

Innovating for food and nutrition security in South Africa

By Tony Esmeraldo, country leader: South Africa, DuPont

Sustainable protein is essential to our future. By 2050, the world population will reach 9,1 billion, creating further demand for protein as the population grows. Evolving customer trends, coupled with an increasing global population and a growing middle class, are placing an even greater demand on protein and subsequently the oilseed industry's need to drive productivity.

In line with these global trends, the oilseed industry in South Africa is experiencing an interesting shift and, to some extent, mirroring global trends. According to the Bureau for Food and Agricultural Policy (BFAP), there was an increase of animal protein in the food expenditure basket of the lower middle class, upper middle class and wealthy segments in South Africa, which drives an increase in the demand for animal feed.

Southern Africa is currently a small player in the global soya bean market and is emerging as one of the few possible new frontiers for expansion. This presents an attractive long-term growth opportunity in the oilseed market for local farmers and the entire value chain.

Lower than average yields

The continent, however, currently achieves lower than average yields. For instance, the average yield for soya beans in South Africa is 2,29t/ha (2016/17 season), up from 1,89t/ha in 2014. It is important that the industry avails improved seed to help farmers meet the demand and overcome the challenge of disease, insects and low yields.

With improved seed technologies and agronomic practices, South African farmers can achieve average yields similar to global players who enjoy more favourable growing environments. Private

seed companies and government need to increase investments in research and in the protection of intellectual property.

The industry can adopt global technologies, but employ local environment-specific research and agronomic practices to help farmers – in this way helping them to better manage pests and crop diseases, climate volatility and soil fertility and to optimise yields by geography and improve crop productivity on every hectare.

The other big challenge faced by the industry is the high rate of grain retention for seed. This creates a challenge for private sector investment and limits access to technology. However, on the horizon is the End-Point-Royalty (EPR) system which will reward the owner of the intellectual property for their input into soya bean research. This will, without any doubt, stimulate the soya bean research environment in South Africa, and enable technologies that are being applied in North and South America to be employed here.

Benefits of the AYT process

Investments in research processes, including the Accelerated Yield Technology (AYT™) process, soya bean diseases, nurseries, innovative trait technologies and the ability to attract top-notch research talent, will pay off for farmers, the industry and ultimately the consumers in the long term.

Getting full access to global technologies is critical to future growth opportunities, success of farmers and the industry's value chain as a whole. The use of the AYT process pinpoints native trait genes for increased defensive trait protection and improved pest resistance packages tailored for specific geographies.

Context-specific markers to help optimise yields by geography, pinpointing

native trait genes for increased disease resistance, and improved nematode and insect tolerance are being used widely in the rest of the world to drive genetic gain. These are expensive technologies, but, given the reward the EPR promises, we can expect technologies such as AYT to be deployed locally in future.

Broader range of cultivars

This will bring soya bean farmers a broad range of high yielding cultivars, ushering in an exciting new era in soya bean production in South Africa. Continuous innovation and deploying world-class technologies has become a requirement, not a choice. Research derived improvements are incremental in nature, and require long-term commitment to realise the benefits. The sooner the EPR system is implemented, the sooner the research engine can be up-scaled to realise these benefits.

Health-conscious consumers these days also expect foods with labels that say 0g trans-fat, and food manufacturers and restaurants are transitioning to oils that can meet this demand without sacrificing performance – or the taste that keeps their customers coming back.

The next frontier would be to consider the introduction of healthier high oleic soya beans into the South African market, which offers consumers nutritional benefits with broad applications. This will create more value for soya bean farmers, the supply chain as well as health-conscious consumers.

Investing in local research and new world-class technologies to enable farmers to maximise yield potential, agronomic traits and resistance to yield-robbing pests are the only way to drive growth and to address the challenges the industry is facing. 🌱