

## **WOOD BIOMASS CROPS FOR ENERGY AND AGRICULTURE**

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While we are all aware that biomass crops can deliver significant carbon savings the challenge is to find ways of incorporating these into farming enterprises in a way that is technically feasible, environmentally sustainable, economically viable, and appropriate and without contravening government and EU regulations!

As the production and use of SRC willows and forest products for biomass has been largely covered by other speakers I will seek to explore the issues which may be preventing the uptake of biomass cropping and at the same time mentioning some of the woody biomass crops which could have a particular niche in Northern Ireland.

Biomass crops can be attractive due to:

Low labour requirement – suit part time- semi retired farmers!

Scope for bioremediation – can add value through gate fees

Problems are:-

- Long term commitment before return
- Poor cash flow
- Difficult to return land to conventional agriculture
- Need for specialist equipment
- Slow development of markets for biomass and supply chain for delivery
- Lack of confidence in future supply by potential investors/project managers
- Insufficient facilities for drying and storage
- Lack of biomass incentives compared for heat relative to electricity
- Small scale biomass schemes confined to heat only
- Relatively low uptake of nitrate and phosphate limiting scope for bio-remediation
- Yet to be commercial demonstration of ligno-cellulosic conversion to liquid bio-fuel

SRC Willows are most advanced of the biomass crops in NI and as a result of the Challenge Fund (establishment grant), and now the grants being awarded for some harvesting, drying and storage projects, we expect to see continued progress in the adoption of SRC Willows. The economics remain marginal unless there can be added value such as gate fees for bioremediation, associated marketing of boilers or being part of an ESCO (Energy Supply Chain Company). Although it was originally envisaged that

SRC Willow take up would be on more marginal land, in fact it has mostly been prime arable land that has planted out with uptake by more progressive farmers.

*Miscanthus* (Elephant grass) can be considered as a woody crop because of the nature of the biomass material it produces and because it is supported under the same scheme as SRC willow in England. Already grown quite extensively in the south of England it is attracting attention in Ireland when it is seen as a possible fuel for a power station currently running on peat. After taking several years to come to peak production the rhizomatous grass gives an annual harvest of dry woody material which can be handled with conventional farm machinery

AFBI and the Forest Service are currently evaluating brash baling as means of recovering a significant quantity of 'waste' material from local forests for use as biomass

AFBI is seeking new biomass crops of a range of types whether grass (eg switch grass, reed-canary grass), broadleaved (Sorrel types), or tree species (e.g. *Paulownia*).