SEEDS FROM EUROPE

MAIZE, A KEY TO BUILD OUR FUTURE.

CONCLUSIONS

The genetic progress of maize has therefore offered many benefits to not only farmers but also for consumer diets. Thanks to breeding work, these improvements can continue in the years to come: adaptation to climate change, more yield, more MFU, more resistance to water stress, pests and ear diseases.

According to forecasts by the Food and Agriculture Organization of the United Nations (FAO), food production in the 21st century should increase by 60% in order to meet the food needs of the ever-expanding world population.

In this context, the cultivation of varieties of maize that are more resistant, more profitable and that have increased nutritional qualities is one of the essential responses. It will help ensure global food security, which remains a real challenge for humanity in the decades to come!

Seeds from Europe MAIZE

MAIZE IS A CROP OF THE FUTURE WITH AN EXCEPTIONAL GENETIC HERITAGE.

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What is the genetic heritage of a plant?

In short, it is the entire genome with all the genetic characteristics that are passed down from generation to generation. Each plant has its own specific genetic heritage. Maize is a crop of the future with an exceptional genetic heritage.

The genetic heritage of a maize variety determines the potential of the plant in terms of yield and energy value (MFU). It also conditions the ability of the plant to develop in a specific environment, defining its need for temperature, its initial vigour and its resistance to diseases, lodging and pests.

Why is this so important? Because today only 103 varieties of plants, many of which are maize, wheat and rice, represent 90% of food crops in the world and produce 60% of the calories consumed!

Today, the agricultural sector must be able to adapt to a constantly changing environment, in particular to climate change, major regulatory changes and increasing societal pressure. This is fundamental if we want to be able to feed a growing world population. For this reason, the genetic resources of plants at our disposal are an integral aspect of our adaptation strategies.

In this context, seed companies are working to select plants with enhanced pest resistance, better tolerance to water stress and a composition enriched in nutrients. This is why genetic progress and varietal improvement are at the heart of the entire industry.

What is genetic progress?

It is the ability to improve, through selection, the performance of different varieties. Why genetic progress? Precisely to create, from existing varieties, new varieties with improved potential and composition.

Specifically for maize, the research work aims to deepen knowledge of the genome, improve selection techniques, define and evaluate criteria of interest to producers and finally to classify varieties according to their performance. This last activity is aimed at selecting homogeneous parent lines that enable the production of high-performance hybrid varieties.

The interest criteria of farmers are diverse but what counts for them is that the variety of maize is as adapted as possible to the pedoclimatic conditions. In general, for each new variety, growers expect improved characteristics, with more yield and more MFU.

It should be noted that since 1945 and the appearance of hybrids, genetic progress has already brought many improvements to producers. Yields and MFU have increased, the level of resistance to major diseases has risen, and the rod holding has been improved. Year after year, this greatly benefits farmers.

Progress is recorded in all maturity groups. For very early varieties, for example, the yield has been improved by 0.18 tMS/ha per year, and the level of MFU has been improved by 0.04 MFU/kg DM per year, which is not negligible.

How can farmers profit from genetic progress?

Farmers can achieve this in three ways:

- by regularly introducing new varieties in their rotations,
- by testing new features on part of the surfaces,
- by adopting the most interesting varieties according to their needs.

To fully benefit from the progress offered by genetics, producers must nevertheless assess a set of criteria: productivity and regularity, maturity, feed value (MFU) and agronomic values.

The testimonies of producers show that the genetic progress of maize has brought true benefits to the quality and yield of milk, to the regularity of quantity and therefore to the safety of farms.

Several producers highlight a good yield of around 15 to 16 tonnes of dry matter per hectare.

The silage maize obtained offers stability in terms of quality and quantity in milk production throughout the year. It also helps maintain the health of the herd by avoiding deficiencies and excesses, because silage maize remains an appetising plant, rich in fibre and starch.

The advantages obtained from good quality maize silage translate into a high level of milk yield, in the order of 10,800.00 kg of milk per cow.

Finally, farmers appreciate working with maize because cultivation is fairly simple to set up from sowing to harvest, in particular thanks to good vigour at emergence and a low treatment frequency index.