

## COST COMPARISON

The table below shows how willow compares with other enterprises after the crop is established (post 2005 CAP changes). Under the £/t contract, you are not obliged to use our harvesting contractor (shown at a rate of £10/t); you can substitute your own labour and machinery costs and take £100/ha off the variable costs shown and recalculate your profit. Typical examples of each Contract are shown on the other side.

### FIGURES AFTER ESTABLISHMENT PHASE

*How willow coppice compares:*

	Bare Land	Cereals	Beef	Willow £/t	Willow £/ha/yr
Crop Sales or Contract	-	522	970	260	95
Single Payment	210	210	210	241	241
<b>Total Sales (£/ha)</b>	<b>210</b>	<b>732</b>	<b>1180</b>	<b>501</b>	<b>336</b>
Variable Costs	0	224	700	130	30
Labour	0	160	265	0	0
Machinery and Power	0	180	155	0	0
Other Farm Overheads	85	85	100	85	85
<b>Total Costs (£/ha)</b>	<b>85</b>	<b>649</b>	<b>1220</b>	<b>215</b>	<b>115</b>
<b>Profit £/ha/yr</b>	<b>125</b>	<b>83</b>	<b>-40</b>	<b>286</b>	<b>221</b>
Comparison with bare land	-	-42	-165	+161	+96

At establishment all costs will be covered by us together with the government's energy crop scheme planting grant. All we ask is that you prepare a seedbed and contribute a one-off payment of £150/ha towards costs.

The data for comparable enterprises has been taken from the ABC book (May 2004) which is widely used as an industry benchmark. The following assumptions have been made:

- Cereals rotation is wheat-wheat-barley-rape with first wheat yielding 8.75t/ha and sold for £70/t.
- Cereal farm overheads assume a farm of 150-300ha in size.
- 'Other Farm Overheads' exclude rent and rates and have been fixed except for the stock farm.
- The SP will be different for every farm but applies whatever crop is grown (including none as shown in the 'bare land' option).
- Stock farm overheads shown are for lowland farms of a size up to 100ha.
- The beef enterprise refers to a 22-24 month beef enterprise with animals sold at 106p/kg.

We can send you a SAC booklet "Energy from Willow" and the DEFRA publication 'Growing Short Rotation Coppice – best practice guidelines' (PB7135) which explains the status of willow as a crop and its use for energy. Up to 2,000ha of energy crops have been planted in Yorkshire; this is now being harvested for co-firing in local power stations similar to Didcot.

Through this experience there are established Contractors with the machines to plant and harvest the crop, and plant breeders have improved the willow varieties for our conditions. If you are taking the £/ha contract farming option **you do not need to know anything about growing the crop**; you can be confident that we are using the best of the experience available in the country and leave it all to us.

There will be the opportunity to learn more about the experience and costs of growing the crop through the training courses we will be running, through producer group visits to other energy crop growers, in Europe as well as the UK, and from visits to power stations using wood chip as a fuel.

# CASH FLOW EXAMPLES

Farmer A has a 10ha field that has been down to pasture and let to grazing tenants. Though the soil is fertile, deep and used to be cropped, it is not included with the main cereal farm because it is often wet in the autumn and spring and difficult to get a good seedbed. The grazing tenant has decided not to take the land next year and agents advise him that if he holds onto his single payment then he will be unlikely to get a significant rent for it under current market conditions. If he decides to put the land into willow under the £/t contract in spring 2005 this is an example cash flow based on a 10 tonnes/ha/yr of dry matter yield.

## £/t Contract on 10ha

*Average (8yr) return is 92.25£/ha/yr plus SP*

	2005	2006	2007	2008	2009	2010	2011	2012
Chip Sales				3900		5200		5200
Supplement	310	310	310	310	310	310	310	310
Planting Fee	1500							
Agronomy Fee				1200		600		600
Harvesting Fee				1500		2000		2000
Net return (10ha)	-1190	310	310	1510	310	2910	310	2910

1. The £150/ha one-off planting fee is paid prior to planting in spring 2005. ESD will then carry out all the planting work with the assistance of the £1,000/ha DEFRA planting grant.
2. The £30/ha/yr agronomy fee is payable at the time the chips are sold.
3. The £10/t (dry matter) harvesting fee is the maximum you will pay using our contractor. However, you can choose to use your own short rotation coppice harvester or harvesting contractor.
4. Harvesting interval is set at every 2 years in the example though you can choose longer rotations, depending on the harvesting plans.
5. The "Chip Sales" calculation is based on dry matter sold and is: 26£/t x 10t/ha/yr x 10ha x 2 yrs = £5,200.
6. Growth in the establishment year is negligible while the roots get established and yield at the first harvest (Jan 2008) is at an assumed 75% of the estimated mature crop yield of 10 tonnes/ha/yr of dry material.
7. There is no transport cost to the farmer. ESD Biomass purchases the wood chips on the basis of tonnes of dry matter delivered into their transport vehicle.
8. The energy crop supplement to single payment of £31/ha/yr is paid through the RPA at and is assumed constant.

Farmer B has a 10ha field that does not fit in with the main farming block. It would simplify the farming system if somebody could just take it over. He is unsure how well it will do as a willow field and decides to put the land into willow under the low risk £/ha contract farming option in spring 2005 and this is the resulting cash flow.

## £/ha Contract on 10ha

*Average (8yr) return is 77.25 £/ha/yr plus SP*

	2005	2006	2007	2008	2009	2010	2011	2012
Annual payment	950	950	950	950	950	950	950	950
Supplement	310	310	310	310	310	310	310	310
Planting Fee	1500							
Agronomy Fee	300	300	300	300	300	300	300	300
Harvesting Fee								
Net Return (10ha)	-540	960	960	960	960	960	960	960

1. The £150/ha one-off planting fee is paid prior to planting in spring 2005. ESD will then carry out all the planting work with the assistance of the £1,000/ha DEFRA planting grant.
2. The £30/ha/yr agronomy fee is payable each year when the rent is paid to ESD Biomass. There is no need for the farmer to know anything about growing the crop.
3. There is no harvesting fee because the complete harvesting process is managed by ESD Biomass.
4. Neither the harvesting interval nor the crop yield have any bearing on the timing or amount of payments. As such, the risks associated with the £/ha contract are lower than those associated with the £/t contract.
5. There is no transport cost to the farmer. ESD Biomass will use their own transport vehicles to collect the wood chips from the farm.
6. The energy crop supplement to single payment of £31/ha/yr is paid through the RPA and is assumed constant.