



Brussels sprouts

IDEMAR

German Plant Variety Registry Code:
KOO 68

Breeder:

Christoph MATTHES

Variety Description:

Middle-early Brussels sprouts with slight reddish coloration of the leaves and medium height. It has round to flat-round, light-green sprouts with a mild-aromatic flavor. A one-time harvest is possible; suitable for market gardeners.

The objective of this Brussels sprouts breeding project was to develop a new cultivar capable of competing by yield with the increasingly popular F1 hybrid varieties, and to offer an alternative for the professional gardener. In addition, the aim was to breed a variety with a cylindrical, non-pyramidal structure, and which could also be suitable for a one-time harvest.

Since breeding of Brussels sprouts hybrids are especially intended for machine harvest, and currently well advanced in this direction, IDEMAR must be classified as a variety for the market and home gardener. In this regard, it is clearly superior by harvestability and yield compared to the open-pollinated varieties available.

Overall, the breeding work that led to the development of IDEMAR, beginning with the first propagations of the 1981 variety HILDS IDEAL to the variety registration in 2011, spans over a period of 30 years. The breeding work began with Dr. Hartmut Spieß. As of 1998, Ch. Matthes participated in the selection work until he took over the breeding of IDEMAR in 2004. Cultivation took place on the biodynamic certified land of Dottenfelderhof Farm. The biodynamic spray preparations, Horn Manure and Horn Silica, were used consistently from sowing to the following seed harvest. Manuring was exclusively handled with cow manure compost, treated with the biodynamic compost preps.

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Breeding History:

The IDEMAR variety was created by crossing STIEKEMA into HILDS IDEAL, and subsequent selection over eight generations. Breeding work was carried out using positive mass selection and single plant progeny.

HILDS IDEAL had already been propagated for more than five generations under biodynamic conditions by Dr. Hartmut Spieß since 1981.

The pollinator plants from the variety STIEKEMA were also derived from biodynamic propagation at Dottenfelderhof Farm, although originally stemming from conventional seed.

The first generations of plants showed a striking vigor and markedly larger sprouts as the parent plant varieties. This was clearly a case of “heterosis” or hybrid vigor, which subsequently waned over the following generations.

Already in the first two generations after the cross, plants appeared with anthocyanin coloration (“red”) in part and part without anthocyanin (“white”). At first the red-colored types appeared to be more productive, which is why this line was preferred for further breeding. In the sixth generation, selection was carried out between a dark red color and a faint red color. This time, however, the strongly anthocyanin tinted breeding stock was clearly less productive, so the choice fell on the white or faint red-colored breeding lines. Subsequent propagation showed a weak to moderate red coloration in the majority of the plants, and it was decided not to select extreme red or also white plants.

In the fourth generation (1998), ten offspring of selected single plants were propagated. From this, breeding strains were formed in different groups and continued for several generations. From one of these plants, the number 6 (STIEKEMA type) breeding line, was the one that would eventually lead to the finished variety. The path resulted in two more single-plant progeny trials in the sixth and seventh generations, from which in each case suitable offspring were selected and further propagated. In this way, three times in the breeding cycle was a single plant selected as the basis for further breeding. These individual plants, however, were not isolated but rather were allowed to flower together with other selected plants in order to avoid inbreeding. This method, rather unusual for population breeding of out-breeders, was chosen to achieve as quickly as possible the homogeneity required for variety approval. Special attention was paid to maintaining its mild-aromatic flavor. For this reason, breeding lines were constantly subjected to comparative taste tests with other varieties.

Breeding Chronology:

Since 1981: propagation of the variety HILDS IDEAL by Hartmut Spieß, over five generations.

1991: Variety STIEKEMA from Dottenfelderhof cultivation crossed in. (Conventional seed, untreated).

1992: First generation after crossing. Selection of plants with (“red”) and without (“white”) anthocyanin coloration, all flower together.

1994: Second Generation. Isolated propagation of the “white” (“SJ191w”) and the “red” selection (“SJ191r”).

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1996: Third Generation. Further propagation, decision for the type with anthocyanin coloration (SJI91r).

1998: Fourth Generation. Propagation of 10 single plant progeny from the “SJI91r” type, including progeny 6 (“Stiekema Type”), from which the variety would later be developed. These flowered in isolation (6 plants), and thereafter all lines were continued in isolation.

2000: Fifth generation. Selection of two groups from breeding line 6: significant anthocyanin coloration (GD), and minimal anthocyanin coloration (HG), both groups are flowered in isolation. Foundation seed harvested from first choice plants.

2002: Sixth generation. Propagation from single plant progeny of groups HG and GD, decision for group “HG”. Favorite is progeny 6 HG-c.

2004: Seventh generation. Further propagation from three single plant progenies of the line HG, decision for the progeny 6 HG-c-a.

2006: Eighth generation. Seed harvest from the 8th generation sown in 2007.

2008: Propagation trial.

2009: Registration of the breeding line “Idema 6-HG-c-a” for variety register trial.

The variety was approved in 2011 by the German Plant Variety Registry. Maintenance breeding is carried out by the breeder Ch. Matthes at Dottenfelderhof Farm. The organization of the propagation and commercialization of sale seed is, among other things, the responsibility of the Bingenheimer Saatgut AG.