I WANT TO START FARMING SUGAR CANE
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ILLOVO SUGAR CANE
WHAT’S IN IT FOR ME?

Would you like to use a natural resource to create an income for yourself?

There are many benefits of growing sugar cane:
• Sugar cane provides a continuous source of income – there is always a market for it.
• The costs for land preparation are cheaper than growing most other food crops because you only prepare your land every 8-10 years for sugar cane.
• The soil in your field is not disturbed as frequently.
• You need less continuous labour to grow sugar cane.
• There is always extension support available close by.
• You create an income for your family, and jobs within your community.
• Besides becoming part of the sugar industry, there are bursary opportunities available in the industry for you and your family.

WHAT SUPPORT DO I HAVE AS AN ILLOVO GROWER?

As an Illovo Grower, you have a lot of support in growing your sugar cane. Illovo Sugar provides extension officers, training days, and even funding, so that you can turn your land into money!

SASRI (The South African Sugarcane Research Institute) sets the standards for growing sugar cane and runs all the tests you will need as a Grower; they also provide training.

The Government, SA Cane Growers Associations, SAFDA and SASA also provide support and advice; and the contractors you need at each stage can be found right here, in your community.

In fact, whenever you need advice or help with your sugar cane, contact your extension officer – they are always here to help you.
SUCCESS STORIES

I started to plant sugarcane in 2013 with 0.5 ha and I had a tuck shop by that time. My hectares have now increased to 5 ha which was planted in 2015. With the income from sugarcane I managed to increase the stock in my shop and I am getting a better profit now.

My son is studying at Wits University although he’s got NSFAS but I manage to give him money when it is needed.

I started planting sugarcane in 2012 with recap funding. I am not working, I am selling vetkoek at a nearby school. My mother passed away in 2016 and it was time for my daughter to start at tertiary. I didn’t have money to send her and I was left alone as my mother has passed on. My daughter was accepted at DUT and I quickly harvested my cane and with that income I paid her registration fees. Luckily she got a bursary and now she is doing her second year. I won’t stop growing sugarcane because I can see the good results of it.

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I WANT TO START FARMING SUGAR CANE!
**WHAT DO I NEED TO DO?**

Measure your field size in hectares, and get the GPS co-ordinates of your land. Your extension officer will be able to help you with this.

Knowing the size of your field will help you to determine how much seed cane you need to buy, and how much capital you will need.

**PRE-PLANNING**

**MEASURE YOUR FIELD AREA**

**WHAT DO I NEED TO DO?**

It is very important to do soil samples of your field before you plant. The soil sample will determine which fertiliser you need, and how much – remember: fertiliser is food for your sugar cane.

The results from your soil sample will indicate which fertiliser to use when planting your cane, and which to use when you are managing the ratoon for the next few years. The sample results will also reveal how much lime is required for your soil type.

