

## Scanning report [Walter Guerra, RCL]

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**Country:** Italy  
**NUTS 3 region(s)<sup>1</sup>:** [ITH10 Bolzano-Bozen]  
**WP no. and title:** 2 Varieties  
**Date:** [13-05-2016]

### Source materials and methodology

Guerra W. (2012). Recent trends in apple breeding. Kongressakten 3rd Slovenian Fruit Growing Congress Krsko, 441-446

W. Guerra, T. Zublasing (2014). 10 Jahre Bonituren bei der poliklonalen Sorte Gala. Obstbau Weinbau 10: 304-308.

S. Sansavini, R. Gregori, W. Guerra (2014). Un'ondata di nuove varietà pronte per il mercato. Frutticoltura 11:12-24

Stürz B., Agnolet S., Bassi M., Brunner K., Ciesa F., Guerra W., Lozano L., Lubes G., Robatscher P., von Lutz H. (2015). Dal progetto europeo Pomosano: idoneità delle mele per succhi e "fresh cut". Frutticoltura n.10: 30-37

R. Gregori, L. Folini, L. Berra, W. Guerra, S. Sansavini (2015). Lista del melo 2015, le varietà per i nuovi impianti. L'Informatore Agrario 46

[Please detail your source materials for the scanning and how you have approached it. Approx. 1500-2500 characters incl. spaces.]

### Best practice findings

The Research Center Laimburg is a public research center funded mostly by the local government. One of its activities since over 30 years is the testing of new apple varieties and mutants. Through an intense collaboration with most of the important apple breeders, variety managers and license holders around the world we are trying to get the new hybrids and mutants to test them for their adaptability to the pedoclimatic conditions of our local territory. In most cases we have a testing agreement directly with the breeder, since several years we are trying to force them to use the EUFRIN testing agreement which should give a balance between the interests, rights and obligations of both the variety owner and the variety tester.

The testing in so called level 1 is carried out in 2 macroclimatic areas of South Tyrol, in particular at Laimburg 220 m asl and in Latsch at 670 m asl. At present 125 non resistant hybrids and 70 mutants of Gala/Fuji/Red Delicious/Braeburn/Golden Delicious/Pinova/Cripps Pink from different owners and 130 hybrids from the own apple breeding program are being tested in those trial orchards. At Laimburg the monogenic scab resistant hybrids (75 in testing at the moment) are planted in a separate orchard with no fungicide application allowing to evaluate the susceptibility of this material to other fungi like powdery mildew, Alternaria, Marssonina etc. For the agronomic evaluations the EUFRIN descriptor list is used and the data are stored in an own Oracle database with interfaces with the instruments used for the assessments (Pimprenelle, Aweta sorting machine etc.). The variety owners get an annual report as an output of the database. All the resources used for level 1 testing are coming from internal funding.

<sup>1</sup> Please see [ec.europa.eu/eurostat/ramon/nomenclatures/](http://ec.europa.eu/eurostat/ramon/nomenclatures/) for details on NUTS regions, level 3

RCL is involved from their beginnings in the national network of Liste varietali and in the European EUFRIN network; it is also participating since 2009 to the meetings of the German variety testers and breeders commission “Fachkommission Kernobst im Arbeitskreis Züchtung”. These networks allow an exchange of information between variety testers which is very useful to enlarge the knowledge around new varieties.

Through projects funded by the EC (GENE SAVE, APFEL FIT, APPLE FINGERPRINT, POMOSANO) in the past decade we were able to make more detailed phenotypic and genotypic evaluations on a subset of the new varieties in testing. On the webpage pomosano.laimburg.it the summarized profiles of more than old and new 100 varieties are published and downloadable for free.

RCL has in house working groups on post harvest, physiology, plant pathology, sensorial evaluation and molecular biology. The expertise of these working groups is used in the higher levels of evaluation (see SK scan report) allowing an interdisciplinary approach in the precommercial development of a new variety.

The following challenges and gaps in level 1 testing could be identified:

- An increasing number of variety owners demands full confidentiality even after the plant breeder's rights are granted or the variety is commercialized. This is potentially in conflict with the public mission of Research Center Laimburg and endangers our independency and transparency
- On the other hand, every year lots of new hybrids are proposed for testing, with often few pre-information. Due to limited resources in testing not all the demands for testing can be fulfilled, but it remains a challenge to select those hybrids who are worth to be tested because of little information.
- Looking at the new plantings in South Tyrol, in the ranking the most planted ones are still mutants of the policlonal varieties like Gala/Golden Delicious/Fuji/Red Delicious/Braeburn etc. which have a rapid turnover of new mutants. In past we used to evaluate new mutants with a systematic approach in randomized blocks with a duration of around 7 years. As a result we got statistically validated data but often at this time the mutants in the test were already obsolete. In the new approach we are planting the new mutants in a larger scale in pilot rows or orchards.
- Due to an increasing and rapid demand for varietal innovation the “filter” of level 1 is more and more bypassed raising the risk of investment in the next phases of the evaluation
- With an own breeding program in house there is a potential risk of a conflict of interest
- In the past we used to graft the hybrids to be tested in our own nursery with the advantage to have comparable test trees from the beginning. Both to lower cost and to speed up the testing we are planting now test trees received for free (in level 1) from the variety owners. With this we are faster but we can have very different starting material (different tree quality or rootstock clone)
- South Tyrol has lots of microclimates which can differ a lot. The level 1 testing at the 2 macroclimatic sites is limiting the possibility of site specific recommendations, but it would be too laborious to test in many microclimates.

[Please summarise the finding of your scanning in terms of best practice for your particular regional and thematic context. Approx. 2000-5000 characters incl. spaces.]