

PULA

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OCTOBER 2026



Planting time is here...



PHOTO: Derik Nel

ON THE COVER: Proper preparation before planting is the foundation of a successful production season.

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TIPS FOR OCTOBER

1 Maintain contours: When contour lines break or silt up, it fail to slow down water, creating mud traps and washing away fertile topsoil. According to Jacques Roux, previous regional development manager in the Free State, identifying wet spots early and maintaining contours is extremely important. 'When the outlets become blocked, it disrupts the intended flow of water, which causes wet spots,' Jacques explains. Wet spots and poorly maintained contours can cause soil compaction, root rot, yellowing crops and severe soil erosion.

2 Moisture conservation and weed control are crucial: With an El Niño being forecast for the season ahead, the regional development managers (RDMs) also emphasise the importance of conserving moisture through weed control. Effective weed control plays a significant role in moisture conservation because weeds compete directly with crops for available soil water.

The RDMs agree that all winter weeds should already have been eradicated to preserve the moisture content at this stage of the season. Du Toit van der Westhuizen, RDM in North West, adds: 'When planting groundnuts under adequate soil moisture conditions, apply a pre-emergence herbicide immediately behind the planter to ensure effective weed control.'

3 Get ready to go: If you did not do a full assessment of your equipment after harvest time, make sure you do it now. Always clean and check equipment before storing it. Before you start the engines for the new season, inspect all tractors and implements to ensure they are working properly. Have it serviced if necessary. Jerry Mthombothi, RDM in Limpopo and Mpumalanga, reminds farmers to calibrate planters and sprayers and to order any necessary spares to ensure that you have a problem-free planting season.

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Keep records for better results

Although most farmers prefer the practical side of farming, which is the heart of a farming operation, proper record-keeping is a critical part of a farmer's responsibility to ensure enduring success. Accurate records of the income, expenses, livestock performance, crop yields and input costs allow farmers to track progress, identify problems early and measure the success of different farming practices.

Record-keeping also helps farmers prepare budgets, access loans or financial support, meet compliance requirements and plan for future growth. Mlibo Qotoyi, junior operations manager at PGP, urges farmers to maintain relevant records. 'At a minimum, every farm should track input costs, planting dates, fertiliser rates, chemical applications, rainfall, yield, grain quality, selling price and net margin per hectare. These records turn experience into evidence.'

Running a farming operation takes planning, and keeping good records serves as a basis for making good decisions based on actual facts. It helps farmers know their real production cost and identify which crop makes a profit. This helps you make better decisions for the next season.

Keeping good records ensures that the farming business adheres to the rule of law regarding annual submissions – for example, tax returns and required document submissions when applying for credit. Many farmers are not eligible for loans because they lack records. Banks and investors do not fund farmers without records.

TYPES OF RECORDS

The nature and scope of a comprehensive farm record-keeping system will depend on the nature and size of the farm business. However, the following types of records should be kept:

Production records

These include planting date, variety used, seed and fertiliser rate, spray dates and irrigation schedule.

Financial records

Apart from the cost of seed, fertiliser, chemicals, fuel, labour and transport, you should also keep the following records:

- A list of assets and liabilities (inventory).
- Income and expenses (remember to keep the source documents as well).
- Preparation of financial and management statements.
- Analysis and interpretation of the farm's results.
- The planning for the next one to three years.

Mechanisation records

Machinery statements contain all the information about machinery. Record information on individual items, stating the model, age, book value, repairs, service records, hours worked and insurance.

Field and marketing records

These records support market planning and largely include market information in the form of historical product prices, quantities, dates, agents, etc.

Labour records

Labour statements record all matters about labourers. These include details such as service contracts, wages received, rations, medical costs and workers' compensation. Also record the number of labourers, loans, debts, leave and absences.

General records

Rainfall, a map of the farm and other records regarding the farm, such as tax returns, permit applications, vehicle licences, membership fees, field maps, etc.

Livestock records

These contain information about the various stock-farming enterprises in the farm business. They record feed, remedies, dosing and marketing costs for a specific herd or flock.

