



Costs of Production Work Package 7

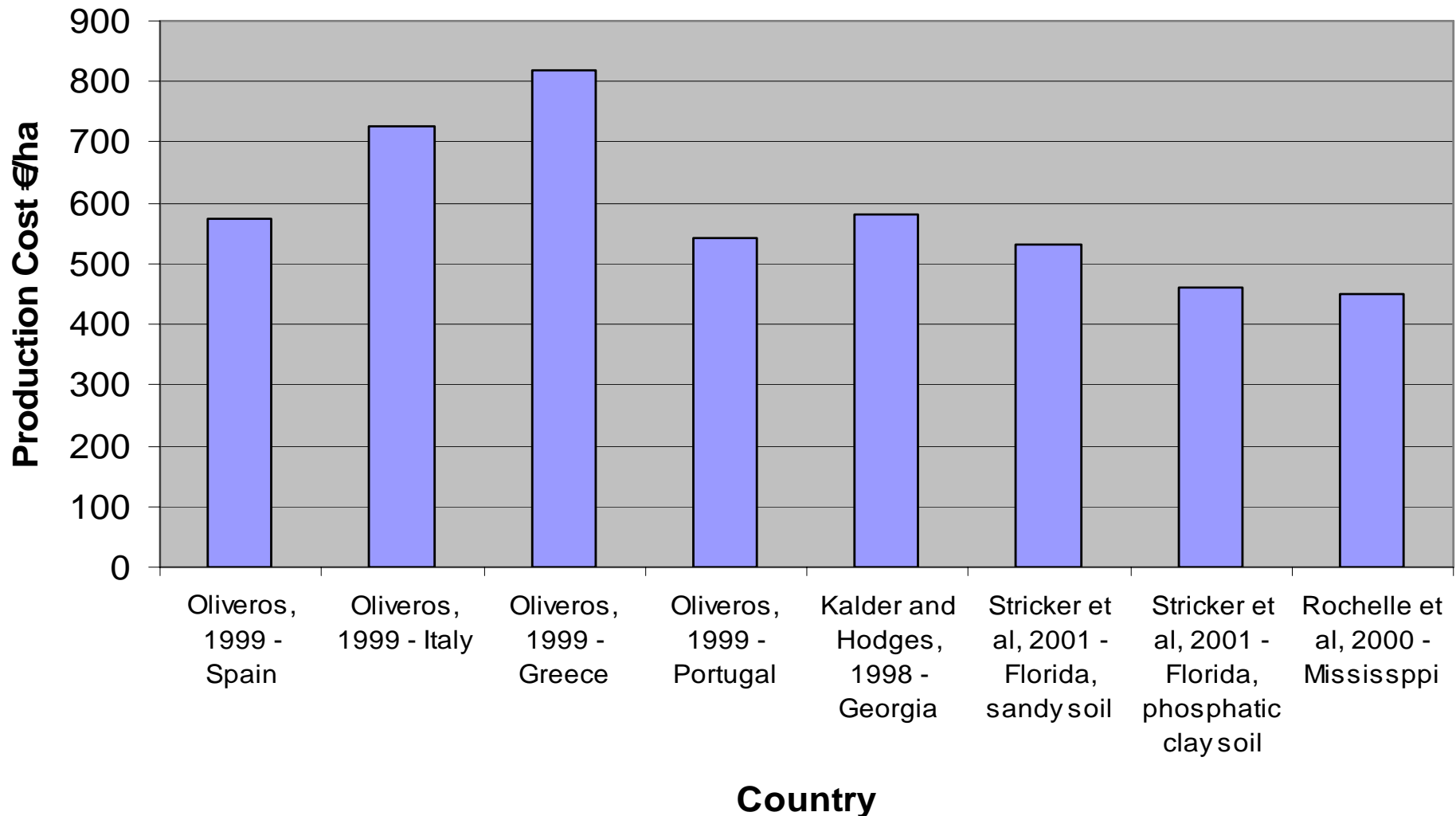
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Objectives

- **Economic assessment of the whole production chain from establishment, maintenance through to harvest and delivery**
- **Compare Kenaf to conventional crops in the south EU region**

