

Big year of the soya bean

By Jan Dreyer, Protein Research Foundation



The past season has favoured soya beans by presenting us with several records. For the first time the total harvest exceeded 1,34 million tons with a production figure of more than 2,34 tons per hectare – the highest ever. Add to this a very favourable soya bean/maize price ratio, which resulted in positive profit margins in favour of soya beans. Sadly, though, these records did not coincide with even bigger soya bean plantings.

The coming season would probably see a re-entry of players, and especially new entrants, while it would also benefit the old hands who may want to reconsider some production aspects for a moment.

Why soya beans?

The crop fits into the summer crop area as though it was made for it. It provides the ideal opportunity for crop rotation using maize – where maize follows soya beans,

there is a strong possibility that a producer can expect a 10% greater maize yield.

The past season once again put strong emphasis on the importance of risk management. Not only is physical yield at stake, but the last season certainly and specifically underlined price risks. A single crop cultivated year after year, poses more disadvantages than benefits. Add to this the shift from conventional to conservation farming, and rotation with especially soya beans becomes a given. Seasons vary with very low predictability, so spread your crop risk, as well as your price risk, as this will benefit you over the long term.

Production aspects

Field selection is an aspect that requires close attention. If a particular field was planted with sunflowers, peanuts, dry beans and even soya beans last season, then soya beans are not a good follow-up choice.

Fields with a history of sclerotinia contamination and root-knot nematodes should be avoided.

Weeds in a field cannot only steal your joy, but also your profit. Now is the time to ready your game plan to ensure that soya beans are planted in a weed-free field the coming season. Planning includes ensuring that the waiting period of the herbicides applied last season has already

expired. Make sure which pre-emergence intervention will be used and how post-emergence weeds will be controlled.

To apply effective weed control, a farmer needs to know which weeds will harm his crops and how it can be controlled. Weed control is only as good as the efficiency with which it is executed. The nozzles must be right – pump pressure and water volume per hectare are just as important. Where tank mixtures are used, ensure that the various chemical substances are compatible.

Are soil samples necessary?

Don't venture guesses as to what is going on in your soil – rather use soil analyses to formulate your fertiliser strategy. Soil samples are only useful if it is representative of the field, so try to take samples correctly. This is something a reliable fertiliser consultant can help you with.

Use the soil information to make corrections ahead of time, and remember that liming will activate certain herbicides. Remember that after a record year, a record amount of nutrients will be extracted from the ground. Potassium in the soil (including substrate) will probably be low. Soya beans require at least 25kg potassium for each ton of production.



Make sure the combine harvester is ready at harvest time. (Photograph: Infoworks)

Fertilisation guidelines are freely available on the Protein Research Foundation (PRF) website, www.proteinresearch.net. It remains a good policy to fully supplement the nutrients extracted from the soil during a particular season as soon as possible.

Cultivar choice

This topic can cover numerous pages and generate many arguments. To select cultivars for a specific region, you must utilise all of the reliable sources in your area. The soya bean cultivar recommendations by the Agricultural Research Council (ARC) are a good starting point. Add to this information regarding cultivar trials conducted by seed companies, and do not forget about producer trials which are carried out with great dedication and accuracy.

Regardless of cultivar choice, make sure the cultivar resides in a growth class (maturity group) that applies to your

area. The boundaries, of course, are blurred, but in general they can be divided into cool, moderate and warm areas. Consider normal entry dates of frost.

Choose cultivars that have been adapted to the three climate zones in your area. Preferably choose four cultivars from different maturity groups, if practically possible, because

they spread risk and offer producers a buffer against fluctuating environmental conditions and diseases.

Non-negotiable requirements for the selected cultivars are purity of seed, good germination and especially growth potential.

Because there is a significant possibility that larger soya bean plantings will take place this season, one needs to acquire the seed of desired cultivars as soon as possible and guard against 'over the fence transactions'.

Prepare all equipment

Regardless of which production programme is followed, the planter remains one of the most important components of any programme. Accurate depth placement (preferably not deeper than 4cm) and kernels (not closer than 3cm) in the row are the beginning of a record harvest. Production areas and fields differ.

Where diseases are not a problem, the following rule of thumb applies: the narrower the rows, the higher the yield. Practical conditions on a farm usually determine row widths. All equipment, but especially nozzles, must be serviced and calibrated.

Make sure that there is harvesting capacity when you start to harvest. A so-called 'flexi' table would be preferable because soya beans may bear low pods. Especially

important is the timelines of harvesting, as open pods can lead to substantial damage.

Seed inoculation

Nitrogen binding is a prerequisite for bumper soya bean harvests, and requires Rhizobium bacteria. Buy your inoculant from a reputable supplier. Handle this inoculant like medicine: avoid sunlight, store it according to directions and administer it according to the instructions. Be sure to check the expiration date and to use the inoculant before that date.

Inoculants can be applied in the furrow or on the seed, or use both methods to be sure. Inoculate all soya bean seeds, irrespective of whether soya beans were planted in a field previously. Low pHs can limit nitrogen binding. Consult an expert for the application of molybdenum.

Select the planting date

Select the planting date according to the area in which you farm. A guideline will be:

- End October to end November for cool areas.
- Early November to early December for mild areas.
- Mid November to mid December for warm areas.

In the majority of cases, rain determines the planting date. Take into account, however, that the later the optimal planting date, the lower the yield potential will be. Soil temperature must be at least 15 degrees or higher before planting.

The golden rule remains: do not plant soya beans in dry soil – transfer moisture or good rains received prior to planting time, tend to reduce yield risk. Plant when moisture is sufficient throughout the root zone. Use all available information regarding soya beans to ensure success. Remember the PRF website and the soya bean production manual, as well as the ARC-Grain Crops Institute as sources of information, to name only a few.

Closing wish

Join a soya bean research group – not only will it save you a large sum of money, it will also offer a learning experience that you will thoroughly enjoy.

Make sure you do not miss the year of the soya bean – your crop partner through good and bad economic and production seasons. 🍀



Make sure the planter is correctly calibrated in terms of plant depth and plant condition. (Photograph: WF van Wyk, PRF-contractor)