

Adopting new approaches to crop protection

Ian Matts, Brixworth Farming

Agenda

- Introductions
- Challenges
- Potential solutions:
 - Cover cropping
 - Catch cropping
 - Living Mulches
 - Companion cropping
 - Nutrition / Biostimulants



Farm Details

- Joint Venture in Northamptonshire
- 6 Farms 4 Shareholders & 2 Crop Pool
- 2,000ha
 - 1,550ha combinable cropping
 - 450ha Stewardship
- Hanslope & Denchworth clay
- LENS funding Nestle, AW & Pepsico
- ClieN Farms



Challenges

- Increased reliance on herbicides
- Loss of active ingredients
- Reduction in efficacy resistance
- Weather
- Increased pest pressure
- Increased grassweed pressure
- Increased costs
- Reduced margins
- Labour shortages





Cover crops













Catch Crops







Living Mulch







Companion Crop





Knowledge grows

Nutrition for Plant Health Ian Matts, Yara

Nutrition

- Nitrogen Use Efficiency
- Potash
- Calcium
- Silicon
- Micronutrients

Nitrogen & Potash

- From over 200 literature reports on the role of potassium on plant diseases 70% improved plant health
- The uptake of nitrogen can increase susceptibility to disease and pest, due to the rapid growth response, the changes in tissue colour and increase in sugars.



The interaction of trace elements within a reduced fungicide and nitrogen programme in WW



Nutrition

- Biostimulants
- Endophytes
- N fixing bacteria

NuelloiN & BlueN

- NuelloiN Endophytes enabling crops to fix N, sequester P, K & Zn, and better withstand drought stress
- BlueN a nutrient efficiency biostimulant containing bacteria that fix nitrogen from the air, converting it for the plant



How does **BlueN work?** BlueN converts nitrogen gas N, from the air into ammonium (NH4+), through the nitrogenase complex, constantly and BlueN enters the plant through directly metabolizing into the leaves and rapidly colonizes. amino acids throughout them, making them their the entire crop cycle habitat **Consistent Nitrogen** delivery to the plant No plant energy required Methylobacterium symbioticum BlueN provides nitrogen throughout the cycle in an effective and controlled way Shared by 🚯 Symborg

Future considerations

- Regen Farming...
- Premium opportunities
- Costs
- Efficacy / Resistance / Product availability
- Sustainability
- NUE

Carbon (footprint & sequestration)





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www.brixworthfarming.co.uk Ian.matts@brixworthfarming.co.uk @BFC_Farming \checkmark \bigcirc f @Ian_Matts