



# **MAP Poland Grabów**

Redesigning European cropping systems based on species mixtures Paris Co-design seminar – February 27 & 28th 2018



**Coordinator: Marek Krysztoforski** 

Institute : AAC Radom Location : Grabów n Wisłą

Climate: Dfb Warm-summer humid continental, annual rain fall = 700mm, avg. year temp  $6.5^{\circ}$ C

Soil and practices: Fluvisols, Sandy Clay SC, plowing, both organic and conventional
Date of 1st implantation: spring 2018





### 1. The MAP context:

The area of mixtures cereals (barley, oats and wheat ) and legumes (peas, vetch and lupines) in Poland is 33.6 thousand ha. In 2016, the surface of cereal-legume mixtures for grain decreased compared to the previous year by approximately 9.7 thousand ha (by 22.5%). The reason for this was the greening requirements - only pure legume sowings were considered. Although earlier, farmers eagerly sowed such mixtures under extensive conditions, as they gave a more stable yield. On the other hand, the area of cultivation of small-seeded papilionaceous plants and grasses increased, up to 77.7 thousand ha.

### 2. Partners in codesigning

#### Main actors involved:

Scientic institutes, , researchers from the plant research on legumes and mixed crops. Drivers of experimental fields, agricultural advisors from three Polish regions

#### Farmers:

In the first year ten farmers, three or four of them are organic producers. There are recruited by local advisory service. These farmers looking are for new practices and technologies.

We found only pea seed, Nitraginum and herbicide for 0,5 ha. Farmers use own cereal sown materials.

### Other stakeholders:

Three experimental (demonstration) fields belong to advisory system. Its popular place for field trips. Other H2020 projects: Agridemo, Nefertit and Crop Diverse

Three AAC advisors will visit almost all fields. Local advisors will cooperate with farmers.

## 3. The crops mixtures in the MAP

In the first year, we will use a modified traditional mix of pea and spring cereals because their share in sowing is decreasing. In the next years new mixes, among others cereals with lentils, undersowing of small-seeds leguminous (clovers, alfalfa) in winter cereals, undersowing of fast - growing grasses with small-seeded (ryegrass and Persian clover). Most of the issues related to future activities will be discussed at the workshop on March 6.

## Crop mixture: Pea - cereal

Telephone arrangements, conversations at conferences, a visit to the Institute of Soil Science and Plant Cultivation in Puławy (IUNG), establishing contact at the Biofach fair, contacts in projects. Fixed meeting - workshop on 6 March where we will agree on the conditions of the experiments. The consultation will be provided by prof. Jerzy Księżak and head of the experimental field of the Marek Sowiński

Nitraginum from Institute

March Sowing pea 50% + sp 2 (cereal – farmer seeds) 50% the same day August. Comparison the share of peas in the yield in three regions, comparison crop yields mixtures

**Cropping practices** 

March , Using special Nitraginum from Institute Herbicide Stomp Several methods of controlling weeds

April: harrowing,

tine weeder.

Different types of cereals: barley, wheat and mix

Oats and hairy
vetch
Undersowing in rye

Undersowing in rye serradella/birds foot



Intensive intercrop mixture N-Fix (DSV ) on the demonstration field

**4. Next steps:** workshop on March 6, purchase and delivery of pea seeds to the regions. Visits to the fields during the growth and development of mixtures. Preparation of documentation, photographs. Preparation of materials for field trips, sampling of crops. Inference based on information received after harvest. Consultations on the mixtures that farmers would like to check next year. Making contact with the Organic Food Valley Cluster.

