

- A. For projektperioden angives et kort resumé af projektets hovedresultater og hovedkonklusioner (i alt max. 2 sider).**

### **Registrering of information on material in the Genebank**

**Approach:** looking for cultivars and accessions by names in other GenBank databases, relevant publications and books or any relevant old documents, and comparison the available passport data- if found- with the passport data in SESTO and updating SESTO with found data.

#### **Methods:**

- 1- A passport data report for all preserved cultivars at NordGen has been extracted from SESTO, the passport data included;
  - Pedigree
  - Subtype (winter, spring, fodder, protein etc)
  - Breeding country
  - Year of releasing, approval, marketing, and withdrawn
  - Breeding institute
  - National DUS testing organisations
- 2- An origin country data report for all preserved accessions at NordGen has been extracted from SESTO.
- 3- Databases, websites, and libraries used:

The following sites have been used to look for missing data;

- Plants-European Commission
- Grin-Global-USDA
- CPVO
- EURISCO
- [www.kulturplanter.dk](http://www.kulturplanter.dk)
- Google.com (publications)
- NordGen's library and documentation archive
- Personal contacts and discussions
- Contacts to universities, breeders, national DUS testing offices

#### **Results:**

During the project, a wide range of data has been updated in NordGen's database, both in the data fields that were specifically targeted in the project and in many other fields. In this way, NordGen can now provide better information to the users of their material, such as plant breeders, researchers, museum staff and hobby growers.

Examples of types of data that has been updated include pedigree, subtype, breeding country, cultivar release year, breeding institute (Table 1) , origin country (Table 2), cultivar descriptions, donor, photos, information on collecting sites (longitude, latitude, place name etc.) and information on cultivar type. The latter specifies if an accession is a modern cultivar, a landrace, a sample from a wild population or breeding/research material. During the project, culton type of 325 accessions have been changed and updated in SESTO. For example, for forages 134 accessions had missing or

invalid information on cultivar type in June 2019 and today only 7 of these remains unknown (95% updated). For root and oil crops, the equivalent numbers are 87 and 3 (97% updated)

**Table 1.** The status of the cultivars that are missing passport data

Data	Number of cultivars missing data at the start of the project	Data found	% data found	updated on SESTO	%Updated	Not found yet
Pedigree	1372	382	28	382	100	990
Subtype	1154	145	13	145	100	1009
Breeding country	44	16	36	16	100	28
Year (Release, approval..etc)	943	244	26	244	100	699
Breeding institute	319	70	22	70	100	249

**Table 2.** The status of the accessions that are missing origin country.

WG	Missing/Unknown origin country (Accs.) at the start of the project	Found	%Found	Updated on SESTO	%Updated	Not found yet
Root crops, oil plants, and pulses	175	120	68.6	120	100	55
Medicinal plants	3	2	67	2	100	1
Forage crops	68	65	95.6	65	100	3
Cereals	3725	1885	50.6	1885	100	1840
Vegetables	879	170	19	170	100	709

As tables above show we are still missing passport data for many cultivars/accessions and one reason could be that most of these cultivars/accessions do not exist at any other genebank or database and therefore no relevant documents could be found.

Most of the accessions that still are missing pedigrees are vegetables. Since most of the vegetables are cross pollinating crops the most common breeding method in the end of 18-hundreds and first half of the 19-hundreds was mass selection in well performing cultivars. The different seed companies in the Nordic countries developed their own selections of a cultivar and named them after their background in combination with some extra supplement. Hence the origin of the material was obvious from the name of the cultivar. As some examples: In cabbage there are very many cultivars with the name Ditmarsker, in cauliflower we have Erfurter, in carrot Nantes and in turnip Bortfelder. This information from the name has not been registered as pedigree information in Sesto as it has not been documented in public elsewhere.

In addition to the vegetables mentioned above, NordGen holds a large collection of Pisum donated by a former breeding company. The seeds were obtained in the 1980ies together with passport data and other information in the form of datafiles in older programs and paper documentation. Substantial amounts of this information have never been uploaded to the NordGen information system. However, within the frames of this project several accessions obtained additional information by transfer of data from the original documentation to the NordGen database. Information added is for example origin country and subtype.