

The European Brassica Database: updates in 2005 and 2007

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The 2005 version

Data sets were received from institutes from Austria (135 accessions), Russian Federation (300 accessions), Slovakia (63 accessions), Spain (34 accessions of *Brassica carinata*) and Former Yugoslavia (37 accessions). The data were transformed to fit the European Brassica Database (Bras-EDB) descriptors, based on the FAO/IPGRI *Multi-crop passport descriptors*.

This version included passport data of 19 678 accessions from 35 collections held in 22 countries.

During the EU project RESGEN CT99 109-112 “Brassica Collections for Broadening Agricultural Use” including “Characterising and utilising genetic variation in *Brassica carinata* for its exploitation as an oilseed crop”, core collections of *B. oleracea*, *B. rapa*, *B. napus* and *B. carinata* (702 accessions) have been developed and accessions belonging to the core collections were tagged in the database. Also the accessions of a former *B. oleracea* core collection (398 accessions), developed in an EU project AIR3 – CT920463 “The location and exploitation of genes for pest and disease resistance in European genebank collections of horticultural Brassicas”, were tagged in two separate descriptor fields. Searching for accessions in the core collections by using the online search facility was made possible.

Partners of the RESGEN project collected more or corrected the current passport data of accessions during characterizations and evaluations. This information was sent to the database manager and included in the Bras-EDB.

Formats were designed for entering the results of characterizations and of evaluations for several pests and diseases carried out in this project. Fifty datasets were received from the project partners, which were standardized and included in the presentation of the results.

Information on the project and the downloadable results of the RESGEN project can be found in the “Additional Information” section of the Bras-EDB Web site (<http://documents.plant.wur.nl/cgn/pgr/brasedb/>).

The 2007 version

Since the start of EURISCO in 2003, many European national plant genetic resources (PGR) inventories have submitted data from their collections to EURISCO on a regular basis. To enable an easier submission of data by collection holders to the Bras-EDB, it was decided to use the EURISCO descriptors (version 29.11.2007) for the database, with additional descriptors for the end use (END_USE), year of release (REL_YEAR), date of inclusion in the database (FGDATE) and the two core collections. Further information can be found in the “Description” page in the Bras-EDB. For decoding names of institutes, the FAO institute code list is used, instead of the former Acronym lists for donor and origin addresses. Institute descriptions used by the collection holders are displayed in the Donor/Collector/Breeder Description fields.

As in the former versions of the Bras-EDB, taxonomic names of species and subtaxa were transformed into a uniform system (Boukema 1995), to enable a user-friendlier search on species and subtaxa. The taxonomy fields (species, species authority, subtaxa, subtaxa authority), as received from the collection holders, were combined in the descriptor original taxonomy (ORIG_TAX). The EURISCO descriptors’ species authority and subtaxa authority were consequently omitted from the database. The standardized taxonomy as well as the

original taxonomy of accessions can be found in both the downloadable database and the “accessions details” pages in the online search.

After the incorporation of the former Braunschweig Genebank in IPK in 2003, and after the disentanglement of the collections between Gatersleben and the Malchow branch station, IPK submitted a new set of passport data of the Gatersleben and Malchow collections to the Bras-EDB. Accessions formerly stored in another institute can be retrieved via the DONORCODE and DONORNUMBER fields. In the results of the RESGEN CT99 109-112 project, the old numbering is still used.

Complete new datasets were received from Warwick HRI Genetic Resources Unit, the Nordic Gene Bank and the Banco Português de Germoplasma Vegetal. Datasets from Austria (4 institutes), Czech Republic, Estonia, Georgia, Lithuania, the Netherlands, Romania (5 institutes) Slovenia and Ukraine (4 institutes) were downloaded from EURISCO.

The former datasets from institutes, if included in the 2005 version, were replaced by the new datasets after the standardization needed for the Bras-EDB, tagging of the core collections and importing in MS Access. Passport data of 12 and 7 accessions from respectively the RESGEN and AIR core collections are no longer present in the 2007 version.

The 2007 version of the Bras-EDB includes data sets from 52 different institutions of 27 countries with a total number of 24 161 accessions.

Overviews of the number of accessions per holding institute and per species can be found via the Bras-EDB Web site. A list of contact addresses and Web sites of the holding institutes has been added for the convenience of collection holders and users of *Brassica* spp. genetic resources.

Results of the AIR3-CT920463 project were imported in the format used in the presentation of the results of the RESGEN project. Information on this project and the downloadable results can be found in the “Additional Information” section of the Bras-EDB.

Conclusions and outlook

With the change in the structure of the Bras-EDB, a regular update is more feasible. Institutes with *Brassica* collections not yet included in the Bras-EDB are invited to submit datasets. Holders of collections already included in Bras-EDB are invited to submit new datasets, or refer to new uploads in EURISCO, in case of significant changes in their collections.

Since the implementation of EURISCO, the relation between EURISCO and Central Crop Databases (CCDBs) has been a point of discussion. By using EURISCO descriptors in the Bras-EDB, a regular update for collections included in EURISCO is now feasible. However, the quantity of passport data on accessions in EURISCO is in some cases less than in the Bras-EDB. Therefore, updating from EURISCO might result in loss of information. To prevent this, collection holders need to be contacted by the database manager on this issue.

Presently the Bras-EDB includes data sets from 52 different institutions of 27 countries with a total number of 24 161 accessions, while EURISCO (January 2008) includes datasets from 38 different institutions of 20 countries with a total number of 18 913 accessions.

In the Bras-EDB, characterization and evaluation data on accession level are not included in the database, apart from the downloadable results from EU projects. Because of the different crop types in *Brassica* PGR, it is not considered feasible at this point to do so and the database managers decided to await the progress of EPGRIS3. Information on this project can be found on <http://www.epgris3.eu/>.

However, the Bras-EDB is a platform for exchange of information on characterization and evaluation and has been used for this purpose in two EU projects. Also in the future it will be possible to make available results on sets of European accessions to the PGR community and users via the Bras-EDB.

In view of future activities in relation to AEGIS, i.e. defining selection criteria for Most Appropriate Accessions (MAAs), the Bras-EDB is presently used as a tool. Obviously, the Bras-EDB can also be used to indicate which accessions are labelled as MAAs.

References

- Boukema IW. 1995. Taxonomic grouping to be used in the European database. In: Gass T, Gustafsson M, Astley D, Frison EA, compilers. Report of a Working Group on *Brassica*. Second meeting, 13-15 November 1994, Lisbon, Portugal. International Plant Genetic Resources Institute, Rome, Italy. pp. 8-14.
- Boukema IW, Jongen MWM, van Hintum ThJL. 1995. The European *Brassica* Database. In: Gass T, Gustafsson M, Astley D, Frison EA, compilers. Report of a Working Group on *Brassica*. Second meeting, 13-15 November 1994, Lisbon, Portugal. International Plant Genetic Resources Institute, Rome, Italy. pp. 4-7.
- Boukema IW, van Hintum ThJL. 1998. The European *Brassica* Database. In: Thomas G, Monteiro AA, editors. Proceedings of an International Symposium on Brassicas. *Acta Horticulturae* 459:249-254.
- Boukema IW, Cristea N, van Hintum ThJL, Menting F. 2003. The European *Brassica* Database: version 2001. In: Maggioni L, Thomas G, Lipman E, compilers. Report of a Working Group on *Brassica*. Extraordinary meeting, held jointly with the Third Coordination Meeting of the EU Project GEN RES CT99 106-112, 8-9 February, Vila Real, Portugal. International Plant Genetic Resources Institute, Rome, Italy. pp. 14-18.