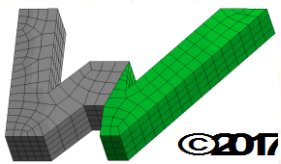


Soil structure, Cultivations and Establishment.

Cultivations for cover crops & inter-row cultivations for row crops.

Philip Wright

Wright Resolutions Limited

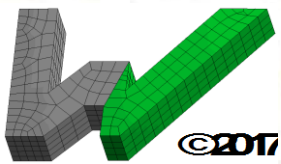
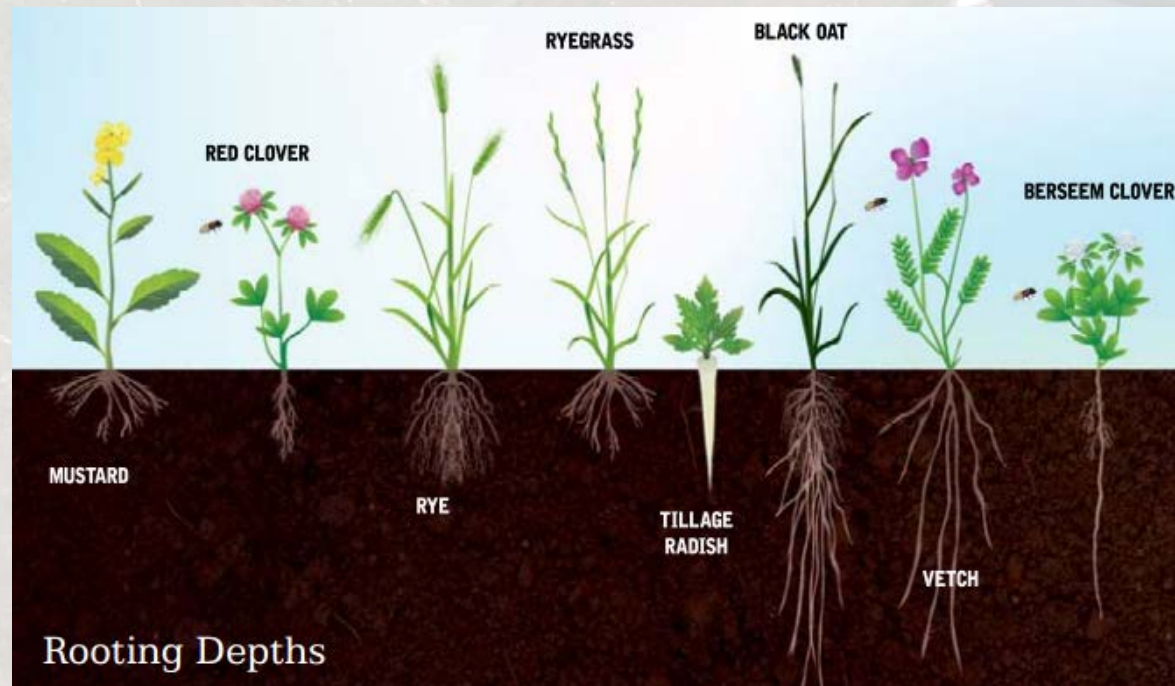


Cover Crops – benefits of getting roots down.

- Target & restructure compacted zones
- N fixing/capture; and post cultivation stabilisation
- Help manage moisture *provided they are respiring!!*
- Go before a later sown Autumn or Spring crop – moisture/tilth benefits
- Rapid growth if early Autumn drilled;
- 10 days drilling delay can result in a 25cm loss of root depth
- Canopy management is vital. This drives the next drilling operation

Moisture removal and **restructuring** capabilities are key features!!

What is the most effective & economic combination of **metal and roots**?



Establishment strategy

Treat as a commercial crop; establish “properly”

Note N harvesting has limits – especially in high residues

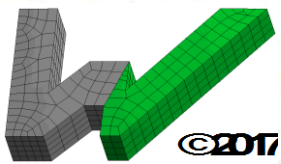


Cover Crops – stubble management.

- CC into short and long stubbles – full C&S

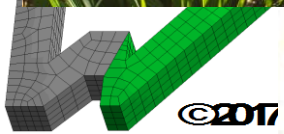


- Dealing with straw can be different to the CC canopy



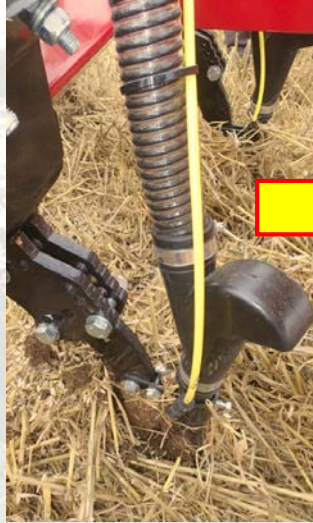
Minimum tillage situation – choosing the species.

