

Association for Breeding Research and Crop Maintenance **Based on Biodynamic Principles** 

Breeding Biography of a Biodynamic Variety



**Parsnip** 

**AROMATA** 

**Breeder:** 

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## **Variety Description:**

AROMATA is an especially sweet-aromatic parsnip, suitable for fresh marketing and processing. As a raw food, roasted in slices, as a mix vegetable, or porridge, the subtle sweet and mild parsnip aroma come into its own. The thin, long roots have a slight buttery color and firm consistency.

Raised ridge cultivation is recommendable to facilitate harvesting. The size of the parsnips depends on the allowed cultivation density. Foliage and root health are good at medium yield levels. AROMATA is completely winter hardy.

## **Breeding History:**

Variety trials beginning in 1995 had shown that sensorial qualities between and within parsnip varieties can strongly vary. Sensorial qualities refer to the properties of the crop that we can perceive with our senses, such as appearance, smell, taste and consistency. As a first step, a coarsely shredded mixed sample of each variety was assessed. Secondly, within varieties of particular interest, single roots were compared; even so, considerable differences were found. Taste characteristics of parsnips can range from bland and spongy to spicy, bitter and chewy to sweet, nutty-aromatic and juicy.

Against this backdrop, the biodynamic breeding of a high-quality Parsnip variety began at Schönhagen Seed Farm. Classic breeding by families was used with specially customized methods of quality improvement. The most important task was to find a method which allowed the best parsnips to be taste tested but at the same time reproduced. This was achieved by removing a drill core piece from the root. This core could be tested and the best selected parsnips were treated with wood ash to be re-planted for seed production (in the same autumn).

AROMATA was bred starting in 1995 from an accession of the IPK Gatersleben gene bank. Well developed, healthy, and good-looking parsnip roots were selected and then further selected by taste tests.



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Progeny of the best parsnips were tested again and the best plants from these were further selected in each generation. The effectivity of the method was scientifically investigated (Horneburg et al. 2009). Bitter and harsh flavors were effectively removed. Multiregional cultivation trials were carried out between 2004 and 2006 within the framework of the project "Adaptation, enhancement, and qualitative improvement of parsnip varieties for organic cultivation" in the German Federal Organic Agriculture Program. Cultivation trials were successfully carried out on clay, loam, sand, and moor soils. Since then, several market gardens have been comparing their standard varieties with Aromata.

Maintenance breeding and production of stock seed is carried out at Bernd Horneburg's Farm, in Göttingen. The Bingenheimer Saatgut AG is responsible, among other things, for the organization of the multiplication and commercialization of the sale seed. Variety registration is not necessary for parsnips.

## Further Literature:

Horneburg B 2009: Die Pastinake – eine Bereicherung für Garten und Küche. Gartenrundbrief Nr. 6. Horneburg B, D Bauer und G Bufler 2009: Züchterische Verbesserung der sensorischen Qualität der Pastinake (Pastinaca sativa L.) im Praxisbetrieb. In: Mayer J, Alföldi T, Leiber F et al. (Hrsg.): Werte – Wege - Wirkungen. Beiträge zur 10. Wissenschaftstagung Ökologischer Landbau, Zürich, 11.-13.2.2009; Band 1. Verlag Dr. Köster, Berlin. S. 232-235