USING A SIMPLE SPREADSHEET

Using a computer along with the right software can make it very easy to keep farm records and compile financial statements. You can even use your cellphone with appropriate applications (apps), notes and photos to capture data. You can use Microsoft Excel, Google Sheets or any simple spreadsheet app on your phone.

However, if you do not have a computer or are not comfortable using technology, handwritten records are just as good and can serve the same purposes. A basic spreadsheet layout should, for example, include the following information (per hectare).

- Column 1: Date
- Column 2: Activity
- Column 3: Input used
- Column 4: Quantity
- Column 5: Cost
- Column 6: Notes

Create another simple sheet for profit calculation

- Column 1: Crop
- Column 2: Total cost
- Column 3: Yield (kg)
- Column 4: Selling price
- Column 5: Total revenue
(formula for total revenue = yield x price)
- Column 6: Net profit
(formula for net profit = revenue - total cost)

CONCLUSION

There are a few reasons why farmers do not make money:

- Estimating instead of calculating.
- Mixing personal and farm money.
- Not comparing seasons.
- Forgetting that small expenses can destroy profit.

References

<https://www.facebook.com/shady.juniortembo/posts/spreadsheet-and-record-keeping-in-farming-the-foundation-of-profitable-agribusiness/4306670529650321>

<https://www.grainsa.co.za/keep-paperwork-up-to-date>



MAKE THE RIGHT DECISIONS *before planting*



Every planting season begins with anticipation. Farmers review rainfall forecasts, service machinery, place seed orders and finalise fertiliser programmes. However, long before the first planter enters the field, many of the decisions that ultimately determine profitability have to be made.

In a season when climate signals, input prices and market movements require heightened attention, preparation is no longer merely an administrative exercise – it is the foundation of resilience, profitability and growth.

For South African grain farmers, the forthcoming production season presents both significant opportunities and material risks. Rising production costs, volatile and low international and local grain markets, tightening margins, infrastructure constraints and increasingly variable weather patterns mean that today's farmer is managing a complex business, not merely a field. Farmers who approach the season as a complete business cycle, rather than solely as an agronomic calendar, are better positioned to protect cashflow, withstand shocks and capture opportunities when conditions improve.

The most successful farming enterprises are not necessarily those that achieve the highest yields, but those that make the most disciplined decisions before the season begins. Yield remains important – however, sound planning, cost control, timing, market access and resilience increasingly distinguish profitable farms from vulnerable ones.

PRODUCTION BEGINS WITH PLANNING, NOT PLANTING

Every hectare planted represents a financial commitment long before it becomes a crop. With production costs remaining elevated, mistakes have become increasingly costly. A farmer who plants without a clear budget accepts a level of risk that can quickly become unmanageable if yields disappoint, prices weaken, or harvesting is delayed. Before purchasing seed, farmers should understand their soil potential, expected cost per hectare, realistic yield target, break-even yield, likely selling price and repayment obligations.

Reframe the decision: Successful farmers do not only ask *how* to plant – they also assess whether the enterprise can afford each hectare, whether the expected return justifies the risk and whether sufficient working capital is available to carry the crop through the season.

Know your numbers: Determine the exact break-even yields for different crops, update budgets with current input prices and secure realistic market options before buying inputs. A budget should be treated as a decision-making tool and not as a document prepared only for a financier.

Reduce production risk: After a farmer has done everything in his power to grow a successful crop, the climatic risk remains. Multi-peril crop insurance can provide farmers with a financial safety net against weather-related losses, helping to safeguard cashflow and improve the ability to meet production loan obligations after a poor season. Evaluate insurance early, while there is still time to compare options and understand exclusions.

SOIL HEALTH DETERMINES WHETHER IT DELIVERS VALUE

Fertiliser remains one of the highest variable costs in maize production, and its value depends on whether the soil can convert applied nutrients into yield. Applying more fertiliser to poorly corrected soils is not sound (effective) management – it is an expensive gamble. When farmers ignore soil acidity, compaction, low organic matter or poor nutrient balance, they often pay for inputs that the crop cannot use efficiently.

Diagnose before prescribing: Routine soil analysis, correcting soil pH with appropriate lime applications and thereafter the correct fertiliser recommendation remain among the highest-return investments available. Soil tests should guide decisions, not confirm assumptions.

