

***Rhodiola rosea* L.: The challenges of domestication**

Xavier Simonnet¹, Claude-Alain Carron¹ and Christoph Carlen¹

¹Agroscope, Centre de recherche Conthey, Route des Eterpys 18, 1964 Conthey, Switzerland;

Rhodiola rosea also called Golden Root or Roseroot is an adaptogenic medicinal plant from alpin and arctic area that is known to reduce stress, trauma, anxiety and fatigue. The main active compounds are considered to be salidroside and the *Rhodiola*-specific rosavins (rosin, rosavin and rosarin). The slow growth of this plant (5-6 years of cultivation), the exploitation of the roots (destructive) and the dioecious character explain the difficulty of cultivating this *Crassulacea*. This perennial plant grows in the subalpine-alpine zone of the Swiss Alps.

While commercial interest in the roots of these plants is growing, and the main source of supply for commercial extracts is wild harvests (Altaj Mountains), Agroscope launched a domestication programme in Switzerland in 2005 [1]. A survey of *Rhodiola rosea* in the Swiss Alps was carried out to define the variability and breeding potential of this indigenous genetics [2]. Five *Rhodiola* swiss populations were prospected. The best plants were then selected and a polycross was performed to produce seeds of "Mattmark", the first synthetic cultivar of *Rhodiola rosea* [3].

This variety has now been grown for around ten years in Switzerland and abroad, providing valuable data on the development potential of this new crop.

1. P. Malnoe, C.-A. Carron, J. Rohloff, J. F. Vouillamoz (2009), *Revue suisse Vitic. Arboric. Hortic.* Vol., 41 (5): 281-286
2. Z. György, J. F. Vouillamoz, M. Höhn (2016), *Plant Syst. Evol.*, 302: 721-730
3. J. F. Vouillamoz C.-A. Carron, P. Malnoe, C.A. Baroffio, C. Carlen (2012), *Acta Hort.* 955, 185-187