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Association for Breeding Research and Crop Maintenance Based on Biodynamic Principles

Breeding Biography of a Biodynamic Variety

Updated: 15/02/2017



Chinese Cabbage

ATSUKO

German Plant Variety Registry-Code: CHI 45

Breeder: Christine NAGEL

Variety Description:

ATSUKO is a Chinese cabbage with medium-sized, oval heads that are well to very well-compacted. The leaves are light green and medium crimped. Growth is somewhat short and compact. High uniformity and good field tolerance characterize this variety.

It is suitable for autumn cultivation by sowing beginning to middle of July and harvesting beginning of October. From earlier sowings in northern locations, the plants may go to flower.

Breeding History:

ATSUKO came originally from Quedlinburg and until 1990 was the open-pollinated variety ASKO from the former German Democratic Republic. It has been under breeding work since 1998 by Ch. Nagel. From an autumn crop of 1998 at the biodynamic vegetable farm of the Lebensgemeinschaft Bingenheim e.V. ("Living Community" for the handicapped), 20 plants were selected from a very inhomogeneous stand of the variety ASKO that matched the breeding objectives. Over the winter almost all of these selected plants died. Only three plants came to flower, of which only a single plant reached seed-bearing maturity. The few seeds of this plant were the foundation for further breeding work. In 2000, an early spring sowing was carried out for the purpose of seed multiplication without selection.

Since overwintering of selected plants proved to be impractical, starting in 2002, further breeding work was carried out using remainder seed and cultivation of single-plant progeny techniques. For this purpose, 30 specimens were selected from a spring sowing of 50 to 100 plants for further progeny testing. Since there is no head forming in Chinese cabbage from an early sowing, only criteria such as health, uniform leaf crimping, and color could be assessed.

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The seed from these plants was harvested separately and were then sowed immediately for autumn cultivation in the same year. The individual plant progenies were evaluated and the seeds from the best lines (initially only three to four, later up to 14 lines) were re-seeded the following spring for multiplication. With this approach, selection was further carried out until 2008. As a result, good uniformity and head formation have been attained over the years.

The German Plant Variety Registry approved the variety in 2009. Maintenance breeding is carried out at the breeding site at Eichstetten by the breeder under biodynamic conditions. The Bingenheimer Saatgut AG is responsible, among other things, for the organization of the multiplication and commercialization of the sale seed.