Build natural buffers: Healthy soils improve nutrient availability, root development and water-use efficiency. Over time, practices such as residue retention, crop rotation and reduced unnecessary disturbance strengthen the farm's ability to absorb stress.

Strengthen climate resilience: Well-managed soils help crops withstand dry spells and erratic rainfall, which is a critical advantage as climate variability intensifies. Soil health is therefore not only an agronomic issue; it is also a business risk management tool.

CLIMATE UNCERTAINTY DEMANDS FLEXIBILITY

Recent seasons have challenged historical weather expectations, with delayed planting in some regions due to excessive rainfall and prolonged dry spells in others. The 2026/2027 season requires farmers to plan for a range of possible scenarios rather than a single ideal outcome. Forecasts should inform decisions, but they should not replace local knowledge, field scouting and contingency planning.

Prepare for possible El Niño conditions: Farmers should monitor updated seasonal forecasts, including the possibility of hotter or drier conditions, and plan conservatively where climate risk increases. Planning should favour resilience over optimism, supported by conservative yield assumptions, flexible planting windows and close monitoring of updated weather information.

Select cultivars carefully: Choose adaptive seed varieties suited to local production regions and realistic yield potential rather than chasing maximum theoretical yields. Consider the maturity class, drought tolerance, disease profile and planting-date suitability.

Conserve moisture: Focus on residue management, timely weed control and realistic planting windows (timing) to protect soil moisture and avoid unnecessary risk. Moisture lost before planting is often impossible to replace later in the season.

CASHFLOW, NOT YIELD, IS THE REAL CONSTRAINT

A common misconception in agriculture is that a strong harvest automatically results in profitability. In practice, a farm may produce a good crop and still experience financial pressure if cashflow is poorly managed. Production loans, contractor payments, input accounts, fuel expenses, wages and household obligations all place pressure on the farmer at harvest time. This is particularly relevant for developing farmers, who may have limited access to bridging finance or storage facilities.

Manage harvest-time pressure: Many developing farmers harvest acceptable crops but are compelled to sell immediately to settle production loans, contractor fees and input supplier accounts. This weakens their bargaining position and limits their ability to benefit from any later price recovery.

Avoid the pricing trap: Forced selling at harvest often means selling when local supply is highest and prices are under pressure. A production success can therefore become a cash-flow failure if marketing decisions are dictated by debt rather than strategy.

Plan repayments early: Farmers should align their production finance, expected harvest timing and marketing strategy before the season begins. Where possible, repayment structures should allow enough flexibility to avoid distressed selling.

WHY STORAGE MATTERS IN A SAFEX-LINKED MARKET

In a market linked to Safex prices, timing directly affects profitability. Prices move in response to local supply, international trends, exchange rates, regional demand and expectations about the next crop. While no farmer can control the market, farmers can improve their position by understanding price cycles and avoiding unnecessary exposure to harvest-time pressure.

- **White maize:** Seasonal price patterns can place pressure on prices during high-delivery periods, while prices may strengthen when supply tightens, depending on broader market conditions. This reinforces the importance of understanding basis, storage costs and realistic selling windows.
- **Yellow maize:** Feed demand, export opportunities and global maize prices influence yellow maize pricing. Farmers who follow market signals throughout the season are better equipped to decide when to sell.
- **Separate harvesting from selling:** Access to storage allows farmers to hold grain until marketing conditions improve, turning storage into a direct profitability tool. However, storage must be managed carefully, with attention to grading, quality preservation, costs and finance charges.

INFRASTRUCTURE REACHES FAR BEYOND THE FARM GATE

Infrastructure and technology have become critical production inputs. Farm profitability is no longer determined solely by activities within the farm boundary, but also by the systems

that support production, logistics and market access. Poor rural roads increase transport costs, delay input deliveries and accelerate machinery wear.

Unreliable electricity disrupts irrigation scheduling, grain handling and on-farm storage. Limited digital connectivity constrains access to real-time weather information, market intelligence, online banking, precision agriculture tools and extension support. These compounding factors reduce efficiency, increase production risk and limit farmers' ability to compete, underscoring that resilient agriculture depends as much on functional infrastructure as it does on sound agromonic practice.

