertilizer distributor	h ha ⁻¹ :	1.1	1.0	0.9	0.7
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		0.27	0.15	0.27	0.15
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer	h ha ⁻¹ :	0.5	0.5	0.3	0.3
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
Wheat II	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer
	Combine harvester	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	6.0	3.8	8.5	6.0
	Water content	(%):	16.0	16.0	16.0	16.0
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	2.6	1.5	3.7	2.6
	Water content	(%):	13	13	13	13
	Yield straw	(t ha ⁻¹ yr ⁻¹):	2.5	1.6	3.6	2.5
	Water content	(%):	20	20	20	20
Hemp III	<u>Tillage</u>	Plough and disk harrow:	35-40 cm	15-30 cm	35-40 cm	15-30 cm
		h ha ⁻¹ :	2.9	2.5	2.2	1.8
		MJ h ⁻¹ :	883.32	883.32	883.32	883.32
Hemp III	<u>Sowing</u>	Season:	Spring	Spring	Spring	Spring
		Amount:	40 kg ha ⁻¹	40 kg ha ⁻¹	40 kg ha ⁻¹	40 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Hemp III	<u>Crop practices</u>					
	Fertilization:		Sow.+Top dress	Sow.+Top dress	Sow.+Top dress	Sow.+Top dress
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		140-60-120-0	80-30-60-0	140-60-120-0	80-30-60-0
	Fertilizer distributor	h ha ⁻¹ :	1.1	1.0	0.9	0.7
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		1.6	1.6	0.9	0.9
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		218.99	218.99	218.99	218.99
	Crop sprayer	h ha ⁻¹ :				
		MJ h ⁻¹ :				
Hemp III	<u>Harvest</u>	Season:	Summer	Summer	Summer	Summer
	Combine harvester	h ha ⁻¹ :	0.8	0.7	0.6	0.5

	Yield harvest Water content Yield marketable product Water content Yield straw Water content	MJ h ⁻¹ : (t ha ⁻¹ yr ⁻¹): (%): (t ha ⁻¹ yr ⁻¹): (%): (t ha ⁻¹ yr ⁻¹): (%):	825.55 19.0 20 1.0 14.0 14.2 14.0	825.55 14.0 20 0.8 14.0 10.0 14.0	825.55 21.0 20 1.2 14.0 11.5 14.0	825.55 19.0 20 1.0 14.0 14.2 14.0
Barley IV	<u>Tillage</u> Plough and disk harrow:		0-25 cm	No tillage	0-25 cm	No tillage
		h ha ⁻¹ : MJ h ⁻¹ :	2.1 883.32		1.6 883.32	
Barley IV	<u>Sowing</u> Season: Amount: Seed drill	h ha ⁻¹ : MJ h ⁻¹ :	Autumn 150 kg ha ⁻¹ 0.4 380.73	Autumn 150 kg ha ⁻¹ 0.5 380.73	Autumn 150 kg ha ⁻¹ 0.2 380.73	Autumn 150 kg ha ⁻¹ 0.3 380.73
Barley IV	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer	h ha ⁻¹ : MJ h ⁻¹ : h ha ⁻¹ : h ha ⁻¹ :	Sow.+Top dress. 30-100-50-0 1.1 218.99 0.27 - 0.5 218.99	Sow.+Top dress. 10-50-30-0 1.0 218.99 0.15 - 0.5 218.99	Sow.+Top dress. 30-100-50-0 0.9 218.99 0.27 - 0.3 218.99	Sow.+Top dress. 10-50-30-0 0.7 218.99 0.15 - 0.3 218.99
Barley IV	<u>Harvest</u> Season: Combine harvester	h ha ⁻¹ : MJ h ⁻¹ : Yield harvest Water content Yield marketable product Water content Yield straw Water content	Spring/Summer 0.8 825.55 9.0 17 3.4 13 4.2 20	Spring/Summer 0.7 825.55 3.8 17 1.6 13 1.7 20	Spring/Summer 0.6 825.55 14.0 17 6.1 13 5.9 20	Spring/Summer 0.8 825.55 9.0 17 3.4 13 4.2 20

Lusitanian Cropping system 6a: Wheat-Maize-Sunflower-Sorghum-Red clover						
Yr			Marginal land		Agricultural land	
			High input	Low input	High input	Low input
Wheat I	<u>Tillage</u>	Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 2.1 883.32	No tillage	0-25 cm 1.6 883.32	No tillage
Wheat I	<u>Sowing</u>	Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 230 kg ha ⁻¹ 0.4 380.73	Autumn 250 kg ha ⁻¹ 0.5 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.3 380.73
Wheat I	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 100-140-0-0 1.1 218.99 0.27 - 0.5 218.99	Sow.+Top dress. 50-65-0 1.0 218.99 0.15 - 0.5 218.99	Sow.+Top dress. 100-140-0-0 0.9 218.99 0.27 - 0.3 218.99	Sow.+Top dress. 50-65-0-0 0.7 218.99 0.15 - 0.3 218.99
Wheat I	<u>Harvest</u>	Season: Combine harvester h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 6.0 16.0 2.6 13 2.5 20	Spring/Summer 0.7 825.55 3.8 16.0 1.5 13 1.6 20	Spring/Summer 0.6 825.55 8.5 16.0 3.7 13 3.6 20	Spring/Summer 0.5 825.55 6.0 16.0 2.6 13 2.5 20
Maize II	<u>Tillage</u>	Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	30-40 cm 2.9 883.32	0-20 cm 2.1 883.32	30-40 cm 2.2 883.32	0-20 cm 1.6 883.32
Maize II	<u>Sowing</u>	Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 25 kg ha ⁻¹ 0.4 380.73	Spring 25 kg ha ⁻¹ 0.4 380.73	Spring 25 kg ha ⁻¹ 0.2 380.73	Spring 25 kg ha ⁻¹ 0.2 380.73
Maize II	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 200-100-80-0 1.1 218.99 2 - 0.5 218.99	Sow.+Top dress. 100-50-40-0 1.0 218.99 1.5 - 0.5 218.99	Sow.+Top dress. 200-100-80-0 0.9 218.99 2 - 0.3 218.99	Sow.+Top dress. 100-50-40-0 0.7 218.99 1.5 - 0.3 218.99
Maize II	<u>Harvest</u>	Season: Maize chopper+lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield grain (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Autumn 1.0 825.55 29 44 5.1 25 17.9 48	Autumn 0.9 825.55 12.0 44 3.9 25 6.1 48	Autumn 0.8 825.55 56 44 6.8 25 37.0 48	Autumn 0.6 825.55 29 44 5.1 25 17.9 48
Sunflower III	<u>Tillage</u>	Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	25-40 cm 2.9 883.32	15-25 cm 2.1 883.32	25-40 cm 2.2 883.32	15-25 cm 1.6 883.32
Sunflower III	<u>Sowing</u>	Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 6 0.4 380.73	Spring 5 0.4 380.73	Spring 6 0.2 380.73	Spring 5 0.2 380.73
Sunflower III	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dressing 140-90-200-0 1.1 218.99 0.8 - 0.5 218.99	Sow.+Top dressing 80-50-100-0 1.0 218.99 0.5 - 0.5 218.99	Sow.+Top dressing 140-90-200-0 0.9 218.99 0.8 - 0.3 218.99	Sow.+Top dressing 80-50-100-0 0.7 218.99 0.5 - 0.3 218.99
Sunflower	<u>Harvest</u>	Season: Combine harvester h ha ⁻¹ :	Summer 0.8	Summer 0.7	Summer 0.6	Summer 0.5

III	Yield harvest Water content Yield marketable product Water content Yield straw Water content	MJ h ⁻¹ : (t ha ⁻¹ yr ⁻¹): (%): (t ha ⁻¹ yr ⁻¹): (%): (t ha ⁻¹ yr ⁻¹): (%):	825.55 4.0 12-13 1.5 12-13 1.9 12-13	825.55 3.5 12-13 1.0 12-13 1.8 12-13	825.55 8.0 12-13 2.4 12-13 4.2 12-13	825.55 4.0 12-13 1.5 12-13 1.9 12-13
Sorghum IV	<u>Tillage</u> Plough and disk harrow:		0-25 cm 2.1 883.32	No tillage	0-25 cm 1.6 883.32	No tillage
Sorghum IV	<u>Sowing</u> Seed drill	Season: Amount: h ha ⁻¹ : MJ h ⁻¹ :	Spring 10 kg ha ⁻¹ 0.4 380.73	Spring 10 kg ha ⁻¹ 0.5 380.73	Spring 10 kg ha ⁻¹ 0.2 380.73	Spring 10 kg ha ⁻¹ 0.3 380.73
Sorghum IV	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer	h ha ⁻¹ : MJ h ⁻¹ : h ha ⁻¹ : h ha ⁻¹ : h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 110-100-60-0 1.1 218.99 1.0 - 0.5 218.99	Sow.+Top dress. 80-75-20-0 1.0 218.99 0.5 - 0.5 218.99	Sow.+Top dress. 110-100-60-0 0.9 218.99 1.0 - 0.3 218.99	Sow.+Top dress. 80-75-20-0 0.7 218.99 0.5 - 0.3 218.99
Sorghum IV	<u>Harvest</u> Maize Chopper+Lorry	Season: h ha ⁻¹ : MJ h ⁻¹ :	Autumn 1.0 883.32	Autumn 0.9 825.55	Autumn 0.8 825.55	Autumn 0.6 825.55
	Yield harvest Water content Yield marketable product Water content Yield straw Water content	(t ha ⁻¹ yr ⁻¹): (%): (t ha ⁻¹ yr ⁻¹): (%): (t ha ⁻¹ yr ⁻¹): (%):	75 67 4.1 18.0 59 70	51 67 2.8 18.0 40 70	95 67 5.2 18.0 75 70	75 67 4.1 18.0 59 70
Red clover V	<u>Tillage</u> Disk harrow:		0-30 cm 2.5 323.50	0-15 cm 2.0 323.50	0-30 cm 1.9 323.50	0-15 cm 1.6 323.50
Red clover V	<u>Sowing</u> Seed drill	Season: Amount kg ha ⁻¹ : h ha ⁻¹ : MJ h ⁻¹ :	Spring 25 0.4 380.73	Spring 25 0.4 380.73	Spring 25 0.2 380.73	Spring 25 0.2 380.73
Red clover V	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor	h ha ⁻¹ : MJ h ⁻¹ :	Sowing 0-40-0-0 1.1 218.99	Sowing 0-20-0-0 1.1 218.99	Sowing 0-40-0-0 0.7 218.99	Sowing 0-20-0-0 0.7 218.99
Red clover V	<u>Harvest</u> Combine harvester:	Season: h ha ⁻¹ : MJ h ⁻¹ :	Late summer/fall 0.7 825.55	Late summer/fall 0.7 825.55	Late summer/fall 0.5 825.55	Late summer/fall 0.5 825.55
	Yield (t ha ⁻¹ yr ⁻¹): Water content (%):		3.1 70	3.0 70	3.5 70	3.4 70

