

Fundamental plant research is essential for the future

Seeds and young plants from Dutch companies contribute to sustainable agriculture and horticulture and attractive products for consumers worldwide. More than 250 breeding and propagation companies are involved in, for instance, vegetable seeds, seed potatoes or cuttings of ornamental plants.

Not only are we the largest exporter of seeds and young plants; we are also at the forefront of the development of new varieties. More than 30% of applications for breeder's rights in Europe come from the Netherlands.

Continuous improvement of varieties is only possible with thorough knowledge of the plant and its environment. That is why breeding companies invest an average of no less than 15% of their turnover in research and development. In the case of vegetable seeds, this can amount to as much as 30%. A lot of critical plant research also takes place at knowledge institutions: Dutch universities, dozens of research groups and hundreds of PhD students work to increase our knowledge about plants every day. Dutch universities of applied sciences are also very passionate about translating fundamental knowledge into practical applications. Plantum is committed to further expanding this research, both at knowledge institutions, such as universities and colleges, and at companies. Strong collaboration between all these parties is important to ensure that knowledge gained from fundamental research is translated into applications that benefit society.

The development of improved varieties can make an important contribution to solving social issues, such as population growth, climate change and urbanisation. For instance, this concerns crops that are resistant to new diseases and pests, or are resistant to salty, dry or wet conditions. We also strive for crops that are easier to process mechanically or have a longer shelf life after harvest.

THE PLANT AND ITS ENVIRONMENT

Working with a natural product poses many complex questions for plant researchers. How do drought resistance genes interact with disease resistance genes? Can we learn from plant genetics to make people better? And what is the role of the environment in, for instance, the outbreak of a fungal disease? This kind of knowledge about the plant and its environment helps breeders to work more specifically on improving varieties. Good research contributes to a faster breeding process and offers additional opportunities to achieve 'complex' properties in plants.

Advanced botanical research also plays an important role in the training of current and future personnel. The sector now has around 12,000 jobs, a staggering one-third of which are taken up by higher educated people. Moreover, the number of jobs in the sector continues to increase. Demand for employees with an eye for the practical aspects of plant cultivation, and so-called 'green fingers', is only expanding. Plantum therefore wants to work more closely with higher professional vocational and senior secondary vocational education institutions (hbo and mbo respectively) to show students what challenging jobs the breeding sector has to offer.



FUNDAMENTAL AND APPLIED RESEARCH

Plantum has a very diverse support base. All companies are innovative in their own way, but have different knowledge questions that require different research. One company struggles with very fundamental questions, and can then further develop this fundamental knowledge into practical applications. Another company encounters very practical problems that require applied, practical research. And then there's the middle group, who likes to work together pre-competitively. Suitable tools must be available to all these companies to meet their needs. More financing must be made available for blue sky, extremely fundamental research. This will encourage knowledge institutions to remain a global leader in the field of plant research. Plantum also wants to improve cooperation with hbo and mbo institutions. Regulations that make research at hbo and mbo institutions possible are in place, but these options are not yet sufficiently known to our members. Through these routes, we are happy to serve our broad base of supporters with their very diverse research questions.

CROPXR

A good example of an integrated approach in a research programme is CropXR. This programme provides fundamental knowledge about resilience. This knowledge is then translated into specific crops, through, among other things, practical research and knowledge from participating companies. The knowledge acquired is also included in the various curricula at universities and colleges, so students are trained on the basis of the latest knowledge from the field. The government's facilitating role, the (fundamental) knowledge of universities, the crop knowledge of companies and the practical knowledge and solutions of hbo and mbo institutions together make CropXR a promising option!