**SAMPLE YOUR SOIL**

**KEY INDICATORS**

1. **Soil Phosphorus**
   - **Low**
   - **High**
   - **Adequate**

2. **Soil Potassium**
   - **Low**
   - **High**
   - **Adequate**

3. **Exchangeable Sodium % (ESP)**
   - **Limiting**
   - **Adequate**

4. **Acid Saturation**
   - **Low**
   - **High**
   - **Adequate**

5. **Total Cations**
   - **Low**
   - **High**
   - **Adequate**

6. **Nitrogen (N)**
   - **Low**
   - **High**
   - **Adequate**

7. **Organic Matter Estimate**
   - **Low**
   - **High**
   - **Adequate**

8. **Clay Estimate**
   - **Low**
   - **High**
   - **Adequate**

9. **Silicon (Si)**
   - **Low**
   - **High**
   - **Adequate**

10. **Iron (Fe)**
    - **Low**
    - **High**
    - **Adequate**

11. **Copper (Cu)**
    - **Low**
    - **High**
    - **Adequate**

12. **Zinc (Zn)**
    - **Low**
    - **High**
    - **Adequate**

13. **Exchangeable Sodium % (ESP)**
    - **Limiting**
    - **Adequate**

14. **Acid Saturation**
    - **Low**
    - **High**
    - **Adequate**

15. **Total Cations**
    - **Low**
    - **High**
    - **Adequate**

16. **Nitrogen (N)**
    - **Low**
    - **High**
    - **Adequate**

17. **Organic Matter Estimate**
    - **Low**
    - **High**
    - **Adequate**

18. **Clay Estimate**
    - **Low**
    - **High**
    - **Adequate**

19. **Silicon (Si)**
    - **Low**
    - **High**
    - **Adequate**

20. **Iron (Fe)**
    - **Low**
    - **High**
    - **Adequate**

21. **Copper (Cu)**
    - **Low**
    - **High**
    - **Adequate**

22. **Zinc (Zn)**
    - **Low**
    - **High**
    - **Adequate**

**LIME AND NUTRIENT RECOMMENDATIONS**

- **Lime** should be incorporated into the soil 3 to 6 weeks before planting.
- The maximum K that should be applied in the planting furrow is 100 kg/ha. The remainder should be broadcast.
- Where high levels of Eldana are anticipated, it is advisable to reduce N recommendations by 20 to 30 kg/ha.
- Lime is required for your soil type.
- The results from your soil sample will determine which fertiliser to use when you are managing the ratoon for the next few years.
- The sample results will also reveal how much lime is required for your soil type.

**POSSIBLE FERTILISER OPTIONS**

- **Dolomitic**
- **Urea**
- **MAP(33)**

**N CARBON DIOXIDE EQUIVALENT**

- **Plant**
- **Ratoon 1**
- **Ratoon 2**

**N recommendations are adjusted according to this rating.**

**Disclaimer:**

While every care has been taken in the preparation of the above advice, neither SA Sugarcane Research Institute nor its Consultants or Employees will be liable for any loss or damage, direct or indirect, which you or anyone else may suffer arising out of or in connection with the advice or any deficiencies in the advice.

* * *

**DATE RECEIVED:**

**REPORT DATE:**

**NATURAL RANKING FROM LOW TO HIGH**

**Pot. Chloride**

**SOIL PHOSPHORUS**

**SOIL POTASSIUM**

**SODIUM (Na)**

**MAGNESIUM (Mg)**

**CALCIUM (Ca)**

**POTASSIUM (K)**

**PH (IN CALCIUM CHLORIDE)**

**Copper (Cu)**

**Zinc (Zn)**

**Iron (Fe)**

**CLAY ESTIMATE**

**ORGANIC MATTER ESTIMATE**

**SILICON (Si)**

**EXCHANGEABLE SODIUM % (ESP)**

**ACID SATURATION**

**TOTAL CATIONS**

**P R E - P L A N N I N G**

**M E A S U R E Y O U R F I E L D A R E A**

**S A M P L E Y O U R S O I L**

**1**

**2**
When?
You have to plan well ahead with sugar cane – you may need to source it a year before you are ready to plant.

WHAT DO I NEED TO DO?
Ensure you acquire the best variety of cane to match your soil type and weather conditions, and ensure that it is good quality, disease-free cane. Agree on the cost per ton of seed cane with the seed cane supplier. Your extension officer can assist you with this.

BOOK YOUR SEED CANE

WHAT DO I NEED TO DO?
You need to do a cost breakdown for planting your measured area with sugar cane. Based on the costing you will be able to determine whether the funds you have are sufficient. Your extension officer will be able to assist you here and also advise whether further funding is available.

ACQUIRE FUNDS

- Planting
- Seed cane
- Top dress
- Hand weeding
- Harvesting
IMPLEMENTATION
PREPARE YOUR LAND

When?
Preparation of land is normally completed between May and August.

WHAT DO I NEED TO DO?
Hire the contractor to prepare your land for planting cane.

Ensure your contractor does the following:
- Kills all vegetation (like old sugar cane crop, or grass) by applying industry approved chemicals.
- Applies lime based on your soil analysis. Lime should be incorporated into the soil 3 to 6 weeks before planting.
- Incorporates lime into the soil by ploughing or harrowing the field.
- Ridges the field for planting.

COLLECT YOUR SEED CANE

WHAT DO I NEED TO DO?
- Hire the contractor for cutting the seed cane at the seed cane source.
- Hire the contractor for loading and transporting the seed cane to your field.