Lusitanian Cropping system 6b: Pea-Maize-Sunflower-Sorghum- Red clover						
Yr			Marginal land		Agricultural land	
			High input	Low input	High input	Low input
Pea I	<u>Tillage</u>	Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 1.2 323.50	0-15cm 0.8 323.50	0-25 cm 0.9 323.50	0-15 cm 0.7 323.50
Pea I	<u>Sowing</u>	Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73
Pea I	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 30-100-0-0 0.9 218.99 0.27 - 0.5 218.99	Sowing 0-70-0-0 0.7 218.99 0.15 - 0.5 218.99	Sowing 30-100-0-0 0.6 218.99 0.27 - 0.3 218.99	Sowing 0-70-0-0 0.5 218.99 0.15 - 0.3 218.99
Pea I	<u>Harvest</u>	Season: Combine harvester h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 6.0 18/24 2.6 18/24 2.5 18/24	Spring/Summer 0.7 825.55 3.0 18/24 1.0 18/24 1.5 18/24	Spring/Summer 0.6 825.55 8.0 18/24 3.5 18/24 3.4 18/24	Spring/Summer 0.5 825.55 6.0 18/24 2.6 18/24 2.5 18/24
Maize II	<u>Tillage</u>	Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	30-40 cm 2.9 883.32	0-20 cm 2.1 883.32	30-40 cm 2.2 883.32	0-20 cm 1.6 883.32
Maize II	<u>Sowing</u>	Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 25 kg ha ⁻¹ 0.4 380.73	Spring 25 kg ha ⁻¹ 0.4 380.73	Spring 25 kg ha ⁻¹ 0.2 380.73	Spring 25 kg ha ⁻¹ 0.2 380.73
Maize II	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 100-100-80-0 1.1 218.99 2 - 0.5 218.99	Sow.+Top dress. 50-50-40-0 1.0 218.99 1.5 - 0.5 218.99	Sow.+Top dress. 100-100-80-0 0.9 218.99 2 - 0.3 218.99	Sow.+Top dress. 50-50-40-0 0.7 218.99 1.5 - 0.3 218.99
Maize II	<u>Harvest</u>	Season: Maize Chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield grain (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Autumn 1.0 825.55 29 44 5.1 25 17.9 48	Autumn 0.9 825.55 12.0 44 3.9 25 6.1 48	Autumn 0.8 825.55 56 44 6.8 25 37.0 48	Autumn 0.6 825.55 29 44 5.1 25 17.9 48
Sunflower III	<u>Tillage</u>	Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	25-40 cm 2.9 883.32	15-25 cm 2.1 883.32	25-40 cm 2.2 883.32	15-25 cm 1.6 883.32
Sunflower III	<u>Sowing</u>	Season: Amount(kg ha ⁻¹): Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 6 0.4 380.73	Spring 5 0.4 380.73	Spring 6 0.2 380.73	Spring 5 0.2 380.73
Sunflower III	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dressing 140-90-200-0 1.1 218.99 0.8 - 0.5 218.99	Sow.+Top dressing 80-50-100-0 1.0 218.99 0.5 - 0.5 218.99	Sow.+Top dressing 140-90-200-0 0.9 218.99 0.8 - 0.3 218.99	Sow.+Top dressing 80-50-100-0 0.7 218.99 0.5 - 0.3 218.99
Sunflower III	<u>Harvest</u>	Season:	Summer	Summer	Summer	Summer

wer III	Combine harvester:	h ha ⁻¹ : MJ h ⁻¹ :	0.8 825.55	0.7 825.55	0.6 825.55	0.5 825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	4.0	3.5	8.0	4.0
	Water content	(%):	12-13	12-13	12-13	12-13
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	1.5	1.0	2.4	1.5
	Water content	(%):	12-13	12-13	12-13	12-13
	Yield straw	(t ha ⁻¹ yr ⁻¹):	1.9	1.8	4.2	1.9
	Water content	(%):	12-13	12-13	12-13	12-13
Sorghum IV	<u>Tillage</u> Plough and disk harrow:		0-25 cm	No tillage	0-25 cm	No tillage
		h ha ⁻¹ : MJ h ⁻¹ :	2.1 883.32		1.6 883.32	
Sorghum IV	<u>Sowing</u>	Season:	Spring	Spring	Spring	Spring
	Seed drill	Amount: h ha ⁻¹ : MJ h ⁻¹ :	10 kg ha ⁻¹ 0.4 380.73	10 kg ha ⁻¹ 0.5 380.73	10 kg ha ⁻¹ 0.2 380.73	10 kg ha ⁻¹ 0.3 380.73
Sorghum IV	<u>Crop practices</u>					
	Fertilization:		Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		110-100-60-0	80-75-20-0	110-100-60-0	80-75-20-0
	Fertilizer distributor	h ha ⁻¹ : MJ h ⁻¹ :	1.1 218.99	1.0 218.99	0.9 218.99	0.7 218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		1.0	0.5	1.0	0.5
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
Crop sprayer	h ha ⁻¹ : MJ h ⁻¹ :	0.5 218.99	0.5 218.99	0.3 218.99	0.3 218.99	
Sorghum IV	<u>Harvest</u>	Season:	Autumn	Autumn	Autumn	Autumn
	Maize Chopper+Lorry	h ha ⁻¹ : MJ h ⁻¹ :	1.0 883.32	0.9 825.55	0.8 825.55	0.6 825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	75	51	95	75
	Water content	(%):	67	67	67	67
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	4.1	2.8	5.2	4.1
	Water content	(%):	18.0	18.0	18.0	18.0
	Yield straw	(t ha ⁻¹ yr ⁻¹):	59	40	75	59
Water content	(%):	70	70	70	70	
Red clover V	<u>Tillage</u> Disk harrow:		0-30 cm	0-15 cm	0-30 cm	0-15 cm
		h ha ⁻¹ : MJ h ⁻¹ :	2.5 323.50	2.0 323.50	1.9 323.50	1.6 323.50
Red clover V	<u>Sowing</u>	Season:	Spring	Spring	Spring	Spring
	Seed drill	Amount (kg ha ⁻¹): h ha ⁻¹ : MJ h ⁻¹ :	25 0.4 380.73	25 0.4 380.73	25 0.2 380.73	25 0.2 380.73
Red clover V	<u>Crop practices</u>					
	Fertilization:		Sowing	Sowing	Sowing	Sowing
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		0-40-0-0	0-20-0-0	0-40-0-0	0-20-0-0
Fertilizer distributor	h ha ⁻¹ : MJ h ⁻¹ :	1.1 218.99	1.1 218.99	0.7 218.99	0.7 218.99	
Red clover V	<u>Harvest</u>	Season:	Late summer/autumn	Late summer/autumn	Late summer/autumn	Late summer/autumn
	Combine harvester:	h ha ⁻¹ : MJ h ⁻¹ :	0.7 825.55	0.7 825.55	0.5 825.55	0.5 825.55
	Yield (t ha ⁻¹ yr ⁻¹):		3.1	3.0	3.5	3.4
	Water content (%):		70	70	70	70

Lusitanian Cropping system 7: Rapeseed-Cereal (wheat)-Pea-Rapeseed						
Yr			Marginal land		Agricultural land	
			High input	Low input	High input	Low input
Rapeseed I	<u>Tillage</u>	Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	0-30 cm 2.9 883.32	0-10 cm 2.1 883.32	0-30 cm 2.3 883.32	0-10 cm 1.6 883.32
Rapeseed I	<u>Sowing</u>	Season: Amount(kg ha ⁻¹): h ha ⁻¹ : MJ h ⁻¹ :	Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73
Rapeseed I	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress 160-80-70-0 1.1 218.99 0.3 - 0.5 218.99	Sow.+Top dress 80-40-40-0 1.0 218.99 0.15 - 0.5 218.99	Sow.+Top dress 160-80-70-0 0.9 218.99 0.3 - 0.3 218.99	Sow.+Top dress 80-40-40-0 0.7 218.99 0.15 - 0.3 218.99
Rapeseed I	<u>Harvest</u>	Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 5.9 15 1.9 9.0 3.7 15.0	Spring/Summer 0.7 825.55 2.8 15 0.9 9.0 1.7 15.0	Spring/Summer 0.6 825.55 8.0 15 2.7 9.0 5.2 15.0	Spring/Summer 0.5 825.55 5.9 15 1.9 9.0 3.7 15.0
Wheat II	<u>Tillage</u>	Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 2.1 883.32	No tillage	0-25 cm 1.6 883.32	No tillage
Wheat II	<u>Sowing</u>	Season: Amount(kg ha ⁻¹): h ha ⁻¹ : MJ h ⁻¹ :	Autumn 230 kg ha ⁻¹ 0.4 380.73	Autumn 250 kg ha ⁻¹ 0.5 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.3 380.73
Wheat II	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 100-140-0-0 1.1 218.99 0.27 - 0.5 218.99	Sow.+Top dress. 50-65-0 1.0 218.99 0.15 - 0.5 218.99	Sow.+Top dress. 100-140-0-0 0.9 218.99 0.27 - 0.3 218.99	Sow.+Top dress. 50-65-0-0 0.7 218.99 0.15 - 0.3 218.99
Wheat II	<u>Harvest</u>	Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 6.0 16.0 2.6 13 2.5 20	Spring/Summer 0.7 825.55 3.8 16.0 1.5 13 1.6 20	Spring/Summer 0.6 825.55 8.5 16.0 3.7 13 3.6 20	Spring/Summer 0.5 825.55 6.0 16.0 2.6 13 2.5 20
Pea III	<u>Tillage</u>	Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 1.2 323.50	0-15cm 0.8 323.50	0-25 cm 0.9 323.50	0-15 cm 0.7 323.50
Pea III	<u>Sowing</u>	Season: Amount: h ha ⁻¹ : MJ h ⁻¹ :	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73
Pea III	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 30-100-0-0 0.9 218.99 0.27 - 0.5 218.99	Sowing 0-70-0-0 0.7 218.99 0.15 - 0.5 218.99	Sowing 30-100-0-0 0.6 218.99 0.27 - 0.3 218.99	Sowing 0-70-0-0 0.5 218.99 0.15 - 0.3 218.99
Pea	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer

III	Combine harvester:	h ha ⁻¹ : MJ h ⁻¹ :	0.8 825.55	0.7 825.55	0.6 825.55	0.5 825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	6.0	3.0	8.0	6.0
	Water content	(%):	18/24	18/24	18/24	18/24
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	2.6	1.0	3.5	2.6
	Water content	(%):	18/24	18/24	18/24	18/24
	Yield straw	(t ha ⁻¹ yr ⁻¹):	2.5	1.5	3.4	2.5
	Water content	(%):	18/24	18/24	18/24	18/24
Rapes eed IV	<u>Tillage</u>	Cultivator:	0-30 cm	0-10 cm	0-30 cm	0-10 cm
		h ha ⁻¹ :	2.9	2.1	2.3	1.6
		MJ h ⁻¹ :	883.32	883.32	883.32	883.32
Rapes eed IV	<u>Sowing</u>	Season:	Autumn	Autumn	Autumn	Autumn
		Amount(kg ha ⁻¹):	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Rapes eed IV	<u>Crop practices</u>					
	Fertilization:		Sow.+Top dress	Sow.+Top dress	Sow.+Top dress	Sow.+Top dress
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		80-80-70-0	40-40-40-0	80-80-70-0	40-40-40-0
	Fertilizer distributor	h ha ⁻¹ :	1.1	1.0	0.9	0.7
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		0.3	0.15	0.3	0.15
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer	h ha ⁻¹ :	0.5	0.5	0.3	0.3
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
Rapes eed IV	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	5.9	2.8	8.0	5.9
	Water content	(%):	15	15	15	15
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	1.9	0.9	2.7	1.9
	Water content	(%):	9.0	9.0	9.0	9.0
	Yield straw	(t ha ⁻¹ yr ⁻¹):	3.7	1.7	5.2	3.7
	Water content	(%):	15.0	15.0	15.0	15.0

Lusitanian		Cropping system 8: Maize-Sugar beet-Sorghum			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Maize I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	30-40 cm 2.9 883.32	0-20 cm 2.1 883.32	30-40 cm 2.2 883.32	0-20 cm 1.6 883.32
Maize I	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 25 kg ha ⁻¹ 0.4 380.73	Spring 25 kg ha ⁻¹ 0.4 380.73	Spring 25 kg ha ⁻¹ 0.2 380.73	Spring 25 kg ha ⁻¹ 0.2 380.73
Maize I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 200-100-80-0 1.1 218.99 2 - 0.5 218.99	Sow.+Top dress. 100-50-40-0 1.0 218.99 1.5 - 0.5 218.99	Sow.+Top dress. 200-100-80-0 0.9 218.99 2 - 0.3 218.99	Sow.+Top dress. 100-50-40-0 0.7 218.99 1.5 - 0.3 218.99
Maize I	<u>Harvest</u> Season: Maize Chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield grain (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Autumn 1.0 825.55 29 44 5.1 25 17.9 48	Autumn 0.9 825.55 12.0 44 3.9 25 6.1 48	Autumn 0.8 825.55 56 44 6.8 25 37.0 48	Autumn 0.6 825.55 29 44 5.1 25 17.9 48
Sugar beet II	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	40-50 cm 3.8 883.32	20-25 cm 2.1 883.32	40-50 cm 2.9 883.32	20-25 cm 1.6 883.32
Sugar beet II	<u>Sowing</u> Season: Amount : Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 1 kg ha ⁻¹ 0.4 380.73	Spring 1 kg ha ⁻¹ 0.4 380.73	Spring 1 kg ha ⁻¹ 0.2 380.73	Spring 1 kg ha ⁻¹ 0.2 380.73
Sugar beet II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 140-180-200-40 1.1 218.99 3.5 - 0.5 202.19	Sowing 60-100-100-25 1.0 218.99 2.0 - 0.5 202.19	Sowing 140-180-200-40 0.9 218.99 3.5 - 0.3 202.19	Sowing 60-100-100-25 0.7 218.99 2.0 - 0.3 202.19
Sugar beet II	<u>Harvest</u> Season: Beet harvester h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Summer 1.5 883.32 136 75 78 75 58 75	Summer 1.3 883.32 115 75 66 75 49 75	Summer 1.5 883.32 149 75 92 75 61 75	Summer 1.2 883.32 136 75 78 75 58 75
Sorghum III	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 2.1 883.32	No tillage	0-25 cm 1.6 883.32	No tillage
Sorghum III	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 10 kg ha ⁻¹ 0.4 380.73	Spring 10 kg ha ⁻¹ 0.5 380.73	Spring 10 kg ha ⁻¹ 0.2 380.73	Spring 10 kg ha ⁻¹ 0.3 380.73
Sorghum III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 110-100-60-0 1.1 218.99 1.0 - 0.5 218.99	Sow.+Top dress. 80-75-20-0 1.0 218.99 0.5 - 0.5 218.99	Sow.+Top dress. 110-100-60-0 0.9 218.99 1.0 - 0.3 218.99	Sow.+Top dress. 80-75-20-0 0.7 218.99 0.5 - 0.3 218.99
Sorghum	<u>Harvest</u> Season:	Autumn	Autumn	Autumn	Autumn

um III	Maize Chopper+Lorry	h ha ⁻¹ :	1.0	0.9	0.8	0.6
		MJ h ⁻¹ :	883.32	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	75	51	95	75
	Water content	(%):	67	67	67	67
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	4.1	2.8	5.2	4.1
	Water content	(%):	18.0	18.0	18.0	18.0
	Yield straw	(t ha ⁻¹ yr ⁻¹):	59	40	75	59
	Water content	(%):	70	70	70	70

