

Perspective of a public-private partnership: An example of collaboration of a public research institute with a small and medium enterprise in Switzerland

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- The position of Delley Seeds and Plants Ltd within the Swiss seed branch
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- Conclusions



Train-the-trainer course on plant variety protection under the UPOV convention, Geneva, Switzerland - May 9 to 13, 2016



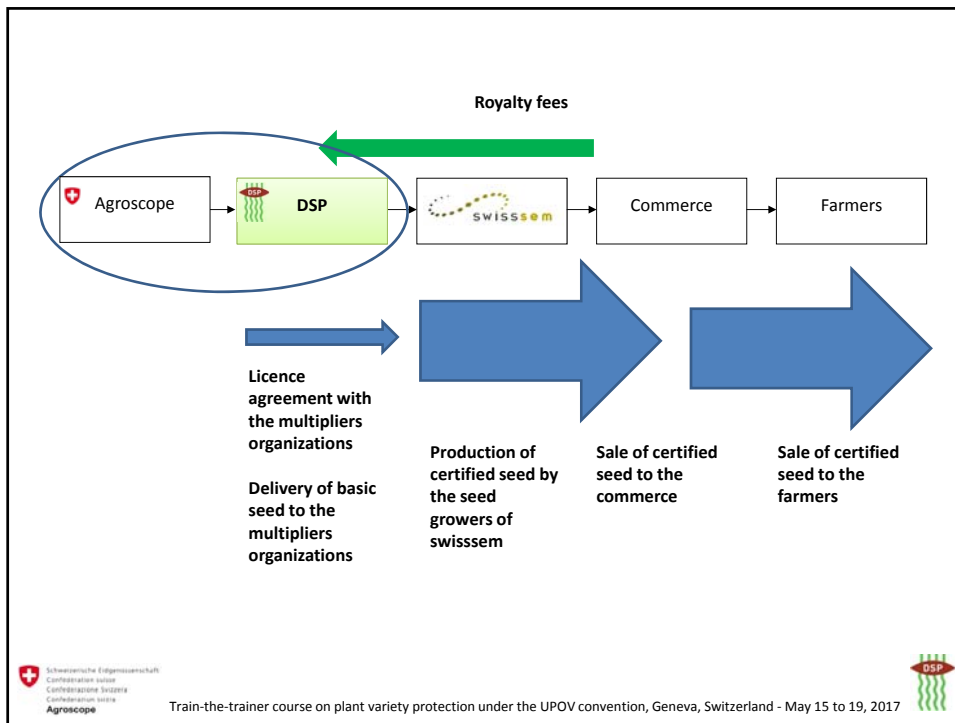
The position of Delley Seeds and Plants Ltd in the Swiss seed branch

- Delley Seeds and Plants Ltd (DSP) is a small and medium enterprise (SME) active in breeding and development
- The company is owned by the members of the Swiss seed growers association (swissem), i.e. seed producing farmers
- DSP has a contract with the Federal Office of Agriculture about the right of co-ownership and holder of plant variety rights of varieties from the federal, thus public research stations Agroscope, the Swiss centers of excellence for agricultural research
- The multipliers organizations obtain a license from DSP for producing and further marketing the varieties represented by DSP
- The legal framework for this lies in the Swiss law on plant variety protection, which is in accordance with the UPOV 1991 act



Train-the-trainer course on plant variety protection under the UPOV convention, Geneva, Switzerland - May 15 to 19, 2017





Germany

Austria

France

Italy

DELLEY

0 10 20 30 40 50 60 70 80 90 100 km

The crops DSP is working on

•Forage crops

•Agroscope works today on a broad range of species (total 14 species)





The crops DSP is working on

•Forage crops

•DSP, as co-owner of the varieties, is responsible for their registration and for application for PVR. Moreover, DSP is the exclusive representative in Switzerland and abroad and is in charge of the basic seed production



The crops DSP is working on

•Soybean

•Agroscope is breeding soybean with the goal to develop varieties adapted to the climatic conditions of Switzerland and the requirements of the market

The crops DSP is working on

•Soybean

•DSP is co-owner of the varieties from the breeding program of Agroscope and is in charge of the maintenance breeding as well as of the production of basic seed. In addition, DSP is engaged in the variety trials

•Again, DSP is responsible for registration into national variety lists and for application for Plant variety rights





The crops DSP is working on

•Cereals

•DSP is co-owner of the wheat & triticale varieties from the breeding program of the research station Agroscope

