



Coordinator(s): Robin Walker
Institute: SRUC
Location: Craibstone, Aberdeen, Scotland
Climate: Atlantic, annual rainfall = 850mm
Soil and practices: Soil type (various)
Soil tillage: Inversion & min till;
Organic, Conv, Both
Date of 1st planting: spring 2017



Cereals in Practice (July 2017)

1. The MAP context:

Current systems (generally): *Input intensive, production orientated, soil damage, increasingly erratic weather events*

Targets or new expectations that current local agricultural systems do not reach?: *Reliable yields but using lower inputs, especially cereals, seed potatoes and home grown protein production, improved soils - health & structure*

What are the main characteristics of the socioeconomic context?: *Long-term sustainability of business, soils and agricultural productivity*

Planned activities on the UK MAP: *Interaction between farmers (online discussion forum), MAP farm visits, open days / evenings*

2. Partners in codesigning

Main actors involved:

Farmers, researchers, certification bodies, processor

Recruitment: *Various networks, farmer events*

Expectations: *General soil improvements and greater yield stability of trickier crops*

Experience of crop mixtures up to now: *Most have grown some at some point in time*

Farmers:

Number of farmers: *5 (so far)*

Expectations: *cropping with reasonable yields and profit with lower inputs, but is beneficial to the soil*

Level of involvement: *All contributing to discussion and options*

Other stakeholders:

Certification Bodies – *potential for wider inclusion in organic cropping systems*

Processor – *feed compounder & crusher with interest in organic OSR for oil destined for human consumption and residues for livestock feed*

Interaction between partners: *Closed Facebook Group for UK MAP, with emails*

What info is exchanged?: *Past experiences, crop performance / observations, possible crop combinations, agronomy advice (do's and don'ts)*

Other actors interacting with the MAP, who are not involved in co-designing (visitors)? *Certification bodies, processor, seed merchant, some researchers / KT*

3. The crops mixtures in the MAP

How are crop mixture chosen and who proposed them?: *Farmer orientated with suggestions from MAP*

What are your questions on the crop mixtures?: *Different for each farm (based around targeted end use)*

Are they the same for each satellite farmers?: *No, each farm chooses a crop mixture that fits in with their rotation and level of risk they are prepared to take, and which market is targeted*

What knowledge is available?: *Research available from SRUC and wider afield (v), alternative options for regional climate / soils (limited), herbicide options (limited), overcoming harvesting difficulties (limited)*

Crop mixture : Pea-Barley (although others being investigated)

Why this Crop mixture? Who proposed it?: *Most common approach (familiarity)*

Which eco-services are targeted? *Soil improvement / lower inputs*

Which modalities are tested by farmers?: *Production and soil quality*



Pea-Barley



Lupin-Barley

Early April - Sowing (both species at same time)

Early April - Sowing (comparison of sole crops in mix)

During season (Vigour, weed, disease, comparisons)

August / Sept - Yield of sole crops in mix (ideally combine, otherwise quadrat and threshed)

Red : Modality adapted for mixing species

Black: Modality same as for sole cropping.

Blue : experimental treatments for comparison

Feb/March Soil prep.
Organic (may have FYM pre-ploughing)
Conventional basal P & K at sowing

Organic (no herbicide; tine harrow possible but unlikely)
Conventional (likely use of herbicide)
 [Different farms will have different approaches]

August / Sept - Harvest at same time (aiming for combine); some will be whole-cropped

Post harvest soil assessment (simple procedures)

4. Next steps:

Upcoming UK MAP activities planned?: *Continued online / email interaction between farmers and other MAP members, two field events (July)*