Lusitanian Cropping system 9: Soybean-Ethiopian mustard-Sunflower						
Yr			Marginal land		Agricultural land	
			High input	Low input	High input	Low input
Soybean I	<u>Tillage</u>	Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	25-40 cm 2.9 883.32	15-25 cm 2.1 883.32	25-40 cm 2.2 883.32	15-25 cm 1.6 883.32
Soybean I	<u>Sowing</u>	Season: Amount(kg ha ⁻¹): Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring/Summer 80 0.4 380.73	Spring/Summer 80 0.4 380.73	Spring/Summer 80 0.2 380.73	Spring/Summer 80 0.2 380.73
Soybean I	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress 60-60-70-0 1.1 218.99 0.35 - 0.5 202.19	Sow.+Top dress 30-30-35-0 1.0 218.99 0.20 - 0.5 202.19	Sow.+Top dress 60-60-70-0 0.9 218.99 0.35 - 0.3 202.19	Sow.+Top dress 30-30-35-0 0.7 218.99 0.20 - 0.3 202.19
Soybean I	<u>Harvest</u>	Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Autumn 0.8 825.55 5.5 12-14 2.3 12-14 2.4 12-14	Autumn 0.7 825.55 4.0 12-14 1.6 12-14 1.8 12-14	Autumn 0.6 825.55 7.5 12-14 3.0 12-14 3.3 12-14	Autumn 0.5 825.55 5.5 12-14 2.3 12-14 2.4 12-14
Ethiopian mustard II	<u>Tillage</u>	Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	0-30 cm 2.9 883.32	0-10 cm 2.1 883.32	0-30 cm 2.3 883.32	0-10 cm 1.6 883.32
Ethiopian mustard II	<u>Sowing</u>	Season: Amount(kg ha ⁻¹): Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73
Ethiopian mustard II	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress 80-80-70-0 1.1 218.99 0.3 - 0.5 218.99	Sow.+Top dress 40-40-40-0 1.0 218.99 0.15 - 0.5 218.99	Sow.+Top dress 80-80-70-0 0.9 218.99 0.3 - 0.3 218.99	Sow.+Top dress 40-40-40-0 0.7 218.99 0.15 - 0.3 218.99
Ethiopian mustard II	<u>Harvest</u>	Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 5.9 15 1.9 9.0 3.7 15.0	Spring/Summer 0.7 825.55 2.8 15 0.9 9.0 1.7 15.0	Spring/Summer 0.6 825.55 8.0 15 2.7 9.0 5.2 15.0	Spring/Summer 0.5 825.55 5.9 15 1.9 9.0 3.7 15.0
Sunflower III	<u>Tillage</u>	Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	25-40 cm 2.9 883.32	15-25 cm 2.1 883.32	25-40 cm 2.2 883.32	15-25 cm 1.6 883.32
Sunflower III	<u>Sowing</u>	Season: Amount(kg ha ⁻¹): Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 6 0.4 380.73	Spring 5 0.4 380.73	Spring 6 0.2 380.73	Spring 5 0.2 380.73
Sunflower III	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dressing 140-90-200-0 1.1 218.99 0.8 - 0.5 218.99	Sow.+Top dressing 80-50-100-0 1.0 218.99 0.5 - 0.5 218.99	Sow.+Top dressing 140-90-200-0 0.9 218.99 0.8 - 0.3 218.99	Sow.+Top dressing 80-50-100-0 0.7 218.99 0.5 - 0.3 218.99

Sunflower III	Harvest	Season:	Summer	Summer	Summer	Summer
			Combine harvester:	h ha ⁻¹ :	0.8	0.7
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	4.0	3.5	8.0	4.0
	Water content	(%):	12-13	12-13	12-13	12-13
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	1.5	1.0	2.4	1.5
	Water content	(%):	12-13	12-13	12-13	12-13
	Yield straw	(t ha ⁻¹ yr ⁻¹):	1.9	1.8	4.2	1.9
	Water content	(%):	12-13	12-13	12-13	12-13

Lusitanian		Cropping system 10: Rapeseed-Flax-Red clover			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Rapeseed I	<u>Tillage</u> Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	0-30 cm 2.9 883.32	0-10 cm 2.1 883.32	0-30 cm 2.3 883.32	0-10 cm 1.6 883.32
Rapeseed I	<u>Sowing</u> Season: Amount(kg ha ⁻¹): Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73
Rapeseed I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress 160-80-70-0 1.1 218.99 0.3 - 0.5 218.99	Sow.+Top dress 80-40-40-0 1.0 218.99 0.15 - 0.5 218.99	Sow.+Top dress 160-80-70-0 0.9 218.99 0.3 - 0.3 218.99	Sow.+Top dress 80-40-40-0 0.7 218.99 0.15 - 0.3 218.99
Rapeseed I	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 5.9 15 1.9 9.0 3.7 15.0	Spring/Summer 0.7 825.55 2.8 15 0.9 9.0 1.7 15.0	Spring/Summer 0.6 825.55 8.0 15 2.7 9.0 5.2 15.0	Spring/Summer 0.5 825.55 5.9 15 1.9 9.0 3.7 15.0
Flax II	<u>Tillage</u> Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	0-30 cm 2.5 883.32	0-10 cm 2.0 883.32	0-30 cm 1.9 883.32	0-10 cm 1.6 883.32
Flax II	<u>Sowing</u> Season: Amount(kg ha ⁻¹): Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 100 kg ha ⁻¹ 0.4 380.73	Spring 100 kg ha ⁻¹ 0.4 380.73	Spring 100 kg ha ⁻¹ 0.2 380.73	Spring 100 kg ha ⁻¹ 0.2 380.73
Flax II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 120-150-75-0 1.1 218.99 1.5 0.5 218.99	Sow.+Top dress 90-100-50-0 1.0 218.99 0.8 0.5 218.99	Sowing 120-150-75-0 0.9 218.99 1.5 0.3 218.99	Sow.+Top dress 90-100-50-0 0.7 218.99 0.8 0.3 218.99
Flax II	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Late summer/fall 0.8 825.55 5.7 20 1.2 9.0 3.4 14.0	Late summer/fall 0.7 825.55 4.1 20 0.9 9.0 2.4 14.0	Late summer/fall 0.6 825.55 6.8 20 1.4 9.0 4.0 14.0	Late summer/fall 0.5 825.55 5.7 20 1.2 9.0 3.4 14.0
Red clover III	<u>Tillage</u> Disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-30 cm 2.5 323.50	0-15 cm 2.0 323.50	0-30 cm 1.9 323.50	0-15 cm 1.6 323.50
Red clover III	<u>Sowing</u> Season: Amount (kg ha ⁻¹): Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 25 0.4 380.73	Spring 25 0.4 380.73	Spring 25 0.2 380.73	Spring 25 0.2 380.73
Red clover III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ :	Sowing 0-40-0-0 1.1 202.19	Sowing 0-20-0-0 1.1 202.19	Sowing 0-40-0-0 0.7 202.19	Sowing 0-20-0-0 0.7 202.19
Red clover III	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield (t ha ⁻¹ yr ⁻¹): Water content (%):	Late summer/fall 0.7 825.55 3.1 70	Late summer/fall 0.7 825.55 3.0 70	Late summer/fall 0.5 825.55 3.5 70	Late summer/fall 0.5 825.55 3.4 70

Mediterranean North		Cropping system 1: Poplar			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Poplar I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	40-50 cm 3.8 883.32	35 cm 2.9 883.32	40-50 cm 2.9 883.32	35 cm 2.3 883.32
Poplar I	<u>Sowing</u> Season: Amount (plant ha ⁻¹): Planter h ha ⁻¹ : MJ h ⁻¹ :	Spring 10000 2.9 380.73	Spring 8000 2.9 380.73	Spring 10000 2.2 380.73	Spring 8000 2.2 380.73
Poplar I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Planting 100-40-160-200 1.0 218.99 0.25 - 0.5 218.99	Planting 30-5-20-50 0.8 218.99 0.25 - 0.5 218.99	Planting 100-20-80-200 0.8 218.99 0.25 - 0.3 218.99	Planting 30-5-20-50 0.6 218.99 0.25 - 0.3 218.99
Poplar II-III	<u>Harvest</u> Season: Cut&Chip harvester+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Late Winter 0.7 3726.2 14.0 50 12.0 50	Late Winter 0.6 3726.2 10.0 50 8.5 50	Late Winter 0.4 3726.2 18.0 50 15.0 50	Late Winter 0.3 3726.2 14.0 50 12.0 50
Poplar III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Mechanical weed control h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 100-0-0-0 1.0 218.99 1.6 218.99	Top dressing 30-5-20-50 0.8 218.99 1.6 218.99	Top dressing 100-0-0-0 0.8 218.99 0.9 218.99	Top dressing 30-5-20-50 0.6 218.99 0.9 218.99
Poplar IV-V	<u>Harvest</u> Season: Cut&Chip harvester+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Late Winter 0.7 3726.2 28.0 50 24.0 50	Late Winter 0.6 3726.2 20.0 50 17.0 50	Late Winter 0.4 3726.2 34.0 50 29.0 50	Late Winter 0.3 3726.2 28.0 50 24.0 50
Poplar V	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Mechanical weed control h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 0-0-0-0 1.0 218.99 1.6 218.99	Top dressing 0-0-0-0 0.8 218.99 1.6 218.99	Top dressing 0-0-0-0 0.8 218.99 0.9 218.99	Top dressing 0-0-0-0 0.6 218.99 0.9 218.99

Mediterranean North		Cropping system 2: Miscanthus			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Miscanthus I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-40 cm 2.95 883.32	0-20 cm 2.1 883.32	0-40 cm 2.3 883.32	0-20 cm 1.6 883.32
Miscanthus I	<u>Sowing (transplant)</u> Season: Amount: Planter h ha ⁻¹ : MJ h ⁻¹ :	Spring 10000 rhiz. ha ⁻¹ 2.9 380.73	Spring 10000 rhiz. ha ⁻¹ 2.9 380.73	Spring 10000 rhiz. ha ⁻¹ 2.2 380.73	Spring 10000 rhiz. ha ⁻¹ 2.2 380.73
Miscanthus I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 80-40-40-40 1.0 218.99 1.2 0.5 218.99	Sowing 40-15-15-15 0.8 218.99 1.2 0.5 218.99	Sowing 80-40-40-40 0.8 218.99 1.2 0.3 218.99	Sowing 40-15-15-15 0.6 218.99 1.2 0.3 218.99
Miscanthus I	<u>Harvest</u> Season: Maize chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring 1.2 825.55 13.0 50 11.0 50	Spring 1.2 825.55 11.0 50 9.0 50	Spring 1.0 825.55 16.0 50 13.5 50	Spring 0.8 825.55 13.0 50 11.0 50
Miscanthus II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 50-0-0-0 0.9 218.99 - - -	- - - - - -	Top dressing 50-0-0-0 0.7 218.99 - - -	- - - - - -
Miscanthus II	<u>Harvest</u> Season: Maize chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring 1.2 825.55 20.0 50 17.0 50	Spring 1.2 825.55 16.0 50 13.5 50	Spring 1.0 825.55 24.0 50 20.5 50	Spring 0.8 825.55 20.0 50 17.0 50
Miscanthus III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 50-0-0-0 0.9 218.99 - - -	- - - - - -	Top dressing 50-0-0-0 0.7 218.99 - - -	- - - - - -
Miscanthus III	<u>Harvest</u> Season: Maize chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring 1.2 825.55 40 50 34 50	Spring 1.2 825.55 32 50 27 50	Spring 1.0 825.55 48 50 41 50	Spring 0.8 825.55 40 50 34 50