Production costs – published data



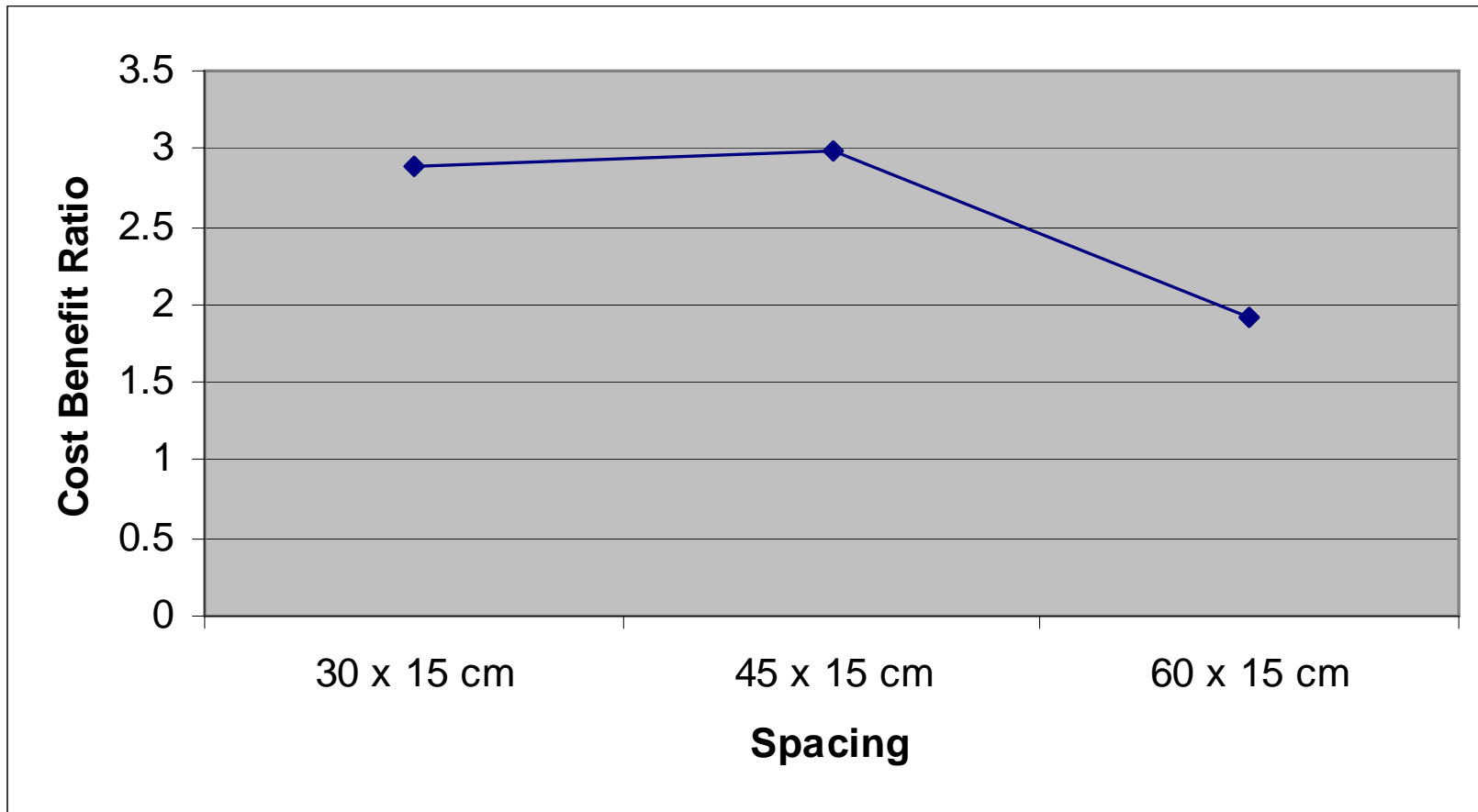
Cost inputs – published data

	S. Spain	N. Spain	Mississi ppi	Georgia	Texas
Geographical location					
Ground Preparation	71	71	58	24	66
Seed and sowing	151	151	43	161	57
Fertilization	82	56	133	137	66
Herbicide	32	48	13	34	12
Irrigation	159	54	7	72	45
Harvesting	162	109	196	153	
Other costs					16
TOTAL:	€657	€489	€450	€581	€262*

Cost benefits - irrigation

	Yield (air dry 10% mc) tonnes/ha	Costs /ha	Gross Margin/ha
Irrigated	16.8	€405	€207
Not irrigated	13.45	€321	€169

