



# Information Sheet

## 1.4 NovaCane® planting guide

NovaCane® plants are disease-free sugarcane plants that have been reproduced by means of tissue culture techniques in a laboratory. Once leaving the laboratory the plants are grown in speedling trays for a period of 3–5 months and the leaves are trimmed monthly. As they are similar to transplants grown from single-budded sets, they require careful handling during planting.

NovaCane® plants satisfy the requirements to be classified as Certified Seedcane and can be harvested twice (plant and 1st ratoon crops) as Certified Seedcane, provided the cane remains pest and disease free.

Occasionally NovaCane® plantlets can develop into thin reedy plants that tiller profusely. Although they are true-to-type this growth habit can affect the final yield of seedcane.

### Planning

- Order NovaCane® plants 12 months before the planting date.
- Ideal planting times are September, October and March. Avoid planting mosaic susceptible varieties from end of September through to the end of February to reduce the risk of mosaic infection.
- The number of NovaCane® plants planted per hectare differ depending on the row spacing in the field (see table). Within the row, space plants 40 cm apart. The closer spacing enables a quicker canopy and better weed control, and a smaller gap if plants die or have to be removed for any reason

Row spacing (m)	Number of plants per hectare at 40 cm between plants
0.9	27 777
1.0	25 000
1.2	20 830
1.4	17 860
1.5	16 660

#### Tramline row-spacing:

Note that it will be necessary to calculate the numbers of plantlets required depending on the specific tramline row spacing chosen. For example, for a spacing 0.6m + 1.2m (two cane rows spaced 0.6 m apart alternating with a 1.2m wide traffic area – see SASRI booklet for Infield Traffic Control for an example of this configuration) there will be 11 111 metres of row per hectare requiring 27 777 plantlets at 0.4 m planting spacing.

For a step by step calculation:

To calculate the number of metres of row, the equivalent single row spacing is required. For the 0.6 + 1.2 m tramline example, 2 rows are contained within 1.8 m swath (i.e. a 0.9 m equivalent spacing).

To determine the metres per hectare, divide 10000 (m<sup>2</sup> per hectare) by the equivalent spacing =  $10\ 000/0.9 = 11\ 111$  metres per hectare.

To determine the number of plantlets per hectare, divide the metres per hectare by the plantlet spacing (0.4 m) =  $11\ 111/0.4 = 27\ 777$  plantlets per hectare.

- Great care should be taken when transporting NovaCane® plants. Vehicles should be covered and the plants should not be exposed to high temperatures. If there are delays in delivery, the consignment should be removed from the delivery vehicle, if possible, and stored in a cool place. Wet the plantlets if they are to be stored for any length of time.
- Plant within 24 hours of delivery (especially if NovaCane® plants are received bulk-packed in plastic bags). Plants that are hardened in trays with plastic sleeves should be kept in the sleeves up to the time of planting (if possible) to further reduce stress.

## Soil preparation

- NovaCane® plants must always be planted in the best soils and irrigation of some form must be available.
- The soil should be clod-free to avoid air-pockets forming around the roots, regardless of whether ploughing or minimum tillage has been used as a form of cultivation.
- Fertiliser (phosphorus (P) and potassium (K)) should be applied and incorporated into the soil prior to planting to avoid the possibility of root scorch. Nitrogen fertiliser should be top-dressed after the plants are established.
- A day or two before planting, draw shallow furrows in the field to be planted in order to mark the planting line and provide a base into which the NovaCane® will be planted.

## Planting

- A wooden peg and hammer is required to make the hole for the NovaCane® plant. Provide staff with a 40 cm length of stick to measure the distance between plants. There are also both hand implements (see Figure 1) and tractor-mounted implements designed specifically for planting tree and other seedlings and these can be used to speed up the planting process.



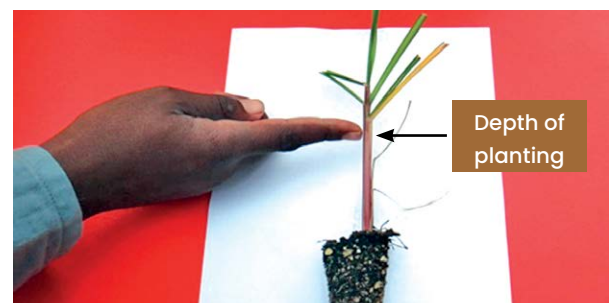
- If the soil is dry and friable (easily crumbled), a small amount of water will be required to allow the planting hole to remain open long enough while the NovaCane® plant

▲ Figure 1. A typical field being planted with NovaCane® plants.

- is positioned and planted. It is also a good idea to water each NovaCane® plant after planting. At least 1 litre per plant should be applied. There are also commercially available water-retaining gel products which can be applied in the planting hole that will enable water to be made available to the plant during the very early stages of growth.
- The depth of planting should be just below the lowest leaf of the NovaCane® plant to ensure that tillering occurs below soil level. This will give the roots a good start and reduce stress to the NovaCane® plant (Figure 2).
- Gentle foot pressure needs to be applied around the NovaCane® plants after planting.
- Bandito® (imidacloprid plus oxamyl), or registered equivalents, should be applied to control insects (e.g. thrips and aphids) and nematodes.
- The field should be irrigated after planting.

## Weed control

- Fields planted with NovaCane® can be either hand-weeded or sprayed with herbicides within a week of planting. Herbicide damage is minimised when leaves are trimmed and the NovaCane® plants are planted deep. Early application of pre-emergent weed control products such as metribuzin are safe for the use on NovaCane® plants if directed into the interrows such that the spray swath covers only the base of each plant. NovaCane® plants are very sensitive to herbicides.
- Fields with a history of creeping grasses should not be planted to NovaCane® plants



▲ Figure 2. The required planting depth for a NovaCane® plant.

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