Mediterranean North		Cropping system 3: Giant reed			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Giant reed I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-40 cm 2.9 883.32	0-20 cm 2.1 883.32	0-40 cm 2.2 883.32	0-20 cm 1.6 883.32
Giant reed I	<u>Sowing (transplant)</u> Season: Amount: Planter h ha ⁻¹ : MJ h ⁻¹ :	Spring 10000 rhiz. ha ⁻¹ 2.9 380.73	Spring 10000 rhiz. ha ⁻¹ 2.9 380.73	Spring 10000 rhiz. ha ⁻¹ 2.2 380.73	Spring 10000 rhiz. ha ⁻¹ 2.2 380.73
Giant reed I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 100-120-150-0 1.0 218.99 1.2 - 0.5 218.99	Sowing 50-60-75-0 0.9 218.99 1.2 - 0.5 218.99	Sowing 100-120-150-0 0.8 218.99 1.2 - 0.3 218.99	Sowing 50-60-75-0 0.6 218.99 1.2 - 0.3 218.99
Giant reed I	<u>Harvest</u> Season: Maize chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring 1.2 825.55 6.0 50 4.5 50	Spring 1.2 825.55 5.0 50 3.8 50	Spring 1.0 825.55 9.0 50 6.7 50	Spring 0.8 825.55 6.0 50 4.5 50
Giant reed II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 100-120-0-0 1.0 218.99 - - - -	- - - - - - -	Top dressing 100-120-0-0 0.8 218.993 - - - -	- - - - - - -
Giant reed II	<u>Harvest</u> Season: Maize chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring 1.2 825.55 30 50 22.5 50	Spring 1.2 825.55 25 50 18.5 50	Spring 1.0 825.55 38 50 28.5 50	Spring 1.0 825.55 30 50 22.5 50
Giant reed III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 100-120-0-0 1.0 218.99 - - - -	- - - - - - -	Top dressing 100-120-0-0 0.8 218.99 - - - -	- - - - - - -
Giant reed III	<u>Harvest</u> Season: Maize chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring 1.2 825.55 60 50 51 50	Spring 1.2 825.55 50 50 42.5 50	Spring 1.0 825.55 76 50 64.5 50	Spring 1.0 825.55 60 50 51 50

Mediterranean North		Cropping system 4a: Cereal (wheat)-Maize-Sunflower-Sorghum-fallow			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Wheat I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 2.1 883.32	No tillage	0-25 cm 1.6 883.32	No tillage
Wheat I	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 230 kg ha ⁻¹ 0.4 380.73	Autumn 250 kg ha ⁻¹ 0.5 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.3 380.73
Wheat I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 100-140-0-0 1.1 218.99 0.27 - 0.5 218.99	Sow.+Top dress. 50-65-0 1.0 218.99 0.15 - 0.5 218.99	Sow.+Top dress. 100-140-0-0 0.9 218.99 0.27 - 0.3 218.99	Sow.+Top dress. 50-65-0-0 0.7 218.99 0.15 - 0.3 218.99
Wheat I	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 9.0 16.0 4.1 13 3.7 20	Spring/Summer 0.7 825.55 5.0 16.0 2.0 13 2.2 20	Spring/Summer 0.6 825.55 15.0 16.0 6.8 13 6.2 20	Spring/Summer 0.5 825.55 9.0 16.0 4.1 13 3.7 20
Maize II	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	30-40 cm 2.9 883.32	0-20 cm 2.1 883.32	30-40 cm 2.2 883.32	0-20 cm 1.6 883.32
Maize II	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 25 kg ha ⁻¹ 0.4 380.73	Spring 25 kg ha ⁻¹ 0.4 380.73	Spring 25 kg ha ⁻¹ 0.2 380.73	Spring 25 kg ha ⁻¹ 0.2 380.73
Maize II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 200-100-80-0 1.1 218.99 2 - 0.5 218.99	Sow.+Top dress. 100-50-40-0 1.0 218.99 1.5 - 0.5 218.99	Sow.+Top dress. 200-100-80-0 0.9 218.99 2 - 0.3 218.99	Sow.+Top dress. 100-50-40-0 0.7 218.99 1.5 - 0.3 218.99
Maize II	<u>Harvest</u> Season: Maize Chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield grain (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Autumn 1.0 825.55 34 44 5.1 25 21.6 48	Autumn 0.9 825.55 12.0 44 3.9 25 6.1 48	Autumn 0.8 825.55 51 44 6.8 25 33.1 48	Autumn 0.6 825.55 34 44 5.1 25 21.6 48
Sunflower III	<u>Tillage</u> Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	25-40 cm 2.9 883.32	15-25 cm 2.1 883.32	25-40 cm 2.2 883.32	15-25 cm 1.6 883.32
Sunflower III	<u>Sowing</u> Season: Amount(kg ha ⁻¹): Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 6 0.4 380.73	Spring 5 0.4 380.73	Spring 6 0.2 380.73	Spring 5 0.2 380.73
Sunflower III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dressing 140-90-200-0 1.1 218.99 0.8 - 0.5 218.99	Sow.+Top dressing 80-50-100-0 1.0 218.99 0.5 - 0.5 218.99	Sow.+Top dressing 140-90-200-0 0.9 218.99 0.8 - 0.3 218.99	Sow.+Top dressing 80-50-100-0 0.7 218.99 0.5 - 0.3 218.99
Sunflower III	<u>Harvest</u> Season:	Summer	Summer	Summer	Summer

wer III	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	8.8	6.8	10.3	8.8
	Water content	(%):	12-13	12-13	12-13	12-13
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	3.0	2.2	3.5	3.0
	Water content	(%):	12-13	12-13	12-13	12-13
	Yield straw	(t ha ⁻¹ yr ⁻¹):	5.8	4.5	6.8	5.8
	Water content	(%):	12-13	12-13	12-13	12-13
Sorghum IV	<u>Tillage</u> Plough and disk harrow:		0-25 cm	No tillage	0-25 cm	No tillage
		h ha ⁻¹ :	2.1		1.6	
		MJ h ⁻¹ :	883.32		883.32	
Sorghum IV	<u>Sowing</u> Season:		Spring	Spring	Spring	Spring
		Amount:	10 kg ha ⁻¹	10 kg ha ⁻¹	10 kg ha ⁻¹	10 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.5	0.2	0.3
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Sorghum IV	<u>Crop practices</u>					
	Fertilization:		Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		110-100-60-0	80-75-20-0	110-100-60-0	80-75-20-0
	Fertilizer distributor	h ha ⁻¹ :	1.1	1.0	0.9	0.7
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		1.0	0.5	1.0	0.5
Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-	
Crop sprayer	h ha ⁻¹ :	0.5	0.5	0.3	0.3	
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
Sorghum IV	<u>Harvest</u> Season:		Autumn	Autumn	Autumn	Autumn
	Maize Chopper+Lorry	h ha ⁻¹ :	1.0	0.9	0.8	0.6
		MJ h ⁻¹ :	883.32	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	83	51	100	83
	Water content	(%):	67	67	67	67
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	5.3	3.3	6.4	5.3
	Water content	(%):	18.0	18.0	18.0	18.0
	Yield straw	(t ha ⁻¹ yr ⁻¹):	76.7	47.1	92.4	76.7
	Water content	(%):	70	70	70	70

Mediterranean North		Cropping system 4b: Legume (Pea)-Maize-Sunflower-Sorghum-fallow			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Pea I	<u>Tillage</u> Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 1.2 323.50	0-15cm 0.8 323.50	0-25 cm 0.9 323.50	0-15 cm 0.7 323.50
Pea I	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73
Pea I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 0-100-0-0 0.9 218.99 0.27 - 0.5 218.99	Sowing 0-70-0-0 0.7 218.99 0.15 - 0.5 218.99	Sowing 0-100-0-0 0.6 218.99 0.27 - 0.3 218.99	Sowing 0-70-0-0 0.5 218.99 0.15 - 0.3 218.99
Pea I	<u>Harvest</u> Season: Combine harvester h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 6.0 18/24 2.1 18/24 2.5 18/24	Spring/Summer 0.7 825.55 3.0 18/24 1.0 18/24 1.5 18/24	Spring/Summer 0.6 825.55 8.0 18/24 3.5 18/24 3.4 18/24	Spring/Summer 0.5 825.55 6.0 18/24 2.1 18/24 2.5 18/24
Maize II	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	30-40 cm 2.9 883.32	0-20 cm 2.1 883.32	30-40 cm 2.2 883.32	0-20 cm 1.6 883.32
Maize II	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 25 kg ha ⁻¹ 0.4 380.73	Spring 25 kg ha ⁻¹ 0.4 380.73	Spring 25 kg ha ⁻¹ 0.2 380.73	Spring 25 kg ha ⁻¹ 0.2 380.73
Maize II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 200-100-80-0 1.1 218.99 2 - 0.5 218.99	Sow.+Top dress. 100-50-40-0 1.0 218.99 1.5 - 0.5 218.99	Sow.+Top dress. 200-100-80-0 0.9 218.99 2 - 0.3 218.99	Sow.+Top dress. 100-50-40-0 0.7 218.99 1.5 - 0.3 218.99
Maize II	<u>Harvest</u> Season: Maize Chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield grain (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Autumn 1.0 825.55 34 44 5.1 25 21.6 48	Autumn 0.9 825.55 12.0 44 3.9 25 6.1 48	Autumn 0.8 825.55 51 44 6.8 25 33.1 48	Autumn 0.6 825.55 34 44 5.1 25 21.6 48
Sunflower III	<u>Tillage</u> Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	25-40 cm 2.9 883.32	15-25 cm 2.1 883.32	25-40 cm 2.2 883.32	15-25 cm 1.6 883.32
Sunflower III	<u>Sowing</u> Season: Amount(kg ha ⁻¹): Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 6 0.4 380.73	Spring 5 0.4 380.73	Spring 6 0.2 380.73	Spring 5 0.2 380.73
Sunflower III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dressing 140-90-200-0 1.1 218.99 0.8 - 0.5 218.99	Sow.+Top dressing 80-50-100-0 1.0 218.99 0.5 - 0.5 218.99	Sow.+Top dressing 140-90-200-0 0.9 218.99 0.8 - 0.3 218.99	Sow.+Top dressing 80-50-100-0 0.7 218.99 0.5 - 0.3 218.99
Sunflower	<u>Harvest</u> Season:	Summer	Summer	Summer	Summer

III	Combine harvester:	h ha ⁻¹ : MJ h ⁻¹ :	0.8 825.55	0.7 825.55	0.6 825.55	0.5 825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	8.8	6.8	10.3	8.8
	Water content	(%):	12-13	12-13	12-13	12-13
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	3.0	2.2	3.5	3.0
	Water content	(%):	12-13	12-13	12-13	12-13
	Yield straw	(t ha ⁻¹ yr ⁻¹):	5.8	4.5	6.8	5.8
	Water content	(%):	12-13	12-13	12-13	12-13
Sorghum IV	<u>Tillage</u> Plough and disk harrow:	h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 2.1 883.32	No tillage	0-25 cm 1.6 883.32	No tillage
Sorghum IV	<u>Sowing</u> Season: Amount:	h ha ⁻¹ : MJ h ⁻¹ :	Spring 10 kg ha ⁻¹ 0.4 380.73	Spring 10 kg ha ⁻¹ 0.5 380.73	Spring 10 kg ha ⁻¹ 0.2 380.73	Spring 10 kg ha ⁻¹ 0.3 380.73
Sorghum IV	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 110-100-60-0 1.1 218.99 1.0 - 0.5 218.99	Sow.+Top dress. 80-75-20-0 1.0 218.99 0.5 - 0.5 218.99	Sow.+Top dress. 110-100-60-0 0.9 218.99 1.0 - 0.3 218.99	Sow.+Top dress. 80-75-20-0 0.7 218.99 0.5 - 0.3 218.99	
Sorghum IV	<u>Harvest</u> Season: Maize Chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Seed Yield (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Autumn 1.0 883.32 83 67 4.5 18.0 65.1 70	Autumn 0.9 825.55 51 67 2.8 18.0 40 70	Autumn 0.8 825.55 100 67 5.5 18.0 78 70	Autumn 0.6 825.55 83 67 4.5 18.0 65 70	

