

Bio Suisse Bans Hybrid Cereals

On April 19th, 2006, the 100 delegates of Bio Suisse, the Swiss organic umbrella organization, voted to ban Hybrid varieties in organic cereals (except maize). This decision primarily concerns rye. Organic rye is grown on only 250 ha, about 20% of which is sown to hybrid varieties at present. About 60% of total organic demand is imported. Hybrid varieties of the other cereals are not yet being grown. The delegates decided that it is time to act now to send a signal to breeders and to the international organic community before the alternatives to hybrids vanish.

Why use hybrid varieties?

- Higher yield, which is able to overcompensate the higher price for seed (ca. 10 % increased yield in simple organic variety trials in 2003/2004¹).
- Greater homogeneity.
- Better lodging resistance (in rye).
- Better sprouting resistance (in rye).



Source: www.oekolandbau.de

Acknowledgement

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References:

- 1 ARNCKEN, C. and H.DIERAUER (2005): Hybridsorten im Bio-Getreide? Perspektiven und Akzeptanz der Hybridzüchtung für den Bio-Anbau. Schlussbericht, Juni 2005 Coop Naturaplan-Fonds Biosaatgutprojekt Modul 1.4. Forschungsinstitut für biologischen Landbau (FiBL), Frick, Switzerland <http://orgprints.org/5097>.
- 2 MÜLLER, K.-J. (1996): Winterroggen: Hybrid- oder Populationsorten? Lebendige Erde Nr. 3, 209-218.
- 3 ASSOZIATION BIOLOGISCH-DYNAMISCHER PFLANZENZÜCHTER E.V. (2003): Leitbild. www.abdp.org/leitbild/leitbild.htm

Why ban hybrid varieties?

Quality aspects:

- Male sterility in the parent line: is this the progeny for bread cereals the consumer wants?³
- The consumer receives the harvest from which the F2 would grow. From many of these grains unsatisfactory, weak or extreme plant types would grow. The consumer does not know that.
- Hybrid varieties support the tendency of present conventional farming to enhance mainly growth, biomass accumulation and nutrient uptake.²
- Reduced pollen production due to only partial restoration of male fertility. In the biodynamic understanding, this means a loss of warmth quality, leading to lower inner quality. This is one reason why DEMETER decided to ban hybrid cereals (except maize).

Socio-economic aspects:

- Open-pollinated (OP) varieties can be multiplied by the farmer³ whereas hybrids create dependency on the breeder.
- Maintenance of demand for OP varieties (otherwise they may be lost soon).

Ethical aspects:

- Interventions into plant's flowering biology.
- Change in meaning of seeds from cultural asset to farm input.

Ecological aspects:

- Lower genetic diversity on the field.
- OP varieties contribute to *in situ* conservation of rye germplasm.
- High genetic vulnerability of hybrid varieties due to uniform cytoplasm (source of male sterility).
- Loss of recessive traits during inbreeding of parent lines (such traits may prove to have value in the future)².