INTRODUCTION

As each site varies in terms of preparation costs, yields, haulage to end use and product price it is impossible to provide definitive gross margins. However, the tables below present an overview of the average economics of growing Miscanthus. As the planting and harvesting operations are primarily contractor costs, the fixed farm costs are also likely to reduce if Miscanthus is grown on a large proportion of the farm.

(A) INDICATIVE COST OF ESTABLISHING ONE HECTARE OF MISCANTHUS.

Activity	**Costs (£ ha^{-1})**
Rhizome costs (@ 18,000 rhizomes/ha)	1170
Cultivation	83
Herbicides (Glyphosate)	96
Contract planting	300
TOTAL	**1,649**
TOTAL less grant (not currently available in Wales)[(1)]	**729**

[(1)]There is currently no grant support in Wales for growing energy crops, but in England an Energy crops Scheme (ECS) operates, whereby a one-off payment of £920 towards establishment costs is available. The Welsh Assembly Government are looking at the issues of grant funding, and the situation could change in the future.

(B) INDICATIVE COST OF HARVESTING ONE HECTARE OF MISCANTHUS BY CONTRACTOR, ASSUMING 14 T HA^{-1}, BALED

Harvesting is based on a contractor using a mower conditioner followed by a Hesston baler. A yield of 14 fresh tonnes per hectare has been assumed. At 16% m.c. this is equivalent to 11.76 oven dry tonnes per hectare. These costs could be greatly reduced if the machinery and labour were available on-farm.

Activity	Cost (£ ha^{-1})
Mower conditioner	20
Baling (at 16%) moisture content)	110
Carting and stacking & loading	40
TOTAL	**£170**

(C) SUMMARY OF INDICATIVE PRODUCTION COSTS

	Without grant (£ ha^{-1})	With Grant (£ ha^{-1})
Costs of establishment divided over the life of the crop (15 years)	110	49
Harvesting	170	170
TOTAL	**£280**	**£219**

In practice is it likely that the crop will survive for much longer than 15 years, but in terms of farm planning a conservative time horizon has been assumed.

(D) INDICATIVE REVENUE CALCULATION - BASED ON 14 FRESH TONNES HECTARE

The gross margin is dependant on the end use value and haulage costs. Two examples are presented here, either transporting it to a dedicated biomass power plant or co-firing power-station, or selling it locally to provide heat.

Miscanthus can be grown on set-aside. If grown on non-set-aside then it is eligible for a further £29 ha under the SFP rules.

(i) Selling to a power station -

		Without grant	With grant
Costs £ / ha	Production costs	280	219
	Haulage (£9.10 tonne)	127	127
	TOTAL COSTS:	**407**	**346**
Revenues £ / ha	Revenue (@ £31 tonne)	434	434
	SFP (additional £29)	29	29
	TOTAL REVENUE:	**£463**	**£463**
	PROFIT	**£56**	**£117**

(ii) Using for local heat production -

Current fuel prices paid for wood chip for local heating schemes in Wales are in the region of £35 - £40 a fresh tonne (at 30% mc). As Miscanthus is drier, a value of £40 a tonne has been used. If providing heat to the farm, capital and running costs of a biomass heating boiler (with a grant towards the capital installation) can be equivalent to oil if fuel is purchased at a price of £40 fresh tonne.

		Without grant	With grant
Costs	Production costs (£/ha)	280	219
	Bale shredder	42	42
	Tractor and trailer	56	56
	TOTAL COSTS:	**378**	**317**
Revenues	Revenue (@ £40 tonne)	560	560
	SFP (additional £29 / ha)	29	29
	TOTAL REVENUE:	**589**	**589**
	PROFIT	**£211**	**£272**