Mediterranean North		Cropping system 5: Flax-Cereal (wheat)-Pea			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Flax I	<u>Tillage</u> Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	0-30 cm 2.5 883.32	0-10 cm 2.0 883.32	0-30 cm 1.9 883.32	0-10 cm 1.6 883.32
Flax I	<u>Sowing</u> Season: Amount(kg ha ⁻¹): Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 100 kg ha ⁻¹ 0.4 380.73	Spring 100 kg ha ⁻¹ 0.4 380.73	Spring 100 kg ha ⁻¹ 0.2 380.73	Spring 100 kg ha ⁻¹ 0.2 380.73
Flax I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 120-150-75-0 1.1 218.99 1.5 0.5 218.99	Sow.+Top dress 90-100-50-0 1.0 218.99 0.8 0.5 218.99	Sowing 120-150-75-0 0.9 218.99 1.5 0.3 218.99	Sow.+Top dress 90-100-50-0 0.7 218.99 0.8 0.3 218.99
Flax I	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Late summer/fall 0.8 825.55 5.9 20 1.2 9.0 3.5 14.0	Late summer/fall 0.7 825.55 4.4 20 0.9 9.0 3.1 14.0	Late summer/fall 0.6 825.55 7.2 20 1.5 9.0 4.3 14.0	Late summer/fall 0.5 825.55 5.9 20 1.2 9.0 3.5 14.0
Wheat II	<u>Tillage</u> Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 2.1 883.32	No tillage	0-25 cm 1.6 883.32	No tillage
Wheat II	<u>Sowing</u> Season: Amount(kg ha ⁻¹): Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 230 kg ha ⁻¹ 0.4 380.73	Autumn 250 kg ha ⁻¹ 0.5 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.3 380.73
Wheat II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 100-140-0-0 1.1 218.99 0.15 - 0.5 218.99	Sow.+Top dress. 50-65-0 1.0 218.99 0.15 - 0.5 218.99	Sow.+Top dress. 100-140-0-0 0.9 218.99 0.27 - 0.3 218.99	Sow.+Top dress. 50-65-0-0 0.7 218.99 0.15 - 0.3 218.99
Wheat II	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 9.0 16.0 4.1 13 3.7 20	Spring/Summer 0.7 825.55 5.0 16.0 2.0 13 2.2 20	Spring/Summer 0.6 825.55 15.0 16.0 6.8 13 6.2 20	Spring/Summer 0.5 825.55 9.0 16.0 4.1 13 3.7 20
Pea III	<u>Tillage</u> Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 1.2 323.50	0-15cm 0.8 323.50	0-25 cm 0.9 323.50	0-15 cm 0.7 323.50
Pea III	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73
Pea III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 0-100-0-0 0.9 218.99 0.27 - 0.5 218.99	Sowing 0-70-0-0 0.7 218.99 0.15 - 0.5 218.99	Sowing 0-100-0-0 0.6 218.99 0.27 - 0.3 218.99	Sowing 0-70-0-0 0.5 218.99 0.15 - 0.3 218.99
Pea	<u>Harvest</u> Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer

III	Combine harvester	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	6.0	3.0	8.0	6.0
	Water content	(%):	18/24	18/24	18/24	18/24
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	2.1	1.0	3.5	2.1
	Water content	(%):	18/24	18/24	18/24	18/24
	Yield straw	(t ha ⁻¹ yr ⁻¹):	2.5	1.5	3.4	2.5
	Water content	(%):	18/24	18/24	18/24	18/24

Mediterranean North		Cropping system 6: Maize-Sugar beet-Sorghum			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Maize I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	30-40 cm 2.9 883.32	0-20 cm 2.1 883.32	30-40 cm 2.2 883.32	0-20 cm 1.6 883.32
Maize I	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 25 kg ha ⁻¹ 0.4 380.73	Spring 25 kg ha ⁻¹ 0.4 380.73	Spring 25 kg ha ⁻¹ 0.2 380.73	Spring 25 kg ha ⁻¹ 0.2 380.73
Maize I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 200-100-80-0 1.1 218.99 2 - 0.5 218.99	Sow.+Top dress. 100-50-40-0 1.0 218.99 1.5 - 0.5 218.99	Sow.+Top dress. 200-100-80-0 0.9 218.99 2 - 0.3 218.99	Sow.+Top dress. 100-50-40-0 0.7 218.99 1.5 - 0.3 218.99
Maize I	<u>Harvest</u> Season: Maize Chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield grain (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Autumn 1.0 825.55 34 44 5.1 25 21.6 48	Autumn 0.9 825.55 12.0 44 3.9 25 6.1 48	Autumn 0.8 825.55 51 44 6.8 25 33.1 48	Autumn 0.6 825.55 34 44 5.1 25 21.6 48
Sugar beet II	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	40-50 cm 3.8 883.32	20-25 cm 2.1 883.32	40-50 cm 2.9 883.32	20-25 cm 1.6 883.32
Sugar beet II	<u>Sowing</u> Season: Amount : Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 1 kg ha ⁻¹ 0.4 380.73	Spring 1 kg ha ⁻¹ 0.4 380.73	Spring 1 kg ha ⁻¹ 0.2 380.73	Spring 1 kg ha ⁻¹ 0.2 380.73
Sugar beet II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 140-180-200-40 1.1 218.99 3.5 - 0.5 202.19	Sowing 60-100-100-25 1.0 218.99 2.0 - 0.5 202.19	Sowing 140-180-200-40 0.9 218.99 3.5 - 0.3 202.19	Sowing 60-100-100-25 0.7 218.99 2.0 - 0.3 202.19
Sugar beet II	<u>Harvest</u> Season: Beet harvester h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Summer 1.5 883.32 136 75 78 75 58 75	Summer 1.3 883.32 115 75 66 75 49 75	Summer 1.5 883.32 149 75 92 75 61 75	Summer 1.2 883.32 136 75 78 75 58 75
Sorghum III	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 2.1 883.32	No tillage	0-25 cm 1.6 883.32	No tillage
Sorghum III	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 10 kg ha ⁻¹ 0.4 380.73	Spring 10 kg ha ⁻¹ 0.5 380.73	Spring 10 kg ha ⁻¹ 0.2 380.73	Spring 10 kg ha ⁻¹ 0.3 380.73
Sorghum III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 110-100-60-0 1.1 218.99 1.0 - 0.5 218.99	Sow.+Top dress. 80-75-20-0 1.0 218.99 0.5 - 0.5 218.99	Sow.+Top dress. 110-100-60-0 0.9 218.99 1.0 - 0.3 218.99	Sow.+Top dress. 80-75-20-0 0.7 218.99 0.5 - 0.3 218.99
Sorghum	<u>Harvest</u> Season:	Autumn	Autumn	Autumn	Autumn

um III	Maize Chopper+Lorry	h ha ⁻¹ :	1.0	0.9	0.8	0.6
		MJ h ⁻¹ :	883.32	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	83	51	100	83
	Water content	(%):	67	67	67	67
	Seed Yield	(t ha ⁻¹ yr ⁻¹):	4.5	2.8	5.5	4.5
	Water content	(%):	18.0	18.0	18.0	18.0
	Yield straw	(t ha ⁻¹ yr ⁻¹):	65.1	40	78	65
	Water content	(%):	70	70	70	70

Mediterranean North		Cropping system 7: Soybean-Ethiopian mustard-Sunflower			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Soybean I	<u>Tillage</u> Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	25-40 cm 2.9 883.32	15-25 cm 2.1 883.32	25-40 cm 2.2 883.32	15-25 cm 1.6 883.32
Soybean I	<u>Sowing</u> Season: Amount(kg ha ⁻¹): Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring/Summer 80 0.4 380.73	Spring/Summer 80 0.4 380.73	Spring/Summer 80 0.2 380.73	Spring/Summer 80 0.2 380.73
Soybean I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress 60-60-70-0 1.1 218.99 0.35 - 0.5 202.19	Sow.+Top dress 30-30-35-0 1.0 218.99 0.20 - 0.5 202.19	Sow.+Top dress 60-60-70-0 0.9 218.99 0.35 - 0.3 202.19	Sow.+Top dress 30-30-35-0 0.7 218.99 0.20 - 0.3 202.19
Soybean I	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Autumn 0.8 825.55 5.8 12-14 2.6 12-14 2.7 12-14	Autumn 0.7 825.55 4.2 12-14 1.8 12-14 1.9 12-14	Autumn 0.6 825.55 7.8 12-14 3.2 12-14 3.4 12-14	Autumn 0.5 825.55 5.8 12-14 2.6 12-14 2.7 12-14
Ethiopian mustard II	<u>Tillage</u> Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	0-30 cm 2.9 883.32	0-10 cm 2.1 883.32	0-30 cm 2.3 883.32	0-10 cm 1.6 883.32
Ethiopian mustard II	<u>Sowing</u> Season: Amount(kg ha ⁻¹): Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73
Ethiopian mustard II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress 70-80-70-0 1.1 218.99 0.3 - 0.5 218.99	Sow.+Top dress 40-40-35-0 1.0 218.99 0.15 - 0.5 218.99	Sow.+Top dress 70-80-70-0 0.9 218.99 0.3 - 0.3 218.99	Sow.+Top dress 40-40-35-0 0.7 218.99 0.15 - 0.3 218.99
Ethiopian mustard II	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 5.9 15 1.9 9.0 3.7 15.0	Spring/Summer 0.7 825.55 2.8 15 0.9 9.0 1.7 15.0	Spring/Summer 0.6 825.55 8.0 15 2.7 9.0 5.2 15.0	Spring/Summer 0.5 825.55 5.9 15 1.9 9.0 3.7 15.0
Sunflower III	<u>Tillage</u> Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	25-40 cm 2.9 883.32	15-25 cm 2.1 883.32	25-40 cm 2.2 883.32	15-25 cm 1.6 883.32
Sunflower III	<u>Sowing</u> Season: Amount(kg ha ⁻¹): Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 6 0.4 380.73	Spring 5 0.4 380.73	Spring 6 0.2 380.73	Spring 5 0.2 380.73
Sunflower III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dressing 140-90-200-0 1.1 218.99 0.8 - 0.5 218.99	Sow.+Top dressing 80-50-100-0 1.0 218.99 0.5 - 0.5 218.99	Sow.+Top dressing 140-90-200-0 0.9 218.99 0.8 - 0.3 218.99	Sow.+Top dressing 80-50-100-0 0.7 218.99 0.5 - 0.3 218.99

Sunflower III	Harvest	Season:	Summer	Summer	Summer	Summer
			Combine harvester:	h ha ⁻¹ : MJ h ⁻¹ :	0.8 825.55	0.7 825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	8.8	6.8	10.3	8.8
	Water content	(%):	12-13	12-13	12-13	12-13
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	3.0	2.2	3.5	3.0
	Water content	(%):	12-13	12-13	12-13	12-13
	Yield straw	(t ha ⁻¹ yr ⁻¹):	5.8	4.5	6.8	5.8
	Water content	(%):	12-13	12-13	12-13	12-13

