

# Energy crops for agriculture - benefits or constraints?

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The Danish energy production is influenced by the EU agricultural policy and the following Danish implementation.

In Denmark the maximum allowed land to set-aside is 21,6 percent of the fields in rotation. The compensation per hectare is 2.454 Danish Kroner (approximately 330 EURO). The farmer is allowed to grow energy crops on these fields and still get the compensation for setting aside. There are no other compensations than the above mentioned when growing energy crops in Denmark.

## Which kind of energy crops?

When deciding to grow non-food products, the farmer must decide whether to grow crops with a long or with a short rotation time. Is it oil seed rape or cereals or is it miscanthus or willow the farmers shall grow?

The interest for growing rapeseed or cereals on the set-aside fields is high. Unfortunately it is not possible to grow cereals for energy production on the set-aside fields at the moment due to very complex administrative procedures. The growing of rapeseed on the set-aside field is implemented. In 2001 there were grown 81.000 hectare of rapeseed in Denmark. 21.000 ha were grown on set-aside areas as non-food. The reasons for growing rapeseed or cereals instead of long time rotation crops are obvious. The crop rotation for rapeseeds and cereals fits with the crop rotation on the other fields, for the farmer it is easy to grow a crop he has tried to grow before, the economy in growing annual rotation crops is known, and the farmer knows there is a market for the product.

The interests for using long rotation crops such as miscanthus or willow exist, but the fields actually grown with the crops are quite small. The main problem is the so-called hen and egg problem - which came first? Seen from the farmer's point of view there is uncertainty about the market for the products. The power plants are on the other hand unwilling to rely on biomass, which is not available today. In that connection it should be mentioned that the biomass production in other neighbouring countries can be an important competitor to a future Danish biomass production. Other problems considered by the farmers are that the individual farmer does not know the production methods.

## Environmental considerations

Apart from the energy aspect; other positive environmental aspects are discussed in relation to the long rotation crops in Denmark. The idea of combining energy production, ground water production and reducing the green house emission is foreseen to be one of the main arguments for energy crops in the future.

## Conclusions

The farmers are ready to produce energy crops if it's profitable and if certainty about a market exists. Uncertainty today about the market for long rotation crops makes it obvious to choose short rotation crops with a known market.

It is the impression that combination of different environmental objectives can secure a future for the long rotation crops.