•DSP is carrying out variety trials



The crops DSP is working on

- Cereals

- Maintenance breeding, preparing candidate lines for DUS test and basic seed production



The crops DSP is working on

- Cereals

- Variety registration

- Application for PVR

Perspective of a public-private partnership: A closer look at the wheat sector

•Baking quality, together with disease resistance and yield, is a main goal of the wheat breeding program of the public research station Agroscope

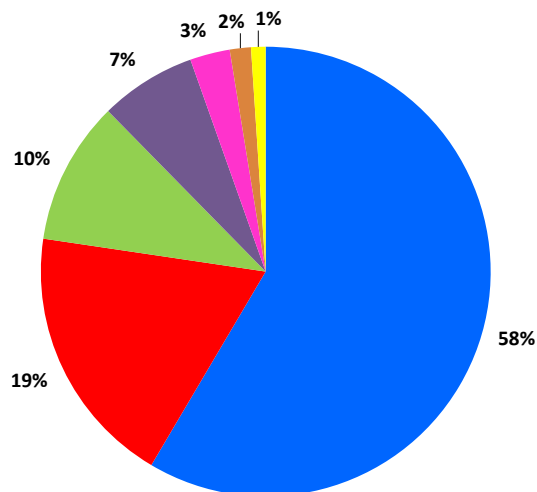
•58% of the acreage cultivated with cereals in Switzerland is planted with wheat. 92% of this acreage is planted with bred wheat, whereas 81 % of this acreage is planted with bred wheat varieties from the breeding program of Agroscope



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Acreage of cereal crops in Switzerland, 2015

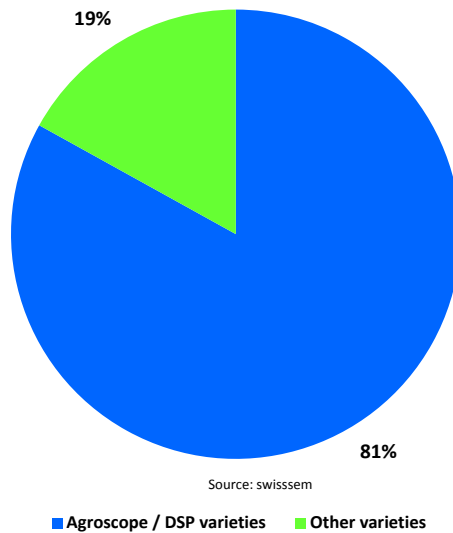


Total: 148'570 ha (1.5 % compared to France)

Source: Federal Office for statistics

■ Wheat (92 % Bred wheat) ■ Barley ■ Maize for grain use ■ Triticale ■ Spelt ■ Rye ■ Oat

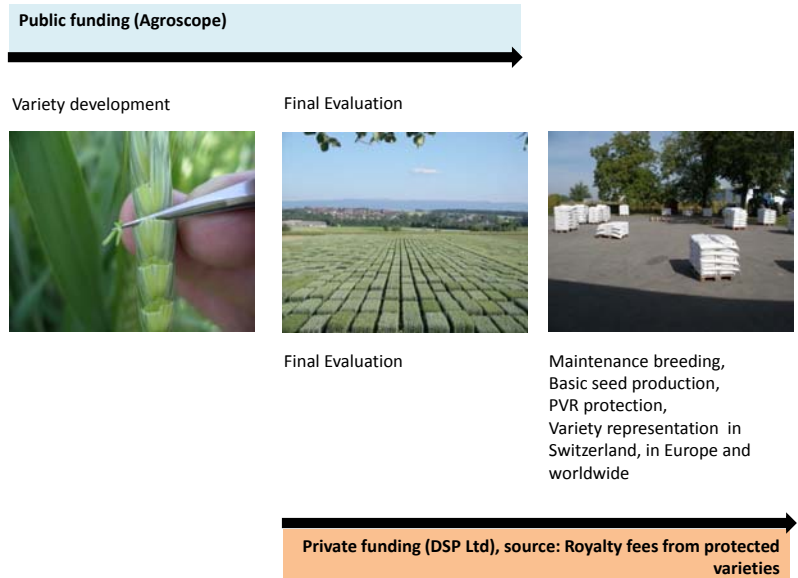
Proportion of Agroscope/DSP bred wheat varieties harvest 2015



