Contemplating Conversion

Profitable Organic Arable Systems

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Issues

- Livestock infrastructure costs are a barrier to conversion by arable farmers
- Rejection by the organic movement
- Are stockless (or stock-free) organic systems technically and financially viable?

Why Stockless Organic System?

- Not feasible to introduce livestock
- Infrastructure costs prohibitive
  - Fencing
  - Water
  - Machinery
  - Skilled Labour

BUT

Increasing demand for organic feed

Research Challenges

- Rejection by the organic movement
- Long-term nature – minimum 3 rotations
- Implications for:- weed control
  soil organic matter
  nutrients

Farmer Challenges

- Conversion
- Rotation
- Maintaining soil nutrient status
- Weed control
- Pest control
- Economic returns

Conversion

- Strategies, influences, rotation, financial and physical performance
- OELS
- Income generating fertility building
- In-conversion crops

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Rotation

- Short term gain – long term pain
- Cutting regimes
- Optimum site & soil specific

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Maintaining Soil Nutrient Status

- Weak experimental evidence
- Maximise N fixation and retention
- Green waste
- Soil microbial activity

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Weed Control

- Stale seed bed
- Seed rate variety
- Photo control
- Inter-row cultivation
- Harrow comb weeding
- Catch crops

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Pests & Diseases

- Rotation
- Variety
- Mixtures

Economic

No (low) income from fertility building phase of the rotation

Versus

Overhead and infrastructure costs of the livestock enterprise

Experimental Evidence

- **Co-operative Farms (Dr Alastair Leake)**
- Systems compared 1989-1996
- Mixed organic/alternate husbandry
- Stockless all arable
- Horticulture soft fruit & vegetables

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1989-1996

	Including AAPS £/ha	Including OAS £/ha
Stockless Organic	473	656
Mixed Organic	365	514
Conventional Arable	482	482

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Winter wheat yields 1989-1996 (t/ha)		
	Mixed Farming	**All-Arable**
1990	2.96	-
1991	4.69	4.69
1992	4.07	5.43
1993	2.84	4.94
1994	5.23	4.79
1995	-	4.03
1996	5.20	7.96
Average	4.16	5.31

Observations

- In conversion crops performed poorly
- Grain legumes important to the arable rotation
- Oats for weed control and low fertility
- No significant pest or disease problems
- No short term evidence of nutrient depletion
- Mycorrhizal communities better developed
- Nitrate level in drainflows increased

Trial Summary

- Long term viability not fully tested
- Short/medium term returns improved
- Pests and disease insignificant
- Weeds a major challenge
- First class management required

Experimental Evidence

- **Terrington and EFRC**
- No evidence of declining yield
- Yields equivalent or greater than organic average
- Pests and diseases no problem
- Perennial weeds significant problem
- Red clover 275 kg N per Ha
- Terrington stockless out performed conventional

Current Economics

	Stockless £	Mainly Arable £	Variance £
Standard Data	57,480	84,384	(26,904)
Whole Farm 2007	67,184	108,002	(40,818)
Whole Farm 2004	67,598	114,000	(46,402)
Whole Farm 2001	98,281	136,500	(38,219)

Source: Lampkin, 2007

Current Economics

		£/ha	£/acre
Non Organic Rotation	Average GM	509	206
Stockless Organic Rotation	Average GM	417	169
OELS Premium		30	12
Organic Rotation Margin		447	181
Plus OELS Conversion payment	Average	70	28
Total Organic GM		517	209

Note: Organic reduced overheads only cropping 60% of the land area

Factors to Consider

- Future non organic wheat prices
- Increased fuel and fertilizer costs
- Demand for organic products

Conclusion

- Demand for organic products increasing
- Insufficient feed grains to support the expanding livestock sector
- Stockless systems technically and financially feasible providing overheads controlled