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**Conference 499 Legumes from field to fork – a Nordic-Baltic perspective on production, development and marketing of legumes**

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**Time:** 28-30 November 2017

**Place:** Tartu, Estonia

**Number of participants:** 40

**Scientific committee:** Margit Olle, Estonia, Fredrik Fogelberg, Sweden, Ingunn Vaagen, Norway

**Conference organisers:**

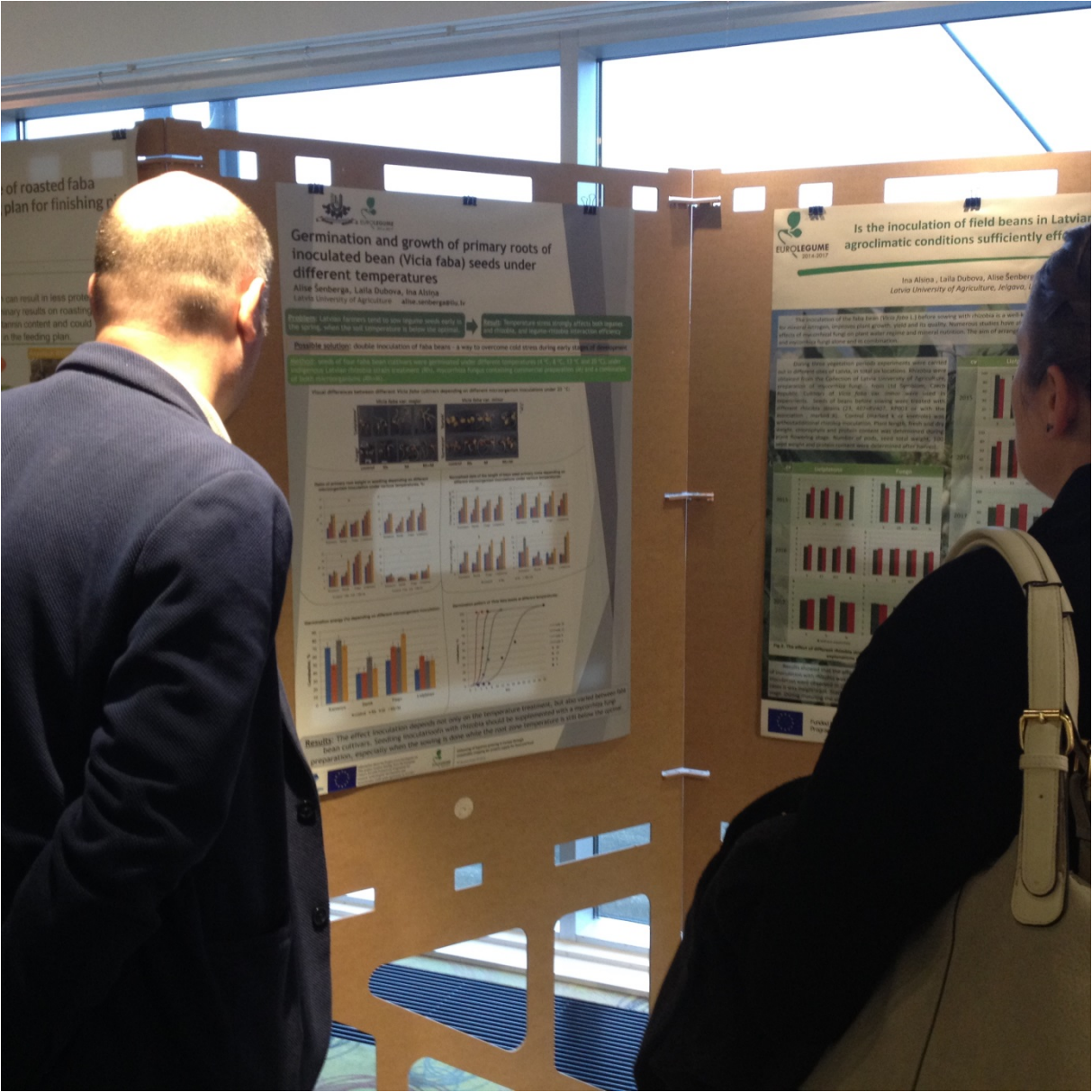
Organizing committee: Plant section and NJF-C

