

Manage your soil: grow your business

Concluding overview and summary

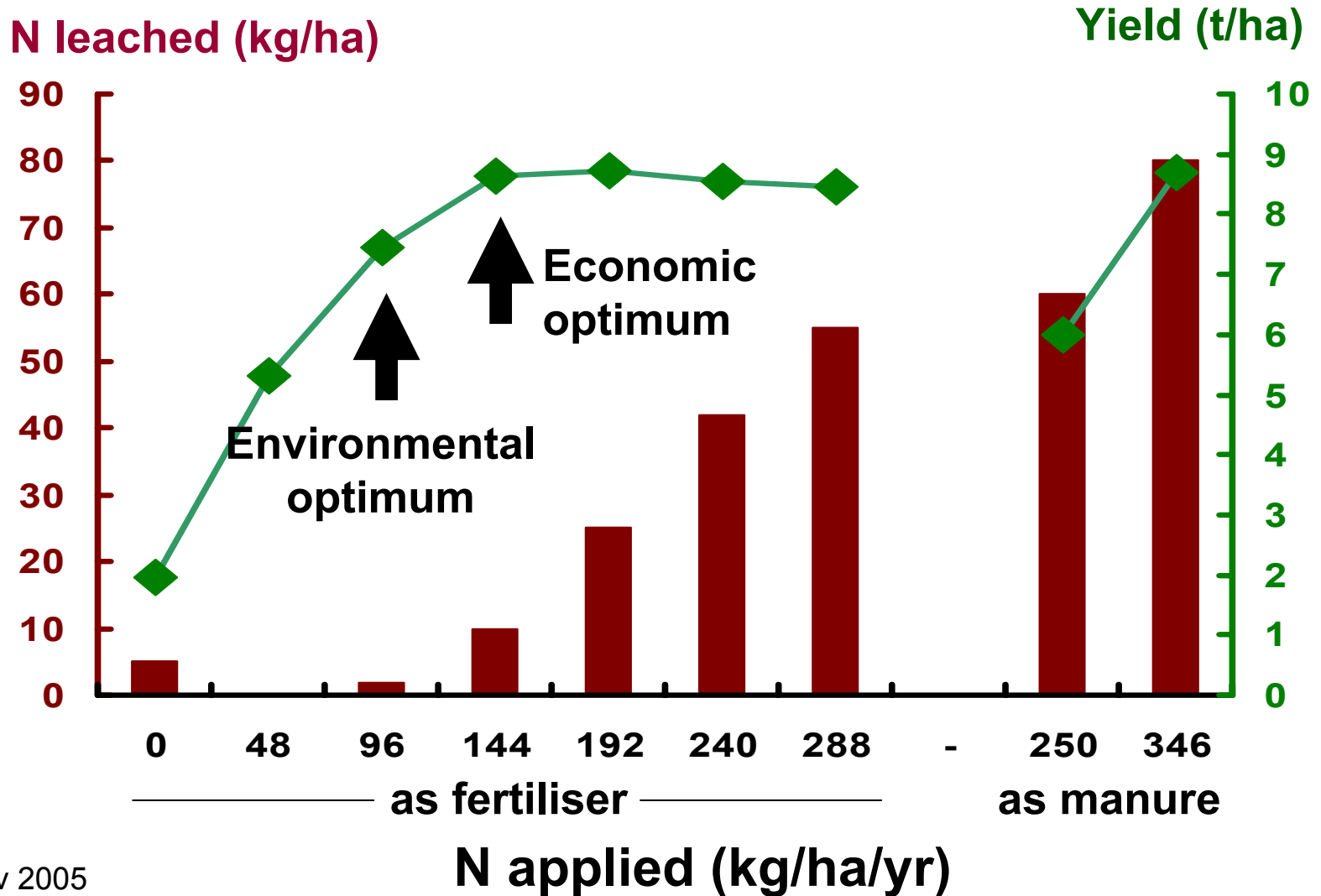
Keith Goulding, Rothamsted Research

Great Expectations?