Mediterranean North							Cropping system 8: Rapeseed-Flax-Safflower					
Yr				Marginal land			Agricultural land					
				High input	Low input	High input	Low input					
Rapeseed I	<u>Tillage</u>	Cultivator:	0-30 cm	0-10 cm	0-30 cm	0-10 cm						
			h ha ⁻¹ : 2.9	2.1	2.3	1.6						
		MJ h ⁻¹ : 883.32	883.32	883.32	883.32	883.32						
Rapeseed I	<u>Sowing</u>	Season:	Autumn	Autumn	Autumn	Autumn						
			Amount(kg ha ⁻¹): 5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹	5/7 kg ha ⁻¹						
	Seed drill	h ha ⁻¹ : 0.4	0.4	0.2	0.2							
		MJ h ⁻¹ : 380.73	380.73	380.73	380.73							
Rapeseed I	<u>Crop practices</u>	Fertilization:	Sow.+Top dress	Sow.+Top dress	Sow.+Top dress	Sow.+Top dress						
			Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : 140-80-70-0	80-40-35-0	140-80-70-0	80-40-35-0						
	Fertilizer distributor	h ha ⁻¹ : 1.1	1.0	0.9	0.7							
		MJ h ⁻¹ : 218.99	218.99	218.99	218.99							
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):	0.3	0.15	0.3	0.15							
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):	-	-	-	-							
	Crop sprayer	h ha ⁻¹ : 0.5	0.5	0.3	0.3							
		MJ h ⁻¹ : 218.99	218.99	218.99	218.99							
Rapeseed I	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer						
			Combine harvester:	h ha ⁻¹ : 0.8	0.7	0.6	0.5					
		MJ h ⁻¹ : 825.55	825.55	825.55	825.55							
	Yield harvest	(t ha ⁻¹ yr ⁻¹): 6.4	3.3	8.8	6.4							
	Water content	(%): 15	15	15	15							
	Yield marketable product	(t ha ⁻¹ yr ⁻¹): 2.3	1.4	3.2	2.3							
	Water content	(%): 9.0	9.0	9.0	9.0							
	Yield straw	(t ha ⁻¹ yr ⁻¹): 3.3	1.5	4.2	3.3							
	Water content	(%): 15.0	15.0	15.0	15.0							
Flax II	<u>Tillage</u>	Cultivator:	0-30 cm	0-10 cm	0-30 cm	0-10 cm						
			h ha ⁻¹ : 2.5	2.0	1.9	1.6						
		MJ h ⁻¹ : 883.32	883.32	883.32	883.32							
Flax II	<u>Sowing</u>	Season:	Spring	Spring	Spring	Spring						
			Amount(kg ha ⁻¹): 100 kg ha ⁻¹	100 kg ha ⁻¹	100 kg ha ⁻¹	100 kg ha ⁻¹						
	Seed drill	h ha ⁻¹ : 0.4	0.4	0.2	0.2							
		MJ h ⁻¹ : 380.73	380.73	380.73	380.73							
Flax II	<u>Crop practices</u>	Fertilization:	Sowing	Sow.+Top dress	Sowing	Sow.+Top dress						
			Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : 120-150-75-0	90-100-50-0	120-150-75-0	90-100-50-0						
	Fertilizer distributor	h ha ⁻¹ : 1.1	1.0	0.9	0.7							
		MJ h ⁻¹ : 218.99	218.99	218.99	218.99							
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):	1.5	0.8	1.5	0.8							
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):	0.5	0.5	0.3	0.3							
	Crop sprayer	h ha ⁻¹ : 218.99	218.99	218.99	218.99							
		MJ h ⁻¹ :										
Flax II	<u>Harvest</u>	Season:	Late summer/fall	Late summer/fall	Late summer/fall	Late summer/fall						
			Combine harvester:	h ha ⁻¹ : 0.8	0.7	0.6	0.5					
		MJ h ⁻¹ : 825.55	825.55	825.55	825.55							
	Yield harvest	(t ha ⁻¹ yr ⁻¹): 5.9	4.4	7.2	5.9							
	Water content	(%): 20	20	20	20							
	Yield marketable product	(t ha ⁻¹ yr ⁻¹): 1.2	0.9	1.5	1.2							
	Water content	(%): 9.0	9.0	9.0	9.0							
	Yield straw	(t ha ⁻¹ yr ⁻¹): 3.5	3.1	4.3	3.5							
	Water content	(%): 14.0	14.0	14.0	14.0							
Safflower III	<u>Tillage</u>	Cultivator:	25-40 cm	15-25 cm	25-40 cm	15-25 cm						
			h ha ⁻¹ : 2.9	2.1	2.2	1.6						
		MJ h ⁻¹ : 883.32	883.32	883.32	883.32							
Safflower III	<u>Sowing</u>	Season:	Spring	Spring	Spring	Spring						
			Amount(kg ha ⁻¹): 25	25	25	25						
	Seed drill	h ha ⁻¹ : 0.4	0.4	0.2	0.2							
		MJ h ⁻¹ : 380.73	380.73	380.73	380.73							
Safflower III	<u>Crop practices</u>	Fertilization:	Sow.+Top dress	Sow.+Top dress	Sow.+Top dress	Sow.+Top dress						
			Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : 100-70-60-0	50-35-30-0	100-70-60-0	50-35-30-0						
	Fertilizer distributor	h ha ⁻¹ : 1.1	1.0	0.8	0.7							
		MJ h ⁻¹ : 218.99	218.99	218.99	218.99							
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):	1.5	1.0	1.5	1.0							
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):	-	-	-	-							
	Crop sprayer	h ha ⁻¹ : 0.5	0.5	0.3	0.3							
		MJ h ⁻¹ : 202.19	202.19	202.19	202.19							
Safflower III	<u>Harvest</u>	Season:	Summer	Summer	Summer	Summer						
			Combine harvester:	h ha ⁻¹ : 0.8	0.7	0.6	0.5					

III		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	4.9	3.8	6.3	4.9
	Water content	(%):	12-13	12-13	12-13	12-13
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	2.0	1.5	2.5	2.0
	Water content	(%):	12-13	12-13	12-13	12-13
	Yield straw	(t ha ⁻¹ yr ⁻¹):	2.2	1.7	2.8	2.2
	Water content	(%):	12-13	12-13	12-13	12-13

Mediterranean North		Cropping system 9: Sorghum-Soybean-Cereal (wheat)-Kenaf			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Sorghum I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 2.1 883.32	No tillage	0-25 cm 1.6 883.32	No tillage
Sorghum I	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 10 kg ha ⁻¹ 0.4 380.73	Spring 10 kg ha ⁻¹ 0.5 380.73	Spring 10 kg ha ⁻¹ 0.2 380.73	Spring 10 kg ha ⁻¹ 0.3 380.73
Sorghum I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 110-100-60-0 1.1 218.99 1.0 - 0.5 218.99	Sow.+Top dress. 80-75-20-0 1.0 218.99 0.5 - 0.5 218.99	Sow.+Top dress. 110-100-60-0 0.9 218.99 1.8 - 0.3 218.99	Sow.+Top dress. 80-75-20-0 0.7 218.99 0.5 - 0.3 218.99
Sorghum I	<u>Harvest</u> Season: Maize Chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Seed Yield (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Autumn 1.0 883.32 83 67 4.5 18.0 65.1 70	Autumn 0.9 825.55 51 67 2.8 18.0 40 70	Autumn 0.8 825.55 100 67 5.5 18.0 78 70	Autumn 0.6 825.55 83 67 4.5 18.0 65 70
Soybean II	<u>Tillage</u> Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	25-40 cm 2.9 883.32	15-25 cm 2.1 883.32	25-40 cm 2.2 883.32	15-25 cm 1.6 883.32
Soybean II	<u>Sowing</u> Season: Amount(kg ha ⁻¹): Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring/Summer 80 0.4 380.73	Spring/Summer 80 0.4 380.73	Spring/Summer 80 0.2 380.73	Spring/Summer 80 0.2 380.73
Soybean II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress 60-60-70-0 1.1 218.99 0.35 - 0.5 202.19	Sow.+Top dress 30-30-35-0 1.0 218.99 0.20 - 0.5 202.19	Sow.+Top dress 60-60-70-0 0.9 218.99 0.35 - 0.3 202.19	Sow.+Top dress 30-30-35-0 0.7 218.99 0.20 - 0.3 202.19
Soybean II	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Autumn 0.8 825.55 5.8 12-14 2.6 12-14 2.7 12-14	Autumn 0.7 825.55 4.2 12-14 1.8 12-14 1.9 12-14	Autumn 0.6 825.55 7.8 12-14 3.2 12-14 3.4 12-14	Autumn 0.5 825.55 5.8 12-14 2.6 12-14 2.7 12-14
Wheat III	<u>Tillage</u> Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 2.1 883.32	No tillage	0-25 cm 1.6 883.32	No tillage
Wheat III	<u>Sowing</u> Season: Amount(kg ha ⁻¹): Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 230 kg ha ⁻¹ 0.4 380.73	Autumn 250 kg ha ⁻¹ 0.5 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.3 380.73
Wheat III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 50-140-0-0 1.1 218.99 0.27 - 0.5 218.99	Sow.+Top dress. 30-65-0 1.0 218.99 0.15 - 0.5 218.99	Sow.+Top dress. 50-140-0-0 0.9 218.99 0.27 - 0.3 218.99	Sow.+Top dress. 30-65-0-0 0.7 218.99 0.15 - 0.3 218.99

Wheat III	<u>Harvest</u> Season:		Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	9.0	5.0	15.0	9.0
	Water content	(%):	16.0	16.0	16.0	16.0
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	4.1	2.0	6.8	4.1
	Water content	(%):	13	13	13	13
	Yield straw	(t ha ⁻¹ yr ⁻¹):	3.7	2.2	6.2	3.7
	Water content	(%):	20	20	20	20
Kenaf IV	<u>Tillage</u> Plough and disk harrow:		35-40 cm	15-30 cm	35-40 cm	15-30 cm
		h ha ⁻¹ :	2.9	2.5	2.2	1.8
		MJ h ⁻¹ :	883.32	883.32	883.32	883.32
Kenaf IV	<u>Sowing</u> Season:		Spring	Spring	Spring	Spring
		Amount:	40 kg ha ⁻¹	40 kg ha ⁻¹	40 kg ha ⁻¹	40 kg ha ⁻¹
	Seed drill	h ha ⁻¹ :	0.4	0.4	0.2	0.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Kenaf IV	<u>Crop practices</u>					
	Fertilization:		Sow.+Top dress	Sow.+Top dress	Sow.+Top dress	Sow.+Top dress
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		100-80-150-70	50-40-80-35	100-80-150-70	50-40-80-35
	Fertilizer distributor	h ha ⁻¹ :	1.1	1.0	0.9	0.7
		MJ h ⁻¹ :	218.99	218.99	218.99	218.99
Mechanical weed control	h ha ⁻¹ :	1.6	1.6	0.9	0.9	
	MJ h ⁻¹ :	218.99	218.99	218.99	218.99	
Kenaf IV	<u>Harvest</u> Season:		Summer	Summer	Summer	Summer
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	18.0	8.0	24.0	18.0
	Water content	(%):	20	20	20	20
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	13.5	6.0	18.0	13.5
	Water content	(%):	14.0	14.0	14.0	14.0

Mediterranean South						
Cropping system 1: Giant reed						
Yr	Marginal land			Agricultural land		
			High input	Low input	High input	Low input
Giant reed I	<u>Tillage</u>	Plough and disk harrow:	0-40 cm	0-20 cm	0-40 cm	0-20 cm
		h ha ⁻¹ :	2.9	2.1	2.2	1.6
		MJ h ⁻¹ :	883.32	883.32	883.32	883.32
Giant reed I	<u>Sowing (transplant)</u>	Season:	Spring	Spring	Spring	Spring
		Amount:	10000 rhiz. ha ⁻¹	10000 rhiz. ha ⁻¹	10000 rhiz. ha ⁻¹	10000 rhiz. ha ⁻¹
	Planter	h ha ⁻¹ :	2.9	2.9	2.2	2.2
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Giant reed I	<u>Crop practices</u>		Sowing	Sowing	Sowing	Sowing
	Fertilization:		100-120-150-0	50-60-75-0	100-120-150-0	50-60-75-0
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		1.0	0.9	0.8	0.6
	Fertilizer distributor h ha ⁻¹ :		218.99	218.99	218.99	218.99
	MJ h ⁻¹ :		1.2	1.2	1.2	1.2
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		0.5	0.5	0.3	0.3
	Crop sprayer h ha ⁻¹ :		218.99	218.99	218.99	218.99
	MJ h ⁻¹ :		5000	1000	5000	1000
	Irrigation (m ³ ha ⁻¹ yr ⁻¹):		Sprinkler	Sprinkler	Sprinkler	Sprinkler
	Irrigation system:		Diesel	Diesel	Diesel	Diesel
	Irrigation pump type:		15	15	15	15
	Delivery high (m):		100	100	100	100
Distance (m):		16500	3300	16500	3300	
MJ h ⁻¹ :						
Giant reed I	<u>Harvest</u>	Season:	Winter/Spring	Winter/Spring	Winter/Spring	Winter/Spring
		Maize chopper+Lorry h ha ⁻¹ :	1.2	1.2	1.0	0.8
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
		Yield harvest (t ha ⁻¹ yr ⁻¹):	6.0	4.0	9.0	5.0
		Water content (%):	50	50	50	50
		Yield marketable product (t ha ⁻¹ yr ⁻¹):	4.5	3.0	6.7	3.7
		Water content (%):	50	50	50	50
Giant reed II	<u>Crop practices</u>		Top dressing	-	Top dressing	-
	Fertilization:		100-120-0-0	-	100-120-0-0	-
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		1.0	-	0.8	-
	Fertilizer distributor h ha ⁻¹ :		218.99	-	218.99	-
	MJ h ⁻¹ :		-	-	-	-
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer h ha ⁻¹ :		-	-	-	-
	MJ h ⁻¹ :		5000	-	5000	-
	Irrigation (m ³ ha ⁻¹ yr ⁻¹):		Sprinkler	-	Sprinkler	-
	Irrigation system:		Diesel	-	Diesel	-
	Irrigation pump type:		15	-	15	-
	Delivery high (m):		100	-	100	-
Distance (m):		16506	-	16506	-	
MJ h ⁻¹ :						
Giant reed II	<u>Harvest</u>	Season:	Winter/Spring	Winter/Spring	Winter/Spring	Winter/Spring
		Maize chopper+Lorry h ha ⁻¹ :	1.2	1.2	1.0	1.0
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
		Yield harvest (t ha ⁻¹ yr ⁻¹):	30	20	38	25
		Water content (%):	50	50	50	50
		Yield marketable product (t ha ⁻¹ yr ⁻¹):	22.5	15	28.5	18.5
		Water content (%):	50	50	50	50
Giant reed III	<u>Crop practices</u>		Top dressing	-	Top dressing	-
	Fertilization:		100-120-0-0	-	100-120-0-0	-
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		1.0	-	0.8	-
	Fertilizer distributor h ha ⁻¹ :		218.99	-	218.99	-
	MJ h ⁻¹ :		-	-	-	-
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer h ha ⁻¹ :		-	-	-	-
	MJ h ⁻¹ :		5000	-	5000	-
	Irrigation (m ³ ha ⁻¹ yr ⁻¹):		Sprinkler	-	Sprinkler	-
	Irrigation system:		Diesel/electric	-	Diesel/electric	-
	Irrigation pump type:		15	-	15	-
	Delivery high (m):		100	-	100	-
Distance (m):		16506	-	16506	-	
MJ h ⁻¹ :						
Giant reed	<u>Harvest</u>	Season:	Spring	Spring	Spring	Spring
		Maize chopper+Lorry h ha ⁻¹ :	1.2	1.2	1.0	1.0