- **Spring Barley post rye and vetch.**

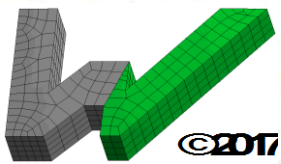


Cover Crops as part of grass weed control strategy.

- **Cover or Catch crops can help delayed drilling**



- **Soil disturbance when drilling the next commercial crop (late Autumn / Spring) MUST be less than the disturbance when either stale seedbed tilling, or establishing a preceding cover crop;**
- **Use the opportunity to establish the cover crop with more disturbance – and only if needed, restructuring at this time;**
 - Increased mineralisation, residue & slug management
 - Weed seed disturbance when next drilling is controlled



Non self- structuring soil example.

Hybrid Rye -- (Phacelia/B-Oat/B-Clover) cover – spring linseed.

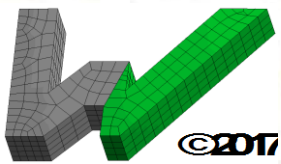
Improved establishment where:

1. *CC topped;*
 2. *Restructuring pass made (18cm) compared to directly drilled.*
- *N availability; residue dispersal; structure improvement/stabilisation.*
 - *NOTE: A succession of spring sown crops can lead to deeper structure becoming highly consolidated as root growth depths are reduced.*
 - *This can apply especially to non self- structuring soils.*
 - *CC deep rooting benefits can assist in these situations.*



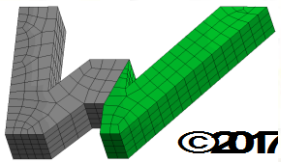
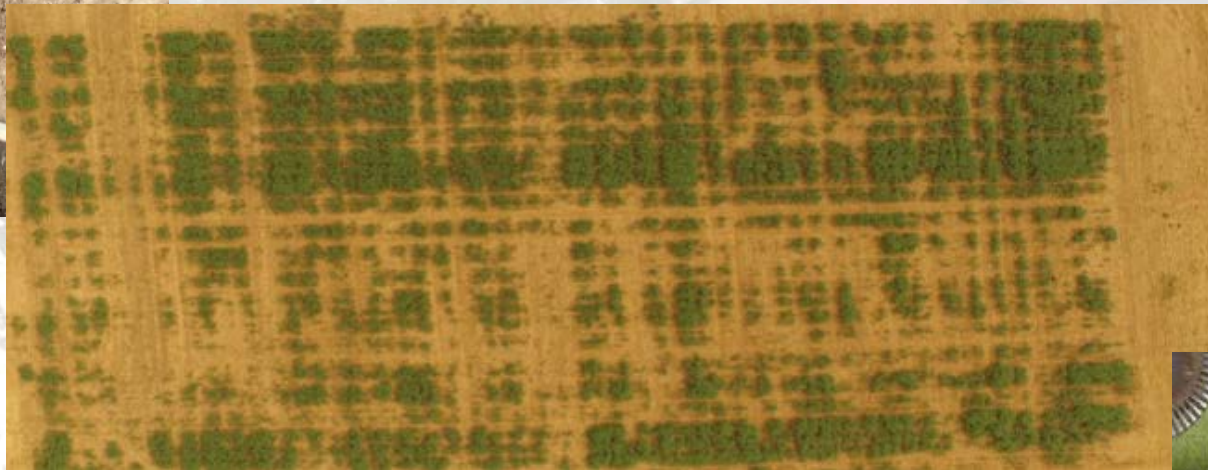
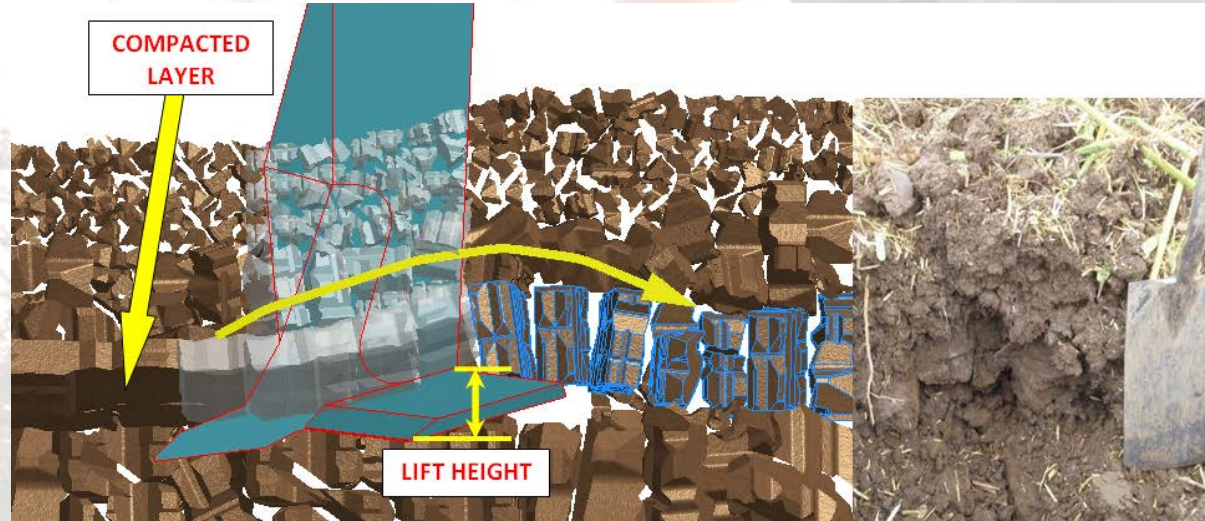
Pictures 31/05/17

