

7. What is the situation as regards property rights for plants or varieties?

Breeders want to protect their efforts and their variety. Breeders' rights and patent law are two forms that we will discuss here.

Why is there a need for varieties to be protected?

On average the development of a variety from crossing, selection and testing to market introduction takes 8-10 years. So breeders always have to think ahead in order to be able to respond to the requirements of future farming in good time. So it takes several years before the investment is recouped by a breeder. So some agreements or protection seem justifiable. But to what extent does this fit with the values of organic farming?

Strongly rising costs of breeding techniques

As the current breeding method is a long, competitive process, breeding companies look for ways of speeding up this process and making it more efficient. There are increasing numbers of expensive techniques (disease testing in the lab or molecular markers) that make breeding very capital-intensive, see Table 1. This increase in costs does not go hand in hand with an increase in yield. CBS data from 1995-2012 show that potato yields have risen by only 6%, those of arable crops by 6% (min: -30%, max 30%) and those of vegetable crops by 2% (min: -30%, max 30%).

As breeding becomes increasingly capital-intensive, the urge to protect innovations against farm-saved seed use by farmers and use by third parties (e.g. breeders) also increases. This restricts the free use of plant varieties and is a worrying development.

Table 1. Estimated costs of the breeding of potato varieties in The Netherlands (source: KWS interview in Nieuwe Oogst, 7 December 2013)

Year	Actual costs (in 1,000 €)	Increase in costs on the basis of 3% inflation since 1990 (in 1,000 €)	Increase in costs since 1990 corrected for inflation (in %)
1990	25	25	
2000	50	34	49%
2010	125	45	177%
2020 (forecast)	250	61	312%

Blocking breeding is a threat to biodiversity and food security

Initially the protection of varieties started with Breeders' Rights (see Box 1). For many people this is an acceptable form of protection as it does not affect the possibility of free access and use by other breeders, who are permitted to cross a variety covered by breeders' rights. As a result progress in breeding remains possible and there is still access to a wide genetic base.

Then protection against farm saved seed use and use by third parties went further and varieties were made more inaccessible: first of all with the development of hybrids, later with the introduction of male sterility, and recently with genetic modification and associated patents, and even 'terminator seeds', which can no longer reproduce.