A case study of conversion to organic field vegetable production
Feldon Forest Farm - Warks

Project funded by DEFRA

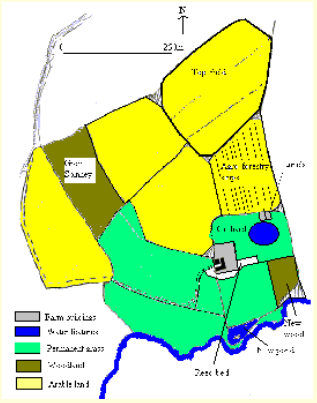
Conversion to organic field vegetable production Defra OF 0191

Project aims

- To monitor agronomic and economic performance during conversion at ten commercial farms, representing contrasting scenarios of organic vegetable production (this farm has been monitored for 6 years).
- To interpret and evaluate data and to produce appropriate information to aid farmers who are undergoing, or who are considering, conversion to organic systems, and to aid future policy making on related farming issues

Farm details

Location: Frankton, nr Rugby
Farm size: 30 ha (74 ac)
Area converted: Whole farm
Farm type: Mixed farm with livestock and arable converting to mixed organic system with vegetables
Business : Family business (partnership)
Altitude: 70-100m (230-330')
Rainfall: 650 mm (26")
Soil type: Medium to heavy clay loam. Slowly permeable calcareous clayey soils.
Prior land use: Pasture and cereals
Conversion: Single-step conversion



Farm description

Feldon Forest Farm is essentially a new farm created when the owners bought the land in 1994. Both were new to farming and with full-time jobs , they have had built the farm virtually from scratch with no buildings, gates, fences, water or power when arrived. They were attracted to the farm by the location, in the gently rolling Leam valley and by the unspoilt nature of the land.

The land consists of a mixture of arable, permanent pasture, various woodlands and water features. Within that framework are the buildings that have all been purpose designed and built for the farm. There are areas used for horticulture in the form of vegetable, herb and fruit production including an orchard area and two polytunnels. The permanent pasture and other areas are under Countryside Stewardship agreements, which include arable field margins and hedgerow restoration. It is traditionally a mixed livestock and arable 'farm', and they have built up a rare breed flock of Castlemilk Moorit sheep and a Shetland beef suckler herd.

Reasons and suitability for conversion

The decision to convert was taken for environmental and philosophical reasons. The farmers have a very strong interest in wildlife and conservation and this underpins their farming philosophy. At first they farmed with contractors on the arable side but weren't happy with this and as soon as they were able to, wanted to farm the land themselves, to give them more control. Once the basic infrastructure was in place they felt able to do this and embarked on the process of conversion.

The farm was considered suitable for conversion as:

- Few chemicals had been used for several seasons.
- Starting from scratch, therefore a good infrastructure can be developed.
- Use of Countryside Stewardship Scheme would help finances during conversion.
- The owner has a strong commitment to the project.
- Heavy soils should be drought free for arable production.
- Rare breeds of livestock should show better than average returns and help utilise the grass/clover break for fertility improvements.

The constraining factors were said to be:

- Establishment of a horticultural unit would make heavy demands on labour and establishment costs.
- Irrigation would be needed for field vegetables.

HDRA the organic organisation

Farming system

- Two of the old permanent pasture fields remain unimproved, under management agreements with the Countryside Stewardship Scheme (CSS). The re-creation of species rich grassland on one other field is being undertaken.
- On the arable land, 6m grassy field margins have been created under the CSS.
- The original plan was to use one 5ha field for field vegetable production which would have its own rotation. A smaller area of more intensive production was also proposed.
- The remaining arable land has a rotation of three years grass/white clover ley, followed by two years of cereals (wheat/oats).
- One field has an agro-forestry system with strips of poplars. It was planned for this to be cropped in the arable rotation but problems with combining means that this has been made into a long ley, with one strip being used for strawberries/rhubarb.
- They made the decision when conversion had been completed to concentrate on small-scale production for local markets. Two polytunnels were erected for this purpose and they planted an orchard of apples, pears, plums, cherries and quince.
- Rare breeds of cattle and sheep are kept. A flock of 40 Castlemilk Moorit sheep have been built up. They are well-suited to an organic system as they are not prone to some of the common sheep ailments. The herd of Shetland cattle was also built up slowly from three cows to eight sucklers plus followers. They are docile, hardy and thrifty and thrive on a grass diet in a low input system. They don't need or get medication or any other food apart from grass and can finish off on grass in autumn from a spring calving. A small collection of rare breed hens are kept for laying eggs.