For developing farmers, infrastructure constraints can be even more severe because they often rely on shared equipment, hired transport and distant storage facilities. A damaged road, delayed contractor or power interruption can become the difference between delivering grain on time and losing value through quality deterioration.



For developing farmers, infrastructure constraints can be even more severe

OTHER DECISIONS

Diversification is an economic business strategy: Tightening margins mean that reliance on a single enterprise is no longer a sufficient risk-management strategy. Diversification does not require abandoning maize; rather, it involves building a farming system that spreads risk, improves soil performance and creates additional income channels. The right combination will differ by region, soil type, rainfall pattern, mechanisation capacity and market access.

Farming has become an information business: Modern farming rewards those who make better data-driven decisions, not only those who produce greater volumes. Information has become a production input in its own right. Farmers who maintain accurate records, compare field performance, track costs and monitor markets can better correct mistakes and replicate successful practices. Without records, each season becomes a guess – but with records, each season becomes a learning opportunity.

CONCLUSION: FARMING FOR RESILIENCE

Every season presents challenges beyond a farmer's control, including fluctuating commodity prices, rising input costs, unpredictable weather and infrastructure failures. What remains within the farmer's control is preparation. The coming season will reward farmers who plan early, understand their numbers, protect soil health, manage cashflow and remain flexible as conditions change. The most resilient farming businesses are built through disciplined planning, sound financial management, practical agronomy and continuous learning.

Before the first seed goes into the ground, farmers must ask the critical questions: Can this hectare pay for itself? Is the soil ready? Is the cultivar appropriate? Is the market clear? Is the finance structure realistic? Is there a contingency plan if rainfall disappoints? The answers to these questions will define far more than yield. They will define the strength, competitiveness and resilience of the farming business itself.

This is a shortened version of an article which also appeared in *African Farming*.

MLIBO QOTOYI, JUNIOR OPERATIONS MANAGER: PGP

ROUTINE MAINTENANCE

prevents costly delays

Planting is one of the most important tasks on any farm, as it can make or break a farmer. Remember, you want plants to face the least competition and have the best opportunities to grow. This means controlling weeds and making sure the equipment works 100% correctly.

Poor planter performance can cause uneven planting. Some seeds may be planted too deep or too shallow, or they may even be left on the soil surface. Seed furrows may not close properly, the soil may become compacted and crop residue may interfere with the seed placement. Other problems include missed seeds and places where two or three seeds are dropped together. All these issues can reduce the crop yield and result in a lower income.

Never underestimate the importance of maintaining the planter and sprayer, as well as setting up the equipment correctly. Before heading to the field this season, consider addressing the maintenance items on your planter. Some items can be addressed in the off-season. A good idea is to find the operator's manual and read it again.

Not everyone has the privilege of new equipment – so, it is important to make sure everything works properly. Implements wear over time, so inspect the wear-and-tear points on the planter. Replace or repair all worn parts as soon as possible.

10 STEPS BEFORE USING YOUR PLANTER

- 1 • Start by inspecting the drawbar of the tractor and planter.
- Make sure your planter stays in line by checking for any excessive sway in the tractor's drawbar or three-point arms, as metal wear can develop over time.



2



- Check the manufacturer's specifications for your specific tyre pressures.
- Inspect the hydraulic lines and cylinders for wear, cracking or rubbing.
- Pay special attention to high-flex points such as fold joints and wing pivots, where lines may get pinched or stretched.

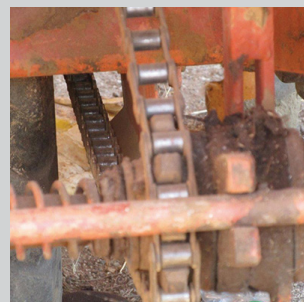
3



- Inspect the planter's frame components for damage or signs of wear.
- Remove the vacuum cover and check for small missing pieces or cracking in the impeller vanes. This can cause issues in creating enough vacuum pressure at the meters.
- Remember to remove all frame plugs before heading to the field.

