

# Complying with Greening

Jonny Greene

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# Why We Do What We Do

- Shallow Soil.
- Moisture is a limiting factor.
- Fields showing signs of Tiredness.
- Monocropping, Lack of Diversity in Rotation.
- Reduction in Livestock – Further from Ley.
- Yield Plateau if not Decline.



# Water Stress!



# What We Have Done.

- Minimum Tillage then Strip Tillage/DD.
- Importing Organic Manures.
- Rotationally Returning Residues.
- Some **Cover Cropping**
- Increasing Livestock numbers.
- More Detailed Soil and Plant tissue Analysis and also Yield Mapping and Soil Mapping.
- More **Diverse Rotation.**
  - W Cereals, S Cereals, W. OSR, Peas, Beans, Linseed and Clover Leys.
  - Have Also Tried, Lupins, S. OSR.

# What We Have Seen !

- Weak patches have all but disappeared.
- Much better water infiltration in heavy rain.
- P and K Indices Rising.
- Headlands sometimes looking better than Field ???
- Better Moisture Retention ???
- Less Tractor Hours!
- Invariably Less is More.

# What We Plan To Do.

- More Cover Cropping. Summer and Winter.
- Chop More Straw, only bale for our own use.
- Less Soil Disturbance. Let Roots and Worms do the work.

# Protein Crops.

- Nitrogen Fixing
- Alternative Products for Weed Control.
- Margins as good if not better than some crops.
- Yield Bonus to following crops.
- Premium €250 Ha.
  
- Not without Risks
  - Peas – Harvest Difficulties
  - Beans – Early Spring Drilling and Late Harvest!
  - Markets – Can it handle tonnage while holding price?



# Cover Crops



Oats.

Westerwold Ryegrass.

Phacelia.

Current Mix

- Sunflower.
- Phacelia.
- Buckwheat
- Oilseed Radish,
- Vetch

# What we have seen underground.



- Friable Soil
- Lots of Roots,
- Worm Holes
- Open soil.
- Earthy Smell.
- Best in Diverse Cover Crop.

# Soil Improvements



# Cover Crops

- Lots of Potential.
  - Nematode Reduction / Biofumigation
  - An Environment for Beneficials to Thrive
  - Weed Suppression
  - Erosion Prevention.
  - Improvement in Soil Fertility.
  - Enterprise Stacking.

# Prevent Erosion and Nutrient Loss.



- Covers Stabilize Soil in Wet Weather,
- Reduce Loss of Fertility through Nitrate Leaching and Phosphate Run-Off.
- Intercept Raindrops from hitting the ground directly.
- In Heavy Rainfall Prevent slumping in Silty Soils.

# Improvement in Soil Fertility



- Capturing Carbon or Harvesting Sunlight
- Adding Biomass to soil  
– Organic Matter
- Nutrient Scavenging.
- Nutrient Accumulation.
- Worm food.
- Improve Soil Biology

# Enterprise Stacking.

- Spring crops only in the ground from Mar-Aug (5 months?)
- Opportunities for other Enterprises.
- Livestock grazing can be your own or on Bed and Breakfast arrangement.
- Return part or all of Seed cost.
- Very Early Silage Before Spring Rape or Maize?



# Negatives / Challenges of Cover Cropping

- Slugs ?
- Having the Right equipment to handle trash.
- Nitrogen Lock-up, Termination timing!
- Seed Cost !
- Difficult to Quantify Results.



# Advice to Brussels or the Department.

- Tact - 'The ability to tell someone to go to hell in such a way that they looked forward to the trip'. (Winston Churchill).
- Maybe more Research and Direction into proving the benefits of Rotations or Cover Cropping is a better way, Show us the Positives rather than just telling us we have to do it.
- Help us 'enjoy the trip'.

# Advice to Farmers ?

- Give it a try. You might see the benefits.
  - There are many potential benefits to Protein Crops and Cover Crops. We just have to figure out how to apply them to our personal situation!
- GLAS and Greening, an opportunity or a negative ???
- Soil Health has Become a Big Worldwide Issue
  - United Nations have declared 2015 as The International Year of Soils.
  - 5<sup>th</sup> Dec, First ever World Soil Day
- Bringing farmers back in touch with what makes us our money. - The Soil.