*Courtesy of
Agrovista*



©2017

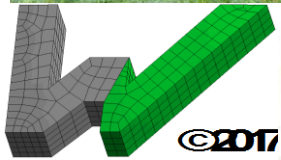
Roots and/or Metal??



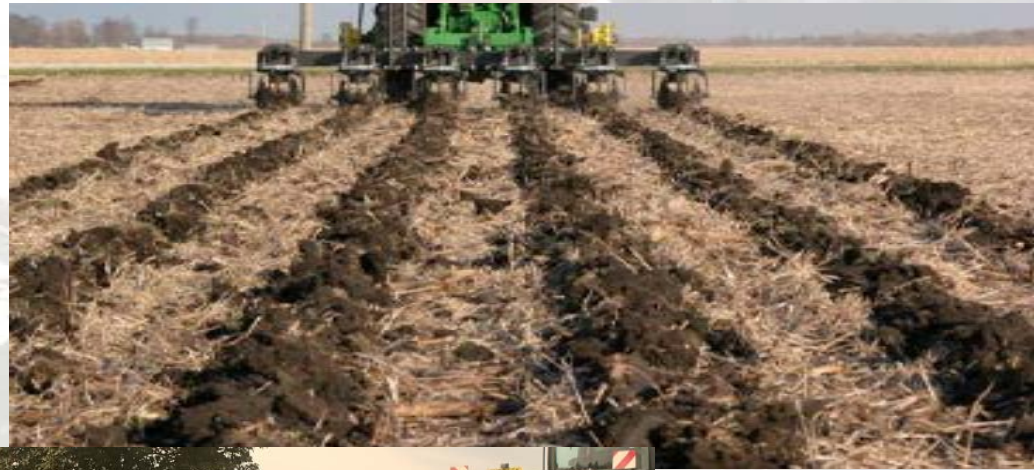
©2017

Residue Management.

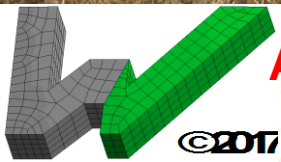
Dense canopies increase slug damage risks (especially over winter for spring) and reduce weathering needed for seed/soil contact and drill slot closure.



Strip / Ridge – Till – for Row Crops

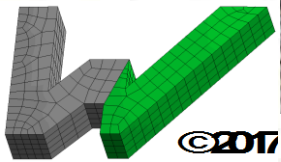


Autumn or Spring preparation
& seeding



Residue Management – Row Crops

1. Residues can be managed when planting
2. Can avoid numerous cultivations depending on settings



Strip Tillage into Cover Crops



**Strip till into pre drilled cover crop.
Ready for beet drilling spring 2018**

©2017

Pictures courtesy Aaron Hogsbjerg 11/2017

Drilled Beet into Strip Tillage



Pictures courtesy Aaron Hogsbjerg, Griffin Farming 11/2017

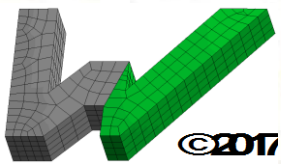
Row Crops – Surface Management

1. Capping restricts infiltration
2. Increases run-off of applied nutrients & wind erosion risk
3. Restricts seed germination and growth through surface
4. Slows gas exchange



Manage by:

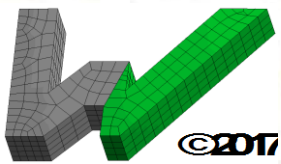
1. Good structure
2. Organic Matter
3. Surface residues
4. Surface roughness
5. Avoid unnecessary cultivations
6. Surface weeding options



Row Crops: cultivating, weeding & fertiliser placement.

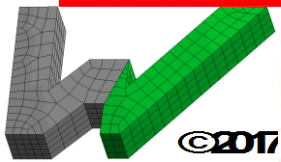


High or low disturbance
Automated or manual
Video image analysis can
locate plants



©2017

Tramlines & Wheelings: Cultivating action.



Soil structure, Cultivations and Establishment.

Cultivations for cover crops & inter-row cultivations for row crops.

Many thanks for listening!!

Philip Wright

Wright Resolutions Limited

