

The status of national collection, Finland

In SESTO database there are

Pisum sativum:

79 accessions

(of which 2 are rejected and 1 temporarily preserved)

Vicia faba:

32 accessions

(of which 3 rejected and 3 temporarily preserved)

All these seed samples are preserved in the NordGen Genetic Resources Center, Alnarp, Sweden as seed in freezers and cold rooms.

Three old *vicia faba* seed samples were obtained last year from a single farmer.

- Germinability was low, only 1 of them germinated so far.
- Will be evaluated and sent to genebank.

Project in 2009-2012:

Improving self-sufficiency in nitrogen and protein by efficient utilization of legumes

Aim: Enhancing the competitiveness and self-sufficiency of Finnish agriculture by searching for more effective ways to utilize the potential of the biological N fixation by improved farming practices and new legume species.

Some results:

Best crop to prevent lodging of pea is oats. It decreased the amount and severity of lodging, and made it to begin later.

-Dwarf oats and barley were not as good as oats, but better than wheat.

Direct drilling of peas is more demanding than direct drilling of spring cereals.

-At least on clay soils the amount of seeds need to be increased.

-Rainy spring seasons are especially difficult (lack of oxygen).

-Diseases may become more evident compared to ploughed soil.

More results:

- The most potential **narrow-leafed lupin** variety in Finland for seed production seems to be 'Haags Blaue', which has the shortest growing time.
- The best **faba bean** variety is **Finnish** 'Kontu' although there are several other varieties which are promising for the future.
- Four possible **lentil** varieties: Redbow, Rosetown, Milestone and Redberry.
- Faba beans and white lupins** with long growing time are very well suitable for whole crop silage with spring wheat.

Economy:

- Faba bean and pea were most profitable in 2009 and 2010, when the prices of cereals were low and fertilizers high.
- The yield of faba bean and pea could have been 1 000 kg/ha lower than of cereals and the profit margin would have been the same as for spring cereals.

Other projects in MTT:

- Studies for quality of faba bean as food and feed.

Cultivars of Boreal:

- Faba bean: Kontu
- Field pea: Hulda, Jermu and Rocket

A 3-year co-operation project between MTT and FCRI (Egypt)

-Started in this year. Project is lead by Oiva Niemeläinen.

-Breeding and seed production aspects in dry and salid areas are studied

-Faba bean (and alfalfa).

-Includes e.g.:

DNA marker sets (retrotransposon-based markers) and

GBS (=genotyping by sequencing) markers are developed for faba bean, in order to look closer the existing genetic diversity (which is known to be low).

There is a plan to find resources to apply these markers also for our own Finnish faba bean genotypes existing in the collection.