III		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	60	40	76	50
	Water content	(%):	50	50	50	50
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	51	30	64.5	37.5
	Water content	(%):	50	50	50	50

Mediterranean South		Cropping system 2: Cardoon			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Cardoon I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-40 cm 2.9 883.32	0-20 cm 2.1 883.32	0-40 cm 2.2 883.32	0-20 cm 1.6 883.32
Cardoon I	<u>Sowing</u> Season: Amount(kg ha ⁻¹): Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn/Spring 3 kg ha ⁻¹ 0.4 380.73	Autumn/Spring 3 kg ha ⁻¹ 0.4 380.73	Autumn/Spring 2/3 kg ha ⁻¹ 0.2 380.73	Autumn/Spring 2/3 kg ha ⁻¹ 0.2 380.73
Cardoon I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing+Top dress. 100-100-200-0 1.1 218.99 1.6 - 0.5 218.99	Sowing 50-50-100-0 1.0 218.99 1.6 - 0.5 218.99	Sowing+Top dress. 100-100-200-0 0.8 218.99 1.6 - 0.3 218.99	Sowing 50-50-100-0 0.7 218.99 1.6 - 0.3 218.99
Cardoon I	<u>Harvest</u> Season: Maize chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Summer 1.0 825.55 10.7 35 8.0 35	Summer 1.0 825.55 9.5 35 7.1 35	Summer 0.8 825.55 13.0 35 9.8 35	Summer 0.8 825.55 10.7 35 8.0 35
Cardoon II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 50-0-0-0 1.1 218.99 1.9 - 0.5 218.99	- - - 1.9 - 0.5 218.99	Top dressing 50-0-0-0 0.8 218.99 1.9 - 0.3 218.99	- - - 1.9 - 0.3 218.99
Cardoon II	<u>Harvest</u> Season: Maize chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Summer 1.0 825.55 19.0 35 14.5 35	Summer 1.0 825.55 15.5 35 11.5 35	Summer 0.8 825.55 22.0 35 16.5 35	Summer 0.8 825.55 19.0 35 14.5 35
Cardoon III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Top dressing 50-0-0-0 1.1 218.99 1.6 - 0.5 218.99	- - - 1.6 - 0.5 218.99	Top dressing 50-0-0-0 1.1 218.99 1.6 - 0.5 218.99	- - - 1.6 - 0.5 218.99
Cardoon III	<u>Harvest</u> Season: Maize chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%):	Summer 1.0 825.55 21.5 35 16.0 35	Summer 1.0 825.55 19.0 35 14.5 35	Summer 0.8 825.55 26.0 35 19.5 35	Summer 0.8 825.55 21.5 35 15.5 35

Lusitanian Cropping system 3: Eucalyptus						
Yr			Marginal land		Agricultural land	
			High input	Low input	High input	Low input
Eucalyptus I	<u>Tillage</u>	Plough and disk harrow:	40-50 cm	35 cm	40-50 cm	35 cm
		h ha ⁻¹ :	3.8	2.9	2.9	2.3
		MJ h ⁻¹ :	883.32	883.32	883.32	883.32
Eucalyptus I	<u>Sowing</u>	Season:	Spring	Spring	Spring	Spring
		Amount (plant ha ⁻¹):	5000	5000	5000	5000
	Planter	h ha ⁻¹ :	2.3	2.3	1.9	1.9
		MJ h ⁻¹ :	380.73	380.73	380.73	380.73
Eucalyptus I	<u>Crop practices</u>					
	Fertilization:		Planting	Planting	Planting	Planting
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		195-12-130-90	60-5-65-45	125-12-132-92	195-12-130-90
	Fertilizer distributor h ha ⁻¹ :		1.0	0.8	0.8	0.6
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		0.25	0.25	0.25	0.25
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
	Crop sprayer h ha ⁻¹ :		0.5	0.5	0.3	0.3
	MJ h ⁻¹ :		218.99	218.99	218.99	218.99
	Irrigation (m ³ ha ⁻¹ yr ⁻¹):		5000	-	5000	-
	Irrigation system:		Sprinkler	-	Sprinkler	-
	Irrigation pump type:		Diesel/electric	-	Diesel/electric	-
	Delivery high (m):		15	-	15	-
	Distance (m):		100	-	100	-
	MJ h ⁻¹ :		16506	-	16506	-
Eucalyptus II-III	<u>Harvest</u>	Season:	Winter	Winter	Winter	Winter
	Cut&Chip harvester+Lorry	h ha ⁻¹ :	0.7	0.6	0.4	0.3
		MJ h ⁻¹ :	3726.2	3726.2	3726.2	3726.2
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	12.0	8.0	17.0	12.0
	Water content	(%):	50	50	50	50
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	10.5	6.8	14.5	10.5
	Water content	(%):	50	50	50	50
Eucalyptus III	<u>Crop practices</u>					
	Fertilization:		Top dressing	-	Top dressing	-
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		70-0-0-0	-	70-0-0-0	-
	Fertilizer distributor h ha ⁻¹ :		0.9	-	0.6	-
	MJ h ⁻¹ :		218.99	-	218.99	-
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		1.6	1.6	0.9	0.9
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		218.99	218.99	218.99	218.99
	Crop sprayer h ha ⁻¹ :		5000	-	5000	-
	MJ h ⁻¹ :		Sprinkler	-	Sprinkler	-
	Irrigation (m ³ ha ⁻¹ yr ⁻¹):		Diesel/electric	-	Diesel/electric	-
	Irrigation system:		15	-	15	-
	Irrigation pump type:		100	-	100	-
	Delivery high (m):		16506	-	16506	-
	Distance (m):					
	MJ h ⁻¹ :					
Eucalyptus IV-V	<u>Harvest</u>	Season:	Winter	Winter	Winter	Winter
	Cut&Chip harvester+Lorry	h ha ⁻¹ :	0.7	0.6	0.4	0.3
		MJ h ⁻¹ :	3726.2	3726.2	3726.2	3726.2
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	24.0	16.0	34.0	24.0
	Water content	(%):	50	50	50	50
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	20.0	13.5	29.0	120.0
	Water content	(%):	50	50	50	50
Eucalyptus V	<u>Crop practices</u>					
	Fertilization:		Top dressing	-	Top dressing	-
	Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :		70-0-0-0	-	70-0-0-0	-
	Fertilizer distributor h ha ⁻¹ :		0.9	-	0.6	-
	MJ h ⁻¹ :		218.99	-	218.99	-
	Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		1.6	1.6	0.9	0.9
	Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		218.99	218.99	218.99	218.99
	Crop sprayer h ha ⁻¹ :		5000	-	5000	-
	MJ h ⁻¹ :		Sprinkler	-	Sprinkler	-
	Irrigation (m ³ ha ⁻¹ yr ⁻¹):		Diesel/electric	-	Diesel/electric	-
	Irrigation system:		15	-	15	-
	Irrigation pump type:		100	-	100	-
	Delivery high (m):		16506	-	16506	-
	Distance (m):					
	MJ h ⁻¹ :					

Mediterranean South Cropping system 4: Ethiopian mustard-Cereal (wheat)-Legume (faba bean)- Sweet sorghum						
Yr			Marginal land		Agricultural land	
			High input	Low input	High input	Low input
Ethiopian mustard I	<u>Tillage</u>	Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-30 cm 2.9 883.32	0-10 cm 2.1 883.32	0-30 cm 2.3 883.32	0-10 cm 1.6 883.32
Ethiopian mustard I	<u>Sowing</u>	Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73
Ethiopian mustard I	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress 140-80-70-0 1.1 218.99 0.3 - 0.5 218.99	Sow.+Top dress 80-40-35-0 1.0 218.99 0.15 - 0.5 218.99	Sow.+Top dress 140-80-70-0 0.9 218.99 0.3 - 0.3 218.99	Sow.+Top dress 80-40-35-0 0.7 218.99 0.15 - 0.3 218.99
Ethiopian mustard I	<u>Harvest</u>	Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 5.9 12 1.9 10.0 3.5 12.0	Spring/Summer 0.7 825.55 2.5 12 0.8 10.0 1.6 12.0	Spring/Summer 0.6 825.55 8.8 12 3.0 10.0 5.8 12.0	Spring/Summer 0.5 825.55 5.9 12 1.9 10.0 3.5 12.0
Wheat II	<u>Tillage</u>	Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 2.1 883.32	No tillage	0-25 cm 1.6 883.32	No tillage
Wheat II	<u>Sowing</u>	Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 230 kg ha ⁻¹ 0.4 380.73	Autumn 250 kg ha ⁻¹ 0.5 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.3 380.73
Wheat II	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 100-140-0-0 1.1 218.99 0.27 - 0.5 218.99	Sow.+Top dress. 60-65-0 1.0 218.99 0.15 - 0.5 218.99	Sow.+Top dress. 100-140-0-0 0.9 218.99 0.27 - 0.3 218.99	Sow.+Top dress. 60-65-0-0 0.7 218.99 0.15 - 0.3 218.99
Wheat II	<u>Harvest</u>	Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 6.5 16.0 2.4 13 3.0 20	Spring/Summer 0.7 825.55 5.0 16.0 1.5 13 1.5 20	Spring/Summer 0.6 825.55 8.0 16.0 3.5 13 3.5 20	Spring/Summer 0.5 825.55 6.5 16.0 2.4 13 3.0 20
Faba bean III	<u>Tillage</u>	Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 1.2 323.50	0.15 0.8 323.50	0-25 cm 0.9 323.50	0.15 cm 0.7 323.50
Faba bean III	<u>Sowing</u>	Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73
Faba bean III	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 0-100-0-0 0.9 202.19 0.27 - 0.5 202.19	Sowing 0-70-0-0 0.7 202.19 0.15 - 0.5 202.19	Sowing 0-100-0-0 0.6 202.19 0.27 - 0.3 202.19	Sowing 0-70-0-0 0.5 202.19 0.15 - 0.3 202.19
Faba bean	<u>Harvest</u>	Season: Combine harvester: h ha ⁻¹ :	Spring/Summer 0.8	Spring/Summer 0.7	Spring/Summer 0.6	Spring/Summer 0.5