Ensure your contractor does the following:
- Ensures field hygiene - A clean cane knife should be used every 10-20 meters, the contractor should use 3 knives in rotation, and the knives should be cleaned with Jeyes fluid (disinfectant) in between each use.

Do random checks while the contractor is cutting the seed cane to ensure you have the best possible quality.

- This will prevent the spreading of diseases.
When?
Planting should be completed between 1-3 days after collecting the seed cane. This ensures the cane you plant is the best quality.

Ensure your contractor does the following:

✓ Applies fertiliser in the cane rows based on the fertiliser recommendations to feed your soils.
✓ Plants field based on the planting standards recommended by your extension officer. The seed cane should be placed lying down in the furrows, overlapping and with no gaps.
✓ Cuts seed cane into smaller setts. The ideal length is between 20 and 30 cm (the length of a ruler).
✓ Ensures field hygiene - A clean cane knife should be used every 10-20 meters, the contractor should use 3 knives in rotation, and the knives should be cleaned with Jeyes fluid (disinfectant) in between each use. This will prevent the spreading of diseases.
✓ Properly covers the seed cane with soil in the cane furrows after planting.

WHAT DO I NEED TO DO?

• Hire contractor for planting.
• Register as a Grower with SASSA. You can get the application form from your extension officer.

IMPLEMENTATION

PLANT YOUR SEED CANE
Herbicides are chemicals which kill the weeds competing with your sugar cane crop for nutrients to grow.

**When?**
Herbicide should be applied at the spike stage, when the sugar cane has germinated, and cane lines are visible. Weeds should not be taller than the height of a match box when applying the herbicide.

**WHAT DO I NEED TO DO?**
- Using your SASRI chemical guide, identify your weed spectrum and determine which chemicals to apply at the prescribed rates. Your extension officer will be able to help you with this.
- Purchase and collect your chemicals.
- Hire a contractor if you are not applying the herbicide yourself.

**REMEMBER!**
Weeds should not be taller than the height of a match box when applying the herbicide.
The timing of applying herbicides to the crop is very important.

Applying herbicides too early will be ineffective. Applying them too late means they will not destroy the weeds completely and they will continue to grow, using the nutrients in the soil that your cane needs to grow.

Ensure your contractor does the following:

✔ Uses protective clothing.

✔ Calibrates the knapsack sprayer regularly.
✔ Mixes the herbicide with clean water.
✔ Tries not to spray the cane leaves.
✔ Sprays in the inter row if cane is taller than 30cm.

Remember to always store herbicides in a safe place where children cannot access them.

This field has been left for too long before applying herbicides. Can you see how tall the weeds are?
APPLY TOP DRESS FERTILISER

When?
When the cane crop is between 30 to 40 cm high.

WHAT DO I NEED TO DO?
• Based on your soil analysis, order your fertiliser from the supplier.
• Before you apply fertiliser, make sure all the weeds are dead, or you will be giving them food to grow as well!
• Apply the fertiliser. The tin and string method can be used here, ask your extension officer if you would like more information on how to do this.

IMPORTANT
The correct amount of fertiliser applied is important to ensure maximum yield. Do not fertilise a field that is full of weeds.

When your cane crop is between 30 and 40 cm high, it will look like the cane in this picture!

HAND WEED

When?
Inspect the field approximately eight weeks after herbicide application, and hand weed if necessary.

WHAT DO I NEED TO DO?
Hand hoe weeds that were not killed by the herbicide. Place the weeds upside down, with the roots system exposed to the sun, to prevent regrowth.
HARVESTING
WHAT DO I NEED TO DO?
It is important to estimate how many tons of sugar cane you will harvest from your field. Based on the estimate you will be able to determine how much money you can expect for your sugar cane.

Fresh sugar cane = Good quality = More money

WHAT DO I NEED TO DO?
- Contact your local association to plan burning before harvesting.
- Hire the contractor for harvesting.

Ensure your contractor does the following:
- Cuts the sugar cane at ground level, ensuring the ratoon is not damaged.
- Cuts the tops at the correct height in line with the season (top lower for early and late season, top higher for mid-season).
- Is careful of using heavy equipment in wet fields as this will damage the soil for future ratoons of sugarcane.

