

Chasing valuable *Ribes* material in the Northern and Central European gene bank collections

Saila Karhu & Tarja Hietaranta¹

¹MTT Agrifood Research Finland, Plant Production Research, Horticulture, Toivonlinnantie 518
FI-21500 Piikkiö, Finland saila.karhu@mtt.fi

¹Present address: Finnish Food Safety Authority EVIRA, PL 111, 32201 LOIMAA, Finland

Different fruit varieties are needed for different use. Both farmers, consumers, trade and the industry working on the production of upgraded products are increasingly interested in carefully selected fruit material. There is call for the varieties carrying fruit with high amounts of substances shown to be related to health-promoting effects. On the other hand, disease-resistant fruit varieties suitable for organic cultivation are demanded. Also fresh-fruit quality is important when consumers' preferences are considered.

In the EU AGRI GEN RES project "RIBESCO – Core Collection of Northern European Gene Pool of *Ribes*", the characterization data of over 1400 black, red and white currant and gooseberry accessions were collected. The evaluation work was based on the gene bank collections in the Northern European Countries Finland, Estonia, Denmark, Latvia, Lithuania, Sweden, Poland and Germany. In addition to the extensively recorded morphological characteristics, also agronomic traits and some fruit quality aspects were evaluated.

The work on the collected data is continued in the EU funded FP7 project "EUBERRY – The sustainable improvement of European berry production, quality and nutritional value in a changing environment: Strawberries, Currants, Blackberries, Blueberries and Raspberries". By data mining the subsets of accessions with valuable characteristic combinations, both for breeding and commercial use are identified.

PRELIMINARY RESULTS OF THE WORK:

- High variability between accessions
- Mainly very low correlations between traits
- Same varieties have given rather different results in different test sites

WORK GOING ON:

- Selecting the currant varieties of
 - Central Europe (Lithuania, Germany, Poland)
 - Northern Europe (Finland, Sweden, Estonia, Latvia)
 by combining the observation values of specific traits:
 - Disease resistance & Winter resistance ("Resistant varieties")
 - High fruit size & High sugars & Low acids ("Fresh fruit varieties")
 - High vitamin C & High anthocyanins ("Good health varieties")

The work utilizes the high variability of plants conserved in the gene bank collections. As an example, the vitamin C contents of the accessions in the *Ribes* collections of MTT are shown below.

The results of the work will be utilized to recommend varieties for cultivation as well as in selecting material to breed new European *Ribes* varieties.