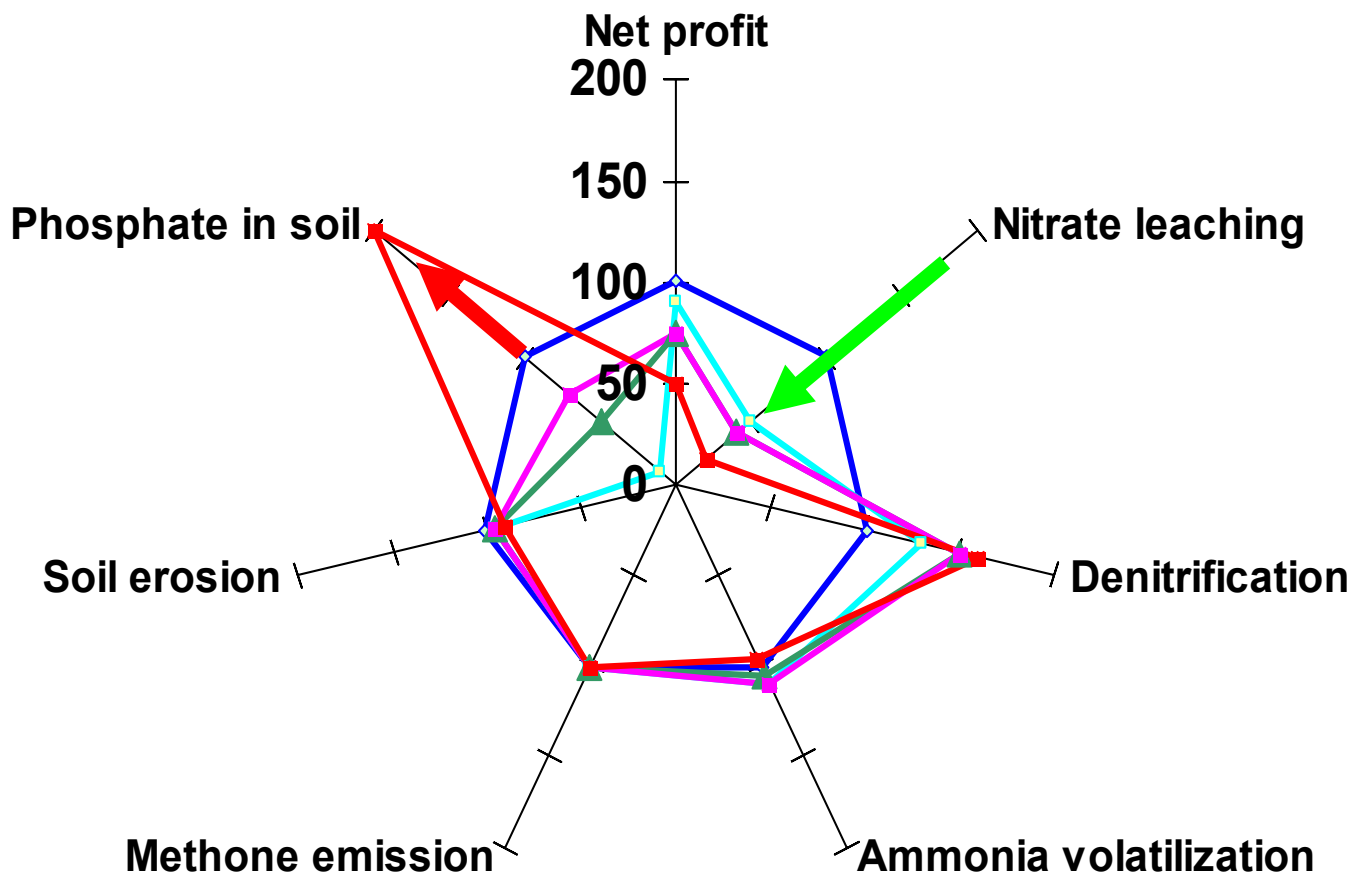
- Healthy, cheap and abundant food
- Multifunctional, healthy soil
- The biodiversity of the 1950s (or better)
- Almost pristine rivers, streams and lakes
- Mitigation of climate change
- Renewable energy sources
- Etc.

