GOALS AND GUIDING PRINCIPLES OF ORGANIC BREEDING

The goals of organic plant breeding are broad and comprehensive; after all, the task at hand is the development of diversity across the entire range of cultivated plants, rather than simply a differentiation from conventional breeding or genetic engineering. Beyond their contribution to the immediate goal of food production for a secure livelihood, new varieties must also serve the physical and ethical needs and requirements of many humans in the long run.

In our view, the following elements are essential for an organic process of plant breeding:

1) Agronomic goals: Locally adapted varieties for a sustainable agriculture

Ecologically oriented extensive agriculture is strongly linked to local and microclimatic conditions. More than 80% of the world's cropland is cultivated by extensive methods and therefore grossly neglected by agricultural industry and research. In order to satisfy future demands for food, the farming of these areas must be improved in sustainable and socially acceptable ways. To achieve this, breeding for compatibility with specific local conditions is needed, as an industrialization of such areas makes no sense, neither ecologically nor economically. Consequently, organic breeding takes place on the sites where the crops will later have to grow, i.e. mainly outdoors.

Experience shows that yield potential in organic farming varies much more widely than in conventional agriculture. Therefore expectations for organic varieties include higher adaptivity and plasticity, combined with consistently high quality.

2) Crop-specific goals: Continuing development that acknowledges a variety's specific characteristics

In the course of its growth the plant "internalizes" the living conditions that are at work in its environment. This feat of adjustment informs its developmental physiology, which in turn influences its habit, structure, yield and quality. Working in concert with these adaptive processes is one of the tasks of organic breeding; to improve them and to tune them to new requirements. An overly conservative view of species and varieties may easily impede progress in breeding and lead to a loss in biodiversity.

3) Socio-economic goals: Participation of all value-creation chain partners in the breeding process

Over the past two centuries, plant breeding has emancipated itself as a specialist activity independent of traditional farming. The current division of labor between agriculture, seed production and breeding raises some fundamental questions with regard to the compensation and commercial viability of these interdependent individual fields. Their mutual give-and-take isfurther complicated by the fact that farmers are in no way the only players who benefit from the work of breeders: processors and consumers also profit from the development of new varieties. For a healthy and sustainable system, all those involved in the value creation chain must manifest their interest in breeding. Any improved participatory involvement of these players in the value creation chain is bound to make a substantial contribution to a successful breeding process and to increase the public appreciation of its benefit for society as a whole.

4) Consumers' goals: Breeding for a broad range of different needs

Sustainable breeding has to keep an eye on a range of human needs as broad and variegated as possible — physical, emotional, cultural, economic etc. It must be able to anticipate future needs and adapt its goals accordingly. This is in polar opposition to the contemporary picture, where half a dozen standardized commercial global crop plants are produced, traded, processed and sold to consumers by a similarly restricted number of companies.

5) Breeding as an innovative process: Plants are bred by people rather than by institutions.

The trained eye of the breeder spots the future plant and in this way achieves his breeding goals. In this process the creative human individual always remains the source and originator of the innovation. Institutions cannot initiate the breeding process but they can support it. The regulations of variety protection, which have been developed for the defence of the breeders' work and the public's interest in the creation of new varieties, represent a proven and viable foundation for a promising collaboration based on the division of labor between breeders and users of new varieties.

TRANSPARENT BREEDING PROCESSES

On our Open Breeding Nursery Day we intend to offer a look into the processes and problems of biodynamic breeding, which vary remarkably from species to species. The ways of organic breeding should be transparent for all those who are interested or involved in it. The guided tours and walks allow visitors to become familiar with the different stages of the breeding processes, from the immediate offspring of new crossbreeds all the way to the final varieties that are now in the process of official approval. Breeding always begins with the breeders' goals, their concepts and motives. These may be very clearly perceived and spelled out explicitly; however, at times they only gain precision once new strains have been discovered and can be shown.

Breeding is often akin to the activity of an artist, who speaks through the work of art itself. This may appear to be in contradiction to the transparent process stipulated above, but it is not, as it is always possible to observe the breeders while they are at work.