The conference aimed at gathering experts in the multidisciplinary field of legume research in the Nordic-Baltic region and was dedicated to provide a forum for a discussion on:

- legume production
- new food and feed based on legumes
- environmental impact of legumes in agriculture and food production
- marketing of legumes

The planning and execution of the conference was carried out by Margit Olle (Estonia), Fredrik Fogelberg (Sweden) and Ingunn Vågen (Norway). We had three invited speakers. Fred Stoddard, Helsinki University, Finland gave a presentation on Faba bean: From gene to plate. Christiane Balko, Julius Kühn-Institut (JKI), Germany presented findings on Soybeans in Germany and extending soybean cultivation to the north by improving chilling tolerance. Finally, Konstantinos Petrotos, Technological Educational Institute of Thessaly, Greece introduced us to Legume proteins: production technology and advanced uses of them. The conference gave a broad overview on ongoing research and development on food and feed based on legumes such as peas and beans. It became clear that the Nordic-Baltic countries have a leading role in research on product development using legumes as basis.

The conference included a visit to the Annikoru Cereal Centre and the owner Madis Ajaots. We were also given a practical tasting session by our colleagues of the Latvian Agricultural University. They used the opportunity to demonstrate new foods/snacks based on legumes.



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**Germination and growth of primary roots of inoculated bean (*Vicia faba*) seeds under different temperatures**  
Alise Senberga, Laila Dubova, Ina Alina  
Latvian University of Agriculture alise.senberga@lu.lv

**Introduction:** Leguminous seedbeds need to have optimal moisture early in the spring, when the soil temperature is below 10°C and the soil is not yet sufficiently warmed. Inoculation with rhizobial bacteria can help overcome cold stress during early stages of development.

**Objective:** The effect of field beans inoculation under different temperatures (5, 10, 15, 20, 25 and 30 °C) under long-day conditions (16h light/8h dark) on germination, primary root length, and seedling emergence was studied.

**Methods:** Germination and growth of primary roots of inoculated and non-inoculated seeds were studied under different temperatures (5, 10, 15, 20, 25 and 30 °C) under long-day conditions (16h light/8h dark) for 14 days. Root length and seedling emergence were measured.

**Results:** The effect of inoculation depends not only on the temperature treatment, but also varied between bean cultivars. Inoculation with rhizobia should be supplemented with a warming long preparation, especially when the sowing is done while the soil temperature is still below the optimal.

**Is the inoculation of field beans in Latvia agroclimatic conditions sufficiently effective?**  
Ina Alina, Laila Dubova, Alise Senberga  
Latvian University of Agriculture, Jelgava, Latvia

**Introduction:** The inoculation of field beans (*Vicia faba* L.) before sowing with rhizobia is a well-known practice for increasing plant growth, yield and its quality. However, studies have not yet evaluated the effect of inoculation on plant water regime and nutrient nutrition. The aim of the present study was to evaluate the effect of inoculation on plant water regime and nutrient nutrition.

**Materials and Methods:** A three-year experiment (2014-2016) was conducted in Latvia. The experiment was conducted in the Latvian University of Agriculture, Jelgava. The experiment was conducted in the field. The experiment was conducted in the field. The experiment was conducted in the field.

**Results:** The results of the experiment showed that the inoculation of field beans with rhizobia significantly increased the plant water regime and nutrient nutrition. The results of the experiment showed that the inoculation of field beans with rhizobia significantly increased the plant water regime and nutrient nutrition.

**Conclusions:** The inoculation of field beans with rhizobia is a well-known practice for increasing plant growth, yield and its quality. However, studies have not yet evaluated the effect of inoculation on plant water regime and nutrient nutrition. The aim of the present study was to evaluate the effect of inoculation on plant water regime and nutrient nutrition.