

# PLANNING AND MANAGEMENT: A recipe for success

**W**hen it comes to soya bean yields, South Africa cannot compete with the rest of the world. Our biggest challenge comes in the form of drought and this makes the management of soya beans all the more important if we are to manage and limit varying yields due to drought. For every decision you make, you also have to consider the impact of your action on the harvest.

Here are five guidelines that can assist soya bean producers to manage the effect of drought on the harvest and to increase the yield.



*Yield losses of 6% and less are regarded as acceptable. At 1,8 tons this equals 100kg less beans harvested per hectare. This represents a handful of beans per square metre.*

### Keep abreast of technology

Looking at national cultivar trails, a difference of 500kg/ha can be expected between the best and worst cultivar. This clearly indicates that one should select the best among the various registered cultivars. Data from the past three years released by the Agricultural Research Council (ARC), shows that new cultivars planted over the past two seasons performed much better than the cultivars that dominated trials and the market during the previous three years. In short, the producer should rather opt for new cultivars than those that performed in the past.

It is always good practice to not put all your eggs into one basket. Spread the risk by rather planting a package consisting

of different cultivars and different growth classes. Once the cultivars have been arranged in different growth classes, one is able to select the best from each class. This is the best way of managing risk.

### Planting date and density

Planting dates that are later than mid-November, require an increase in planting density. Bear in mind that accurate seed placement (planting depth, seed spacing and contact with the soil) is more important than density. Be sure to use proper planting equipment. Seed mortalities requires that one plants 20 to 30% more seed.

Each row width has its own ideal plant population, as indicated in *Table 1*.

**Table 1: The ideal row width for each plant population.**

Row width (metres)	Seeds per metre	Plant population
1,52	25 - 32	180 000 - 210 000
0,91	24 - 28	260 000 - 300 000
0,76	22 - 26	280 000 - 340 000
0,5	14 - 18	300 000 - 360 000

Soya beans utilise large amounts of phosphates and potassium. If these minerals are not supplied to the plant, the effect on the yield will be negative without symptoms necessarily being visible. This is especially true for phosphate. Our soils contain relatively low levels of phosphate, while soya beans easily withdraw 9kg of phosphate for every ton that you harvest.

### Inoculants and fertilisers

Given this situation, it is clearly a myth that soya beans don't need fertiliser. While it doesn't react to fertiliser band placement as quickly as maize does, it does react well to soil reserves that have built up over long periods of other crop fertilisation.

Although soya beans utilise large amounts of nitrogen, the application of nitrogen isn't recommended. The nitrogen requirement of soya beans is met by treating the seed with the right nitrogen-correcting nodules (Rhizobium – WB74) before each planting season. It is a cheap and labour-intensive, but essential process.

### Conserving soil moisture

All soil preparation for soya beans has an effect on the availability of soil moisture to plants. It applies especially to early weed control and seedbed preparation. Soya beans require a properly prepared, fine, weed-free seedbed for good germination. Avoiding large clods of soil, furrows and ridges will ease the planting process and ensure a good stand. Herbicides are also more effective in a fine, well-prepared seedbed.

### Harvesting of soya beans

The success of soya bean production is determined by the amount of soil moisture available during the grain-filling period. The availability of soil moisture at the end of the season is an indication of whether your actions at the start of the season were successful.

Timeous harvesting is more important than one realises. If one waits too long to harvest, the soya beans become dry and more losses will occur due to pods snapping open.

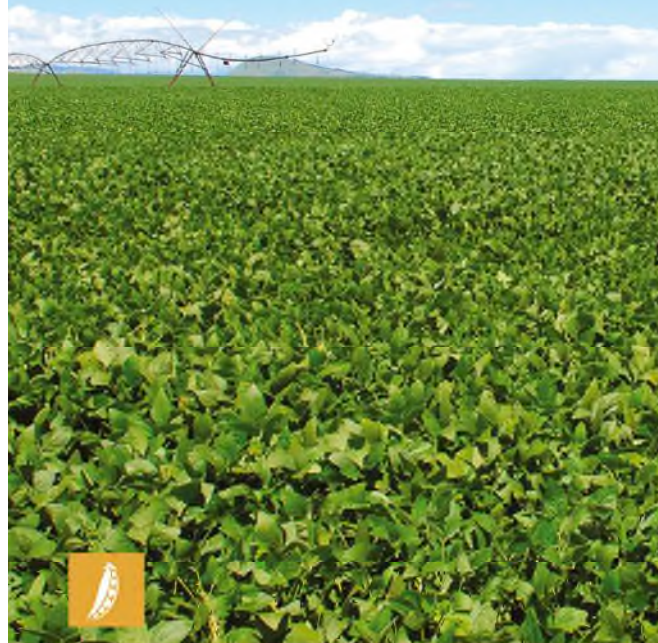
Yield losses of 6% and less are regarded as acceptable. At 1,8 tons this equals 100kg less beans harvested per hectare. This represents a handful of beans per square metre.

Eighty percent of overall yield losses are ascribed to beans that never pass through the harvester and are wasted by the table. This means that maintenance and adjustment to the harvester table are crucial processes on a soya bean farm. These losses are limited when one harvests soya beans with a moisture content of more than 12.

Almost every action a soya bean producer takes, must be carefully planned to ensure proper execution and profitable yields. Mistakes made during the planting season, are very difficult, if not impossible, to correct.

For more information, phone Nico Barnard on 082 850 1503. 

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