Soils and soil fertility

- Own FYM from over-wintered cattle and sheep when in lambing, is composted put in muck spreader and out into heap, stacked 6 months and turned twice .
- Variability in clay content of fields means that some fields are lighter and thus more suitable for vegetable production. The Top field contained 21% clay and the field where the reservoir was constructed had up to 37% clay content.
- For this soil texture the organic matter levels were considered low, in the Elm Farm Research Centre (EFRC) soil analysis. Little change in levels over the course of the monitoring.
- pH levels are alkaline or borderline alkaline. Calcium levels are adequate.
- Phosphorus levels have been low and despite applications of rock phosphate have remained low.
- Potassium levels have been declining since 1998, though appear to be levelling out.
- Occasional high manganese and iron levels have been observed which might indicate compaction or waterlogging.

Crop performance

- No field scale vegetable crops have been grown. A small area (less than 0.4ha) of various vegetable crops were grown on the Top field in 2001 and 2002. These crops were hand planted and hand weeded and performance was mixed, mainly down to the lack of irrigation and the distance from the farm buildings for maintenance of the crops. Since then vegetables have been grown in a more intensive area nearer the farm buildings and the polytunnels. These have received more attention and performed better.

Weed management

- Weed pressure can be considered medium on this farm in comparison with other farms in the study.
- The farm invested in a comb harrow for weed control in the cereals and a steerage hoe for the vegetables.
- In the field intended for vegetable production there were initially high levels of weeds in the early stages of the grass/clover ley, which after continued cutting and mulching disappeared. When vegetable production started on an area in this field, weeds were controlled by hand weeding, reasonably effectively in 2001 but with higher levels of weed cover in 2002. Speedwell (*Veronica spp*.), groundsel (*Senecio vulgaris*) and Charlock (*Sinapis arvensis*) were the most commonly occurring weeds. Volunteer clover was frequently occurring but treated sympathetically!
- There was sporadic occurrence of couch grass (Elitrigia repens) in the vegetable field, but no evidence of increase.
- In remaining land, the farmer feels that docks (*Rumex spp*.) are actively spreading. There is a conflict between Countryside Stewardship arable margins and organic weed control. The 6 m arable margins can't be cut until 15th July. Hay taken from margins contains dock seed, so dock management does not fit in with other profitable management methods.

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Pests and diseases

- Large vertebrate pests have caused the most losses to vegetable crops, with pigeons, rabbits, badgers and deer all causing problems.

Management and labour issues

- As they established the farm they were not living on site, but eventually got planning permission for a mobile home and eventually a house. Delays in this process meant that they were not able to devote as much management time to the vegetables as they would have liked. If time was short, livestock had to take priority. It was not until 2001 that the farmer was able to work full-time on the holding.
- Additional labour has been from volunteers under the World Wide Opportunities on Organic Farms Scheme (WWOOF), though continuity and availablity has been variable.

Marketing

- At the start of conversion it was anticipated that field vegetables would be grown, though no clear market had been identified.
- As conversion progressed, it was clear to them that they would not be able to, nor desired to, compete with the large scale producers converting in areas like East Anglia and they would concentrate on small-scale production for local markets
- Produce is sold on a direct sales basis, mostly through word of mouth, WI markets, the HDRA shop and restaurant at Ryton and other local organic outlets in Rugby and Coventry. Local is important and 'as a matter of principle we will not sell anything that we have not produced ourselves.' They have to sell some things as non-organic due to the regulations involved in registering every single product they sell and believe that most of their customers would buy from them whether they were organic or not.

Farm output, variable and fixed costs during conversion

Economics

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General conclusions

- This farm was not a typical farm conversion, in that the farm itself had to be established from scratch. The farmers themselves had no previous experience of farming or of commercial vegetable production.
- Prior to conversion they farmed using contractors. Making the decision to farm themselves involved investment in machinery, but gives them more control over timing of operations.
- This is very much an integrated mixed farm, with a large number of different enterprises. Conservation and wildlife management, aided by the Countryside Stewardship is a very important part of the farming system.
- They made the decision to add value to their products wherever possible. They make chutney and jams, the wool from the sheep is spun into Aran weight knitting wool and the skins are tanned.
- Local and direct sales ensure they receive good returns for their produce.

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Project information

This leaflet has been produced as part of the DEFRA funded project **Conversion to organic field vegetable production.**

The project aimed to help farmers and growers thinking of converting to organic field vegetable production to make informed decisions with the aid of the agronomic and economic information collected through a case study approach.

The project is led by IOR-HDRA in collaboration with the OAS at IOR-EFRC, Warwick-HRI, and WIRS

www.organicveg.org.uk

Would you like to take part in our research?

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