4

- Ensure that the chain tension is correct and that the chains are flexible.
- Lubricate the chains thoroughly, inspect the chain clutches and lubricate it while inspecting for metal wear.



5

- Examine the row unit components for wear and accuracy.
- Use a measuring tape to ensure all row units are spaced correctly. A small offset can lead to significant problems during later field operations and at harvest, especially on larger-width planters.

6



- Check that the double disk openers are still sharp and within the diameter tolerance specified by the manufacturer.
- Adjust the contact point of the disk openers using the business card check – most commonly, this should be 40 mm to 50 mm.

7



- Adjust the contact between the gauge wheels and the disk openers to ensure the gauge wheels are contacting the disks, but that they can still be turned by hand with slight pressure.
- Inspect the bearings of the wheels. Check the alignment of the closing wheels by setting the planter down on concrete and pulling it forward 5 m.
- Ensure the closing system wheels are centred over the line created on the concrete by the double disk openers.

8



- Inspect the vacuum seals and brushes on the meters.
- Double-check that the correct seed disks, knockouts and double eliminators are installed for the crop you will be planting.
- Take your seed planters to a specialised company to test the planter units and ensure they plant one pip every time, without skips or doubles in the row. This action will save you a lot of money.

9

Clean the seed tube sensors and check the condition of the seed drop tube.

10

When the planter is hooked up and in the field planting at the correct planting depth, make sure the planter is running level.

If you are unsure, contact your local mechanic specialising in the repair of planters. He will ensure that the planter is in top working order before the start of the planting season.

PIETMAN BOTHA – INDEPENDENT AGRICULTURAL CONSULTANT

From
the



desk

Phahama Grain Phakama (PGP) is Grain SA's flagship Farmer Development Programme, supported by a range of trusts, financial institutions, agricultural companies, and government partnerships. Without the support of our partners, we would not be able to positively impact the lives of many farmers across different stages of development.

A big thank you to all our donors, whose continued investment makes it possible to empower developing grain farmers.

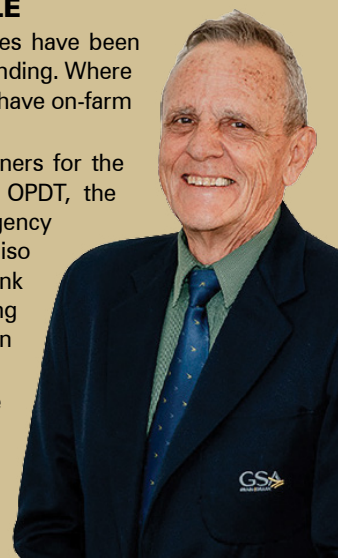
- The **Maize Trust** has been a longstanding and dependable supporter of the programme. Its continued funding has enabled the team to expand and strengthen the initiative over the years, supporting study groups, demonstration trials, farmers' days, advanced farmer development, the schools programme and a range of training courses.
- The **Oil and Protein Seeds Development Trust (OPDT)** plays a significant role in supporting various programme activities – like the sponsorship of numerous training courses focused on the oil seeds industry.
- **Bayer** remains a vital sponsor of the entire programme whose funding makes it possible to support all levels of farmers.
- **Pannar** is a trusted and reliable funder and has walked the road with this programme for many years.
- **Grain SA** has contributed financially as well as with numerous other forms of support to the programme. PGP is proud to acknowledge the close association we have with Grain SA, our 'parent' organisation.
- **SASOL Trust** is a trusted partner contributing to our flagship programme, Beyond Abundance. This support ensures greater food security for the households of our subsistence farmers.
- **Sorghum Trust** is a partnership fostered to enhance sorghum production as an alternative crop for our developing grain farmers.
- **SAWCIA**: PGP is part of the SAWCIA Transformation Work Group spearheading the production of wheat by developing farmers.

MAKING MENTORING POSSIBLE

In more recent years, various programmes have been established where farmers can get loan funding. Where loan funding is involved, it is important to have on-farm mentors who visit the farms regularly.