Perspective of a public-private partnership: A closer look at the wheat sector

- **Agroscope is responsible for the fundamental breeding work, i.e. crossing, selection for resistance in the early generations, first quality and yield analyses**
- **From generation F7, the breeding material is screened at the site of Agroscope as well as at the site of DSP**
- **Final selection for candidates entering into the tests for Value for Cultivation and Use (VCU) is carried out in common with Agroscope and DSP at the site of Delley**
- **Further VCU tests until variety registration are carried out in common and DSP is responsible for the site in Delley**
- **Parallel to VCU, DSP starts maintenance breeding and production of pre-basic seed**

Task sharing and part of public and private funding of the Swiss wheat breeding program



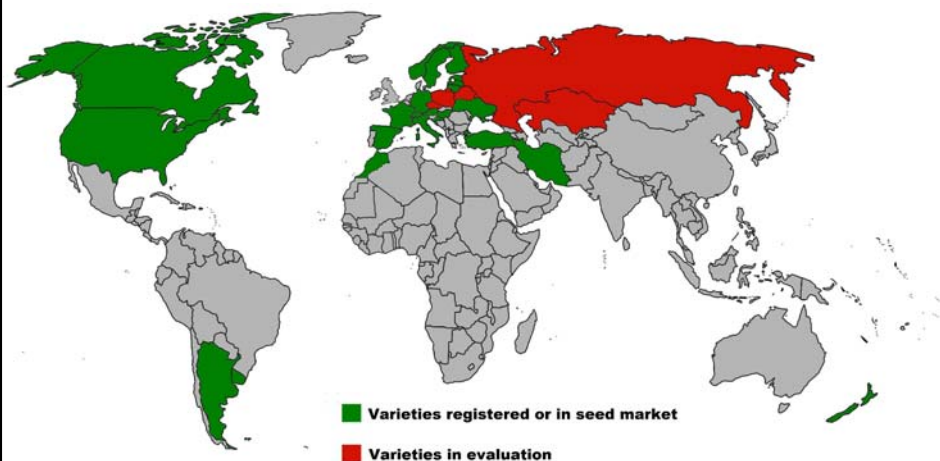
Perspective of a public-private partnership: A closer look at the wheat sector

- Thanks to this division of work and funding, it is actually possible to maintain a wheat breeding program in Switzerland. Thus, neither Agroscope nor DSP could maintain a whole program on its own
- The PBR system according to UPOV is the basis for licensing the Agroscope varieties and thus for collecting royalties, which is the main financial source to cover the costs of DSP
- At the moment 27 wheat varieties have a PVR granted by the CPVO, and 29 wheat varieties have a PVR covering the territory of Switzerland

The benefits of public-private partnership: A closer look at the wheat sector

- It is part of the duties as co-owner of the Agroscope -varieties to promote them abroad
- DSP evaluates possible candidates in trial networks of breeders and representatives worldwide
- Actually, 38 wheat and 5 triticale varieties in 18 countries are registered

Agroscope wheat varieties in the world



Perspective of a public-private partnership: A closer look at the wheat sector

- Again, the considerable input is compensated by collected royalties on protected varieties which are shared 50/50 between DSP and the respective partners

- 15% of the royalties collected by DSP abroad and 2.5% of royalties collected in Switzerland are transferred to a breeding fund, which is available to Agroscope for breeding relevant projects

Perspective of a public-private partnership: Successful model leads to a new international cooperation

- Based on the excellent cooperation Agroscope-DSP, a third partner, Deutsche Saatveredelung AG (DSV), has been incorporated into the model in the sector of spring wheat. Due to the initial letters of the three partners, the project is called ADD

- The aim is to create a new breeding program based on the knowledge and experience of the three partners

- Additionally, the international competitiveness shall be strengthened and new efficient spring wheat varieties shall be developed for the key markets

- Agroscope and DSP will primarily focus on breeding, while DSV is responsible for the international sales of the common varieties

Conclusion

- This model of public-private partnership may be suitable to maintain, introduce or re-introduce small breeding programs
- For crops that are adapted to certain climatic conditions of a country, to consumer habits, to traditions or to the requirements of processors and distributors
- Although the Agroscope wheat varieties, in terms of yield, cannot compete with high yielding wheat varieties of some major breeding companies, they comply with the market requirements of quality-conscious mills and bakeries. The share of 81% in the Swiss market points this out
- Such niche programs may also contribute to a sustainable agriculture. Because seed growers, i.e. farmers, participate in this model, it is suitable to generate higher agricultural value added
- The UPOV system is a very adequate instrument to enable and encourage such partnerships

