

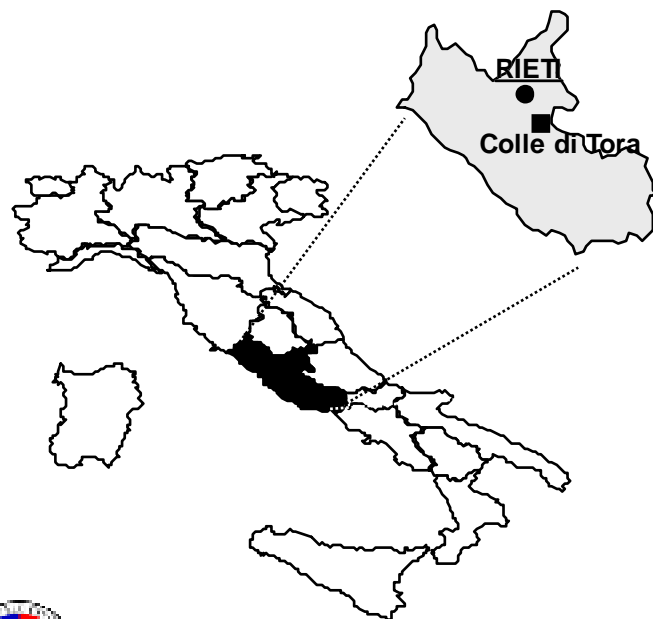
## *'Fagiolo a pisello' from Colle di Tora, Rieti, Lazio\**

### **Area:**

Turano lake, Rieti, Lazio, Italy

### **Main actors in conservation:**

- Local farmers
- Regione Lazio
- Agenzia Regionale per lo Sviluppo Agricolo del Lazio
- DBVBAZ, University of Perugia



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## 'Fagiolo a pisello' (*Phaseolus vulgaris* L.)

This landrace (LR) is grown on steep mountain sides (750 - 900 m asl). It has very particular thermal, humidity and edaphic requirements. Consequently, it can not be grown with success under conditions different from those used. Because of the particular characteristics of the seed (smooth, white, round shaped, doughy in taste) and its very limited production, this bean has a rich niche market locally.



'Fagiolo a pisello' crop on the steep mountain side

Although its economic market has the perspective of being further widened, this LR appears to be in danger of extinction. In fact it is only cultivated by elderly farmers who do not appreciate the potential business.

The few youngest people present in the village do not seem to be very interested in continuing its cultivation due to the heavy work involved and the uncomfortable place where it can be grown.



## Research to promote on-farm conservation



Molecular markers were able to discriminate 'a pisello' LR from other Italian LRs and commercial cultivars.

Because of the severe risk of extinction several actions, which are funded by local authorities, are presently carried out to save it.

Bushy habit of growth was introduced in a few genotypes with the hope to save, at least partially, this germplasm and promote a wider cultivation by local people.

Farmer assisted selection for antrachnose resistance and trueness to type is in progress to help overcoming problems related to disease susceptibility and gene introgression from other LRs.

Finally, the Italian Ministry of University and Scientific Research funded a project to study the genetic structure of 'A pisello' LR on farm and the genetic changes occurring during multiplication in different environments. Results showed that the LR is a structured population where a substantial diversity is maintained at the farmer population level. *Ex situ* multiplication caused a large decrease in its genetic diversity. These studies show that an appropriate conservation requires the maintenance of the entire population on farm.

### References

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- Tiranti B. 2005. *Varietà locali di Phaseolus vulgaris* L.: livelli di diversità, struttura genetica e strategie di conservazione. Dottorato di Ricerca (PhD) thesis, University of Perugia, pp 326.
- Tiranti B., Negri V. 2007. Selective micro-environmental effects play a role in shaping genetic diversity and structure in a *Phaseolus vulgaris* L. landrace: implications for *on-farm* conservation. *Molecular Ecology* In press.



## **Actions to rescue**

The Lazio region added the LR in the official list which was set up following the Regional law 15/2000 to safeguard local genetic resources under threat (see: <http://www.arsial.it/portalearsial/RegistroVolontarioRegionale>).

This implies that farmers are entitled to receive funds in order to continue the LR cultivation in the near future.



'Fagiolo a pisello' flowers and seeds