'Can do' attitude

What is the target?



Risks of focusing policy on one problem, e.g. nitrate leaching



'Pollution swapping'

Points from presentations

- Soils expected to be multifunctional, but is that realistic? We need to optimise function according to capacity
- Soil is more than the sum of its parts – space and soil organic matter (SOM) are vital for good stable structure; generally the more SOM the better
- ‘Life in Earth drives Life on Earth’. Soil biota are a key component of SOM and, although out of site, should not be out of mind
- Climate Change (CC) will affect soils - wetter winters, drier summers, more storms, (no frosts to break clods?)

Points from presentations

- Main threats to soil from CC and human activity are erosion, loss of SOM, contamination, compaction, sealing. Some of these are irreversible. We need to know when resilience is exceeded
- Good soil management is essential for a healthy, productive and generally functional soil; it can reduce diffuse pollution. Farmers are generally well aware of this and of the importance of SOM, but want more information, especially on SOM management

Points from presentations

- Markets will continue to dominate agriculture, but we need to account for externalities, negative and positive. Adapting to changing markets is painful and needs resources – money, education and youthful vigour (average age of farmers 58?)
- Regulation is not the best solution. GAEC/BMP is best, i.e. voluntary action directed by two-way KT. But regulatory threat is a driver for change and we may need penalties for damage.
- A Whole-farm system approach is needed in which good soil management is part of good business management.

1. Globalisation of markets and climate change

- Economics a big pressure
- Water quantity as well as quality critical
- Is the best land being sealed?

2. Manage soils for clean water

- RB209 not trusted
- Back to basics – liming, drain maintenance
- Long-term understanding of soils decreasing as older farmers and workers leave the land
- Need more cooperation between farmers
- Need better public perception of farmers

3. Help land managers know what is required

- Target agronomists, they have more time than farmers!
- How to reach farmers who do not use an agronomist
- Don't rely on NFU!

4. Factors that deliver economic production without polluting air and water

- Farmers can usually resolve problems when told about them
- Farmers would like to know the results of changes made – monitoring
- Market often conflicts with soil protection – trade-offs necessary. Educate supermarkets and consumers
- Two-way KT: research/farmer/agronomist

5. Managing soil as a biological system with 'full functionality'

- Karl's presentation appreciated
- Has the Organic movement opened eyes to the 'living soil'?
- Need evidence of degradation and the benefits of inputs
- Utilise 'wastes' better

6. Evidence of changes in the nature of soil resulting in declines in production or increased costs

- Heavier land becoming unworkable?
- Need indicators of soil biological quality
- No more regulation but want education and BMP. Regulation could result in the export of problems

7. Managing different soil types

- Farmer skills and knowledge critical – use them when formulating guidance
- Stability of the industry needed for effective soil protection
- Joint ventures, cooperation, mixed farming?

8. Commercial pressures - barriers to good practice?

- Regulation the main barrier
- Unrealistic targets based on old information
- Lack of consultation and trust
- Uncertainty

9. Managing organic matter

- Early warning of decline in SOM needed – indicator
- Educate press, buyers and consumers on the benefits of using wastes

Knowledge gaps

- Plough, Min-Till or No-Till?
- Climate Change impacts on SOM; critical SOM levels; BMP for SOM.
- Evidence of soil degradation and benefits of inputs in reversing this
- If SOM is declining, why?
- Indicators of soil biology

Overriding KT issues of bringing together the research and packaging it in a meaningful way for those on the ground

BASIS Points Awarded:

E/087/056/e

8 = 6E, 1PN, 1PD

Please sign register at desk