III	Yield Water content Yield marketable product Water content Yield straw Water content	MJ h ⁻¹ : (t ha ⁻¹ yr ⁻¹): (%): (t ha ⁻¹ yr ⁻¹): (%): (t ha ⁻¹ yr ⁻¹): (%):	825.55 7.0 15 2.0 15 3.5 15	825.55 6.0 15 1.4 15 3.0 15	825.55 8.5 15 3.0 15 4.0 15	825.55 7.0 15 2.2 15 3.5 15
Sorghum IV	<u>Tillage</u> Plough and disk harrow:		0-25 cm	No tillage	0-25 cm	No tillage
		h ha ⁻¹ : MJ h ⁻¹ :	2.1 883.32		1.6 883.32	
Sorghum IV	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 10 kg ha ⁻¹ 0.4 380.73	Spring 10 kg ha ⁻¹ 0.5 380.73	Spring 10 kg ha ⁻¹ 0.2 380.73	Spring 10 kg ha ⁻¹ 0.3 380.73	
Sorghum IV	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ : Irrigation (m ³ ha ⁻¹ yr ⁻¹): Irrigation system: Irrigation pump type: Delivery high (m): Distance (m): MJ h ⁻¹ :	Sow.+Top dress. 50-100-60-0 1.1 218.99 1.0 - 0.5 218.99 5000 Sprinkler Diesel/electric 15 100 16506	Sow.+Top dress. 35-75-20-0 1.0 218.99 0.5 - 0.5 218.99 2500 Sprinkler Diesel/electric 15 100 8250	Sow.+Top dress. 50-100-60-0 0.9 218.99 1.0 - 0.3 218.99 5000 Sprinkler Diesel/electric 15 100 16506	Sow.+Top dress. 35-75-20-0 0.7 218.99 0.5 - 0.3 218.99 2500 Sprinkler Diesel/electric 15 100 8250	
Sorghum IV	<u>Harvest</u> Season: Maize Chopper+Lorry h ha ⁻¹ : MJ h ⁻¹ : Yield harvest (t ha ⁻¹ yr ⁻¹): Water content (%): Seed Yield (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Autumn 1.0 883.32 110 67 6.0 18.0 86 70	Autumn 0.9 825.55 70 67 3.8 18.0 54 70	Autumn 0.8 825.55 130 67 7.1 18.0 102.1 70	Autumn 0.6 825.55 110 67 6.0 18.0 86 70	

Mediterranean South Cropping system 5: Faba bean-Cereal (wheat)-Ethiopian mustard-Sweet sorghum						
Yr			Marginal land		Agricultural land	
			High input	Low input	High input	Low input
Faba bean I	<u>Tillage</u>	Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 1.2 323.50	0.15 0.8 323.50	0-25 cm 0.9 323.50	0.15 cm 0.7 323.50
Faba bean I	<u>Sowing</u>	Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73
Faba bean I	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 0-100-0-0 0.9 202.19 0.27 - 0.5 202.19	Sowing 0-70-0-0 0.7 202.19 0.15 - 0.5 202.19	Sowing 0-100-0-0 0.6 202.19 0.27 - 0.3 202.19	Sowing 0-70-0-0 0.5 202.19 0.15 - 0.3 202.19
Faba bean I	<u>Harvest</u>	Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 7.0 15 2.0 15 3.5 15	Spring/Summer 0.7 825.55 6.0 15 1.4 15 3.0 15	Spring/Summer 0.6 825.55 8.5 15 3.0 15 4.0 15	Spring/Summer 0.5 825.55 7.0 15 2.2 15 3.5 15
Wheat II	<u>Tillage</u>	Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 2.1 883.32	No tillage	0-25 cm 1.6 883.32	No tillage
Wheat II	<u>Sowing</u>	Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 230 kg ha ⁻¹ 0.4 380.73	Autumn 250 kg ha ⁻¹ 0.5 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.3 380.73
Wheat II	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 50-140-0-0 1.1 218.99 0.27 - 0.5 218.99	Sow.+Top dress. 30-65-0 1.0 218.99 0.15 - 0.5 218.99	Sow.+Top dress. 50-140-0-0 0.9 218.99 0.27 - 0.3 218.99	Sow.+Top dress. 30-65-0-0 0.7 218.99 0.15 - 0.3 218.99
Wheat II	<u>Harvest</u>	Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 6.5 16.0 2.4 13 3.0 20	Spring/Summer 0.7 825.55 5.0 16.0 1.5 13 1.5 20	Spring/Summer 0.6 825.55 8.0 16.0 3.5 13 3.5 20	Spring/Summer 0.5 825.55 6.5 16.0 2.4 13 3.0 20
Ethiopian mustard III	<u>Tillage</u>	Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-30 cm 2.9 883.32	0-10 cm 2.1 883.32	0-30 cm 2.3 883.32	0-10 cm 1.6 883.32
Ethiopian mustard III	<u>Sowing</u>	Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.4 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73	Autumn 5/7 kg ha ⁻¹ 0.2 380.73
Ethiopian mustard III	<u>Crop practices</u>	Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress 140-80-70-0 1.1 218.99 0.3 - 0.5 218.99	Sow.+Top dress 80-40-35-0 1.0 218.99 0.15 - 0.5 218.99	Sow.+Top dress 140-80-70-0 0.9 218.99 0.3 - 0.3 218.99	Sow.+Top dress 80-40-35-0 0.7 218.99 0.15 - 0.3 218.99

Ethiopian mustard III	<u>Harvest</u>	Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer	
	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5	
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55	
	Yield	(t ha ⁻¹ yr ⁻¹):	5.9	2.5	8.8	5.9	
	Water content	(%):	12	12	12	12	
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	1.9	0.8	3.0	1.9	
	Water content	(%):	10.0	10.0	10.0	10.0	
Sorghum IV	<u>Tillage</u>	Plough and disk harrow:	0-25 cm	No tillage	0-25 cm	No tillage	
		h ha ⁻¹ :	2.1		1.6		
Sorghum IV	<u>Sowing</u>	Seed drill	10 kg ha ⁻¹	10 kg ha ⁻¹	10 kg ha ⁻¹	10 kg ha ⁻¹	
		Season:	Spring	Spring	Spring	Spring	
Sorghum IV	<u>Crop practices</u>	Fertilization:	Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.	Sow.+Top dress.	
		Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ :	100-100-60-0	75-75-20-0	100-100-60-0	75-75-20-0	
		Fertilizer distributor	h ha ⁻¹ :	1.1	1.0	0.9	0.7
			MJ h ⁻¹ :	218.99	218.99	218.99	218.99
		Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.):		1.0	0.5	1.0	0.5
		Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.):		-	-	-	-
		Crop sprayer	h ha ⁻¹ :	0.5	0.5	0.3	0.3
			MJ h ⁻¹ :	218.99	218.99	218.99	218.99
		Irrigation	(m ³ ha ⁻¹ yr ⁻¹):	5000	2500	5000	2500
		Irrigation system:		Sprinkler	Sprinkler	Sprinkler	Sprinkler
		Irrigation pump type:		Diesel/electric	Diesel/electric	Diesel/electric	Diesel/electric
		Delivery high	(m):	15	15	15	15
		Distance	(m):	100	100	100	100
	MJ h ⁻¹ :	16506	8250	16506	8250		
Sorghum IV	<u>Harvest</u>	Season:	Autumn	Autumn	Autumn	Autumn	
	Maize Chopper+Lorry	h ha ⁻¹ :	1.0	0.9	0.8	0.6	
		MJ h ⁻¹ :	883.32	825.55	825.55	825.55	
	Yield harvest	(t ha ⁻¹ yr ⁻¹):	110	70	130	110	
	Water content	(%):	67	67	67	67	
	Seed Yield	(t ha ⁻¹ yr ⁻¹):	6.0	3.8	7.1	6.0	
	Water content	(%):	18.0	18.0	18.0	18.0	
Sorghum IV	<u>Harvest</u>	Yield straw	(t ha ⁻¹ yr ⁻¹):	86	54	102.1	86
		Water content	(%):	70	70	70	70

Mediterranean South		Cropping system 6: Flax-Cereal (wheat)- Legume (faba bean)			
Yr		Marginal land		Agricultural land	
		High input	Low input	High input	Low input
Flax I	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-30 cm 2.5 883.32	0-10 cm 2.0 883.32	0-30 cm 1.9 883.32	0-10 cm 1.6 883.32
Flax I	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Spring 100 kg ha ⁻¹ 0.4 380.73	Spring 100 kg ha ⁻¹ 0.4 380.73	Spring 100 kg ha ⁻¹ 0.2 380.73	Spring 100 kg ha ⁻¹ 0.2 380.73
Flax I	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 120-150-75-0 1.1 218.99 1.5 0.5 218.99	Sow.+Top dress 90-100-50-0 1.0 218.99 0.8 0.5 218.99	Sowing 120-150-75-0 0.9 218.99 1.5 0.3 218.99	Sow.+Top dress 90-100-50-0 0.7 218.99 0.8 0.3 218.99
Flax I	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Late summer/fall 0.8 825.55 5.9 20 1.2 9.0 3.5 14.0	Late summer/fall 0.7 825.55 4.4 20 0.9 9.0 3.1 14.0	Late summer/fall 0.6 825.55 7.2 20 1.5 9.0 4.3 14.0	Late summer/fall 0.5 825.55 5.9 20 1.2 9.0 3.5 14.0
Wheat II	<u>Tillage</u> Plough and disk harrow: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 2.1 883.32	No tillage	0-25 cm 1.6 883.32	No tillage
Wheat II	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 230 kg ha ⁻¹ 0.4 380.73	Autumn 250 kg ha ⁻¹ 0.5 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.3 380.73
Wheat II	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sow.+Top dress. 100-140-0-0 1.1 218.99 0.27 0 0.5 218.99	Sow.+Top dress. 60-65-0 1.0 218.99 0.15 0 0.5 218.99	Sow.+Top dress. 100-140-0-0 0.9 218.99 0.27 0 0.3 218.99	Sow.+Top dress. 60-65-0-0 0.7 218.99 0.15 0 0.3 218.99
Wheat II	<u>Harvest</u> Season: Combine harvester: h ha ⁻¹ : MJ h ⁻¹ : Yield (t ha ⁻¹ yr ⁻¹): Water content (%): Yield marketable product (t ha ⁻¹ yr ⁻¹): Water content (%): Yield straw (t ha ⁻¹ yr ⁻¹): Water content (%):	Spring/Summer 0.8 825.55 6.5 16.0 2.4 13 3.0 20	Spring/Summer 0.7 825.55 5.0 16.0 1.5 13 1.5 20	Spring/Summer 0.6 825.55 8.0 16.0 3.5 13 3.5 20	Spring/Summer 0.5 825.55 6.5 16.0 2.4 13 3.0 20
Faba bean III	<u>Tillage</u> Cultivator: h ha ⁻¹ : MJ h ⁻¹ :	0-25 cm 1.2 323.50	0.15 0.8 323.50	0-25 cm 0.9 323.50	0.15 cm 0.7 323.50
Faba bean III	<u>Sowing</u> Season: Amount: Seed drill h ha ⁻¹ : MJ h ⁻¹ :	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 200 kg ha ⁻¹ 0.4 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73	Autumn 180 kg ha ⁻¹ 0.2 380.73
Faba bean III	<u>Crop practices</u> Fertilization: Amount (N-P ₂ O ₅ -K ₂ O-CaO) kg ha ⁻¹ : Fertilizer distributor h ha ⁻¹ : MJ h ⁻¹ : Herbicides (kg ha ⁻¹ yr ⁻¹ of a.p.): Pesticides (kg ha ⁻¹ yr ⁻¹ of a.p.): Crop sprayer h ha ⁻¹ : MJ h ⁻¹ :	Sowing 0-100-0-0 0.9 202.19 0.27 - 0.5 202.19	Sowing 0-70-0-0 0.7 202.19 0.15 - 0.5 202.19	Sowing 0-100-0-0 0.6 202.19 0.27 - 0.3 202.19	Sowing 0-70-0-0 0.5 202.19 0.15 - 0.3 202.19
Faba	<u>Harvest</u> Season:	Spring/Summer	Spring/Summer	Spring/Summer	Spring/Summer

bean III	Combine harvester:	h ha ⁻¹ :	0.8	0.7	0.6	0.5
		MJ h ⁻¹ :	825.55	825.55	825.55	825.55
	Yield	(t ha ⁻¹ yr ⁻¹):	7.0	6.0	8.5	7.0
	Water content	(%):	15	15	15	15
	Yield marketable product	(t ha ⁻¹ yr ⁻¹):	2.0	1.4	3.0	2.2
	Water content	(%):	15	15	15	15
	Yield straw	(t ha ⁻¹ yr ⁻¹):	3.5	3.0	4.0	3.5
	Water content	(%):	15	15	15	15