



## Zucchini

### SERAFINA

German Plant Variety Registry Code:  
KUP 82

**Breeder:**

**Kornelia BECKER**

### Variety Description:

SERAFINA is a compact-growing zucchini, which is easily harvested due to its open growth plant form. The fruits are cylindrical, medium-long, dark-green marbled, shiny and are easy to break off the plant. The variety demonstrates a balanced relationship between vegetative growth and fruit formation.

In 2012, together with a further breeding line, SERAFINA was analyzed using picture-forming methods. On the one hand, the experimental question related to the nutritional qualities of the two breeding lines compared to the hybrid variety DUNDOO F1 and the open-pollinated variety ZUBODA, as well as to possible differences in the maturity characteristics of the fruits normally harvested in an unripe phase in zucchinis.

The following is an excerpt from the test report:

“Although all of the trialed specimens showed from the above-average long, rising phase [...] in the rising-picture method from the vegetative, swelling (immature) build-up of organic matter and what is by the images of DUNDOO F1 and ZUBODA apparent, SERAFINA and the breeding line showed completely new and unexpected aspects of a courgette. A typical fruit-like refinement is visible both in the rising-picture images and crystallization images, expressed as large, bulbous shells in the rising-picture images and as a very fine, dense needling in the crystallization images. This clearly shows there is an accumulation or enrichment of substances in the fruiting state. This is also significant in the essentially higher substance processing [...]. The question of maturity characteristics of the samples examined therefore clearly falls in favor of SERAFINA and the breeding line. Both show consistently harmonious, living, very well coordinated overall images with a solid stability.”

# KULTURSAAT e.v.

Association for Breeding Research and Crop Maintenance  
Based on Biodynamic Principles

In cultivation trials between the years 2010 and 2012 in different vegetable farms, although the variety cannot compare in yields with the hybrid varieties, it has been acknowledged that it is a worthy crop above all because it is particularly attractive and demonstrates good uniformity.

## **Breeding History:**

SERAFINA originated out of the open-pollinated variety MUTABILE which has been cultivated and further developed over many years under biodynamic conditions; first by Ilmar Randuja, then by Thomas Heinze from 1992 to 2007 and by Kornelia Becker since 2008. The population obtained in the initial period by means of positive mass selection was admitted for variety registration in 1996, but was not accepted due to insufficient population uniformity. For this reason, special emphasis has been placed on uniformity in the breeding work as of 2002. It was necessary to take into account in the selection, in addition to essential characteristics such as taste, appealing form and easy harvestability, open-form plant growth, adequate yield and robust health, as well as all the 67 characteristics to take into consideration in the registry trial (homogeneity, distinctness, and consistency), even though these are partly irrelevant to horticultural cultivation. For this purpose, specific pairs of morphologically similar plants were together hand-pollinated and their progeny later trialed. In order to achieve the highest possible uniformity, more and more pairings were carried out from single offspring. In other words, a relatively strong genetic constriction was carried out for an outbreeder, which was also considered in the breeding work before the imminence of inbreeding depression. The breeding work was perceived as a tight-rope walk with the motto “genetically as far apart as possible and so close as necessary”.

After the population uniformity appeared to be at least equal to other comparable varieties and after multiyear cultivation trials, the request for trial seed steadily increased, the population was finally submitted in November 2011 for Registry trials at the German Plant Variety Registry.

The examination took place, as in back in 1996, in southern France, where SERAFINA had been declared as too inhomogeneous after a first test round. SERAFINA was only approved in 2015 by the Registry after a philosophical debate on the handling of population varieties and a three-year (!) Registry inspection period. The authorization can also be seen as a political success, since it was the first Zucchini population since the 1980s to survive the European test procedure. Breeding of this cultivar was sustained under biodynamic conditions in the gardens of Ilmar Randuja, Thomas Heinze and Kornelia Becker.

Maintenance breeding is carried out by Kornelia Becker. The organization of the multiplication and commercialization of the sale seed is, among other things, the responsibility of the Bingenheimer Saatgut AG.