The cane you send to the mill should be clean, mature and fresh, and should not contain any tops.
When?
The cane should be delivered to the sugar mill within 2 days of harvest in order to have the best possible sugar content.

WHAT DO I NEED TO DO?

• Hire contractor for haulage.
• Capture all your grower information on the delivery note book before loading the cane onto the haulage vehicle.
• Keep a copy of the delivery note as proof of loading.
• Make sure your field is gleaned (all loose cane is loaded), and all your cane is secure on the haulage vehicle before sending it to the mill.
• Request a weigh-bridge slip from the haulier as proof of delivery at the sugar mill. The weigh-bridge slip will have all your information and how many tons of sugar cane were accepted at the sugar mill.
Time to Get Your Cane Proceeds!

Your cane proceeds will be paid into the nominated bank account. Remember, you need to save funds to manage your ratoon for the next season – herbicide, fertilizer and contractors.
Sample Your Soil

You should take new soil samples after the second ratoon as the nutrients, or ‘food’ available in your soil will change.

What do I need to do?

- The soil sample will determine which fertiliser you need, and how much – remember: fertiliser is food for your sugar cane.
- The results from your soil sample will indicate which fertiliser to use while managing your ratoon. The sample results will also reveal how much time is required for your soil type.

Now that you have cut the sugarcane planted in your field, the remaining part of the plant left in the ground will be able to grow AGAIN, without needing to replant. However, to make sure you get the best yields, you still need to look after the sugarcane carefully.

When?

Soon after harvesting it is important to remove old grass stools by hand weeding your field and spreading the trash, before you apply herbicides. Reducing the amount of herbicide you require is less. Spreading the trash helps prevent soil erosion, and puts nutrients back in to the soil for the next season.

What do I need to do?

- Using your SASRI chemical guide, identify your weed spectrum and determine which chemicals to apply at the prescribed rates. Your extension officer will be able to help you with this.
- Purchase and collect your chemicals.
- Hire a contractor if you are not applying the herbicide yourself.

Refer back to page 21 for a reminder of what you should ensure your contractor does while applying herbicides.
APPLY TOP DRESS FERTILISER

When?

MARCH TO MAY
• Apply fertiliser based on your soil sample results as soon as possible after application of herbicides.
• When the cane crop is between 30 and 40 cm high apply top dress fertiliser based on the soil sample results.

JUNE TO AUGUST
• Applying fertiliser in these months is not recommended. Due to the dryer conditions the soil cannot take up the fertiliser.

SEPTEMBER TO FEBRUARY
• Apply fertiliser based on your soil sample results as soon as possible after application of herbicides.
• When the cane crop is between 30 to 40 cm high apply top dress fertiliser based on the soil sample results.

Refer back to page 22 for a reminder on what you need to do during this stage.

IMPORTANT
The correct amount of fertiliser applied is important to ensure maximum yield. Do not fertilise a field that is full of weeds.

HAND WEED

When?
Inspect the field approximately eight weeks after herbicide application, and hand weed if necessary. This will ensure you have removed all weeds by the time the canopy forms.

WHAT DO I NEED TO DO?
Hand hoe weeds that were not killed by the herbicide. Remember to place the weeds upside down, with the roots system exposed to the sun. This will ensure they do not grow back again.
MANAGING YOUR MONEY

Your cane proceeds (profit) = RV Proceeds – Deductions

<table>
<thead>
<tr>
<th>Cane Proceeds</th>
<th>Fees and Levies</th>
<th>Ratoon Management</th>
<th>Harvesting, Loading &amp; Haulage</th>
</tr>
</thead>
<tbody>
<tr>
<td>±50%</td>
<td>±2%</td>
<td>±18%</td>
<td>±30%</td>
</tr>
</tbody>
</table>

WHAT DO I NEED TO DO?

- Ensure you understand your deductions. Ask your extension officer if you have any questions.
- If you borrowed funds to grow sugar cane, you will need to start repaying them.
- Save for ratoon management.
- Save for your family.

In response to the need to further inform and equip potential and new small scale cane growers, and in line with our vision of Thriving Communities, Illovo Sugar Africa has produced this booklet to support our Extension and Grower Development Teams.

We are grateful to all those who have contributed and would like to acknowledge the following in particular:

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For further information please contact the Illovo Group Learning and Development Team.