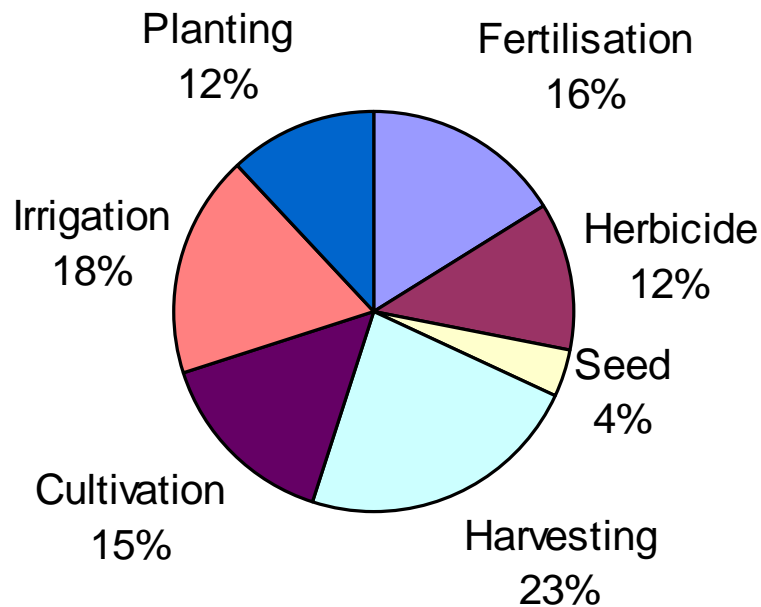
Cost benefit ratio – planting density



Gross margins – published data

Source:	Costs €/ha	Income €/ha	GM/ ha	Costs €/tonne	Income €/tonne	GM/ tonne
Kalder and Hodges (1998)	691	943	254	36	50	14
Rochelle <i>et al</i> (2000)	449	864	409	24	45	21
Scott and Taylor (1990) -irrigated	405	612	207	24	36	12
Scott and Taylor (1990) - not irrigated	321	490	169	24	36	12

Generalised production costs



Thank you for the completed question sheets!

Income from Kenaf

Market	Income €/air dry tonne	Income €/oven dry tonne
Wood pulp	€50	€55.6
Bedding	€45	€50
Newsprint	€36	€40

Influence of yield on gross margin

Mean Harvested Yield (oven dry tonnes/ha)	Production costs (€/t)	Gross Margin (€/t)	Gross Margin (€/ha)
8	€ 79	-€ 24	-€170
10	€ 63	-€ 8	-€70
12	€ 53	€ 3	€ 30
14	€ 45	€ 10	€131
16	€ 40	€ 16	€231
18	€ 35	€ 20	€331
20	€ 32	€ 24	€431

Influence of sale price on gross margin

Price at farm gate (€ oven dry tonne)	GM/ha
35	-€129
40	-€66
45	-€3
50	€60
55	€123
60	€186
65	€249
70	€312

Comparative crop gross margins

Country	Crop	Area grown (000 ha) % of arable cropping	Price €/tonne	Gross Margin (€/ha)	GM less Area payment
Italy	Durum wheat	1870 (40%)	€149	€195	-€161
	Maize	1194 (26%)	€110	€751	€207
	Wheat	490 (10%)	€119	€468	€235
	Rice	227 (5%)	€179	€1126	€92
	Soya beans	138 (3%)	€228	€85	-€148

Comparative crop gross margins

France	Wheat	4826 (42%)	€90	€661	€322
	Maize	1796 (16%)	€86	€419	€69
	Feed Barley	1626 (5%)	€80	€518	€179
	Sunflowers	616 (5%)	€221	€609	€191
	Durum wheat	405 (4%)	€120	€636	€163

Comparative crop gross margins

Spain	Spring barley	3150 (31%)	€236	€566	€415
	Wheat	1408 (14%)	€116	€291	€140
	Durum wheat	850 (8%)	€124	€459	€57
	Sunflowers	780 (8%)	€236	€156	€5
	Maize	484 (5%)	€114	€315	-€19

Comparative crop gross margins

Greece	Durum wheat	650 (40%)	€153	€562	€80
	Cotton	370 (23%)	€838	€1432	€1432
	Maize	180 (11%)	€136	€1116	€575
	Wheat	155 (10%)	€135	€349	€193
	Spring Barley	370 (23%)	€136	€153	-€3

Conclusions

- High yields of 18 t/ha and above may be economically viable for Kenaf on large farms
- Moderate yields of 15 t/ha will be economically viable for Kenaf if the product price is €65/odt.
- Seed density does not have big impact on production costs, so any small increase in yield from higher densities will be beneficial.

Future work

- Identify production costs unique to each country.
- Sensitivity analysis on fertilisation and irrigation.
- Use data from work package 2.4
- Investigate impact of Single Farm Payment
- Include transport costs in the analysis
- Determine impact of Kenaf on farm fixed costs

Data required

- Need to determine irrigation and fertilisation costs and yield benefits (WP2 and WP3)
- Information on moisture content at harvest
- Transport costs distances (WP4,5,6)
- Income per tonne (WP5 and WP6)
- Labour costs (WP2,4,5,6)
- Discount rate
- Subsidies

I will send out a new list of questions