PGP has come to rely on many partners for the funding of mentors – the Maize Trust, OPDT, the South African Cultivar and Technology Agency (SACTA), Bayer, Standard Bank, the Kgodiso Development Fund, PepsiCo and Land Bank (who came on board this year). Mentoring makes an extremely valuable difference in the farmers' lives.

Our team has direct contact with the different levels of farmers in the various regions – and brings valuable information and support to farmers. They ensure that farmers feel seen, heard and supported in the challenges they face every day.



BANKIES MALAN, CREDIT AND LOAN COORDINATOR: PGP

PLANT DISEASE EXPERTISE can help reduce risks

In July 2026, the Grain SA research team received reports from farmers in the Eastern Cape of maize ear rot affecting several farmers in the area. Within a day, specialists from the UP-FABI Diagnostic Clinic were on site to assess the problem, demonstrating the rapid response that can be provided through Grain SA's growing network of diagnostic clinics.

Established through collaboration between Grain SA, the University of Pretoria and the Forestry and Agricultural Biotechnology Institute (FABI), the UP-FABI Diagnostic Clinic forms part of this broader network, connecting farmers with specialist expertise in plant disease diagnosis and practical management advice. By linking regional diagnostic capacity with Grain SA's research team, the network helps ensure that farmers can access timely technical support when disease outbreaks occur.

DIPLODIA EAR ROT

Although *Fusarium* ear rot was widely detected across the Eastern Cape during the past season, the localised outbreak in this case was confirmed as Diplodia ear rot, caused by the fungal pathogen *Stenocarpella maydis*. The pathogen survives between seasons by colonising infected maize residues, including stalks, cobs and kernels, which can serve as an important source of inoculum for the following crop.

Where infected cobs are present, fields should be managed carefully to reduce the risk of carry-over. Remove livestock from affected areas, while infected stubble and crop debris should be reduced or incorporated where appropriate. These measures can help limit inoculum remaining in the field and reduce the risk of disease in subsequent seasons.

Diplodia ear rot can be particularly severe after early-season drought followed by prolonged warm, wet conditions during grain filling and maturation. Mechanical damage from hail, birds and insects can also create entry points for infection. On maize ears, symptoms typically include bleached, straw-coloured husks and a white fungal growth that develops from the base of the ear and spreads upwards. Small black pycnidia may also appear as dark specks on the kernels, cob and husks.

Beyond grain yield and quality losses, *S. maydis* can produce mycotoxins that pose a risk to livestock. Consumption of infected maize residues has been associated with diplodiosis in cattle and sheep, a neurological disorder caused by exposure to toxins produced by the fungus. Clinical signs typically develop within six days to two weeks after exposure and may include incoordination, tremors, paralysis, and the inability to stand. In severe cases, affected animals may die.

No fungicides are currently specifically registered for the control of Diplodia ear rot in South Africa, and fungicide applications aimed solely at managing the disease are generally not considered economically justifiable. Effective management therefore relies on an integrated approach that focusses on reducing pathogen inoculum, limiting infection and protecting grain quality.

MANAGEMENT PRACTICES

Key management practices include reducing infected maize residue through practices such as ploughing, baling or, where appropriate and permitted, burning. Planting resistant or less susceptible cultivars and rotating maize with non-host crops such as soybeans, cowpeas, wheat or oats can also help reduce inoculum levels in the field. Regular scouting is important, particularly during grain filling and maturation, while early harvesting of heavily infected fields can help limit further fungal development.

Residue and livestock management are particularly important where diplodiosis is a concern. Diplodia-infected cobs and maize stubble should not be grazed by cattle or sheep, and livestock should be removed from affected fields to reduce the risk of diplodiosis. Managing infected stubble and crop debris is also essential to reduce the amount of *S. maydis* inoculum available to infect the following crop.



An example of Diplodia ear rot on maize.

CONCLUSION

- Beyond confirming the cause of disease, Grain SA, together with its diagnostic clinic network, works directly with farmers to collect samples, investigate outbreaks and provide practical, science-based recommendations to minimise losses and reduce future risks.
- By combining rapid diagnostic support with specialist expertise, the clinic network is helping to strengthen plant health, improve on-farm decision-making and ensure that South African grain farmers have access to timely, practical support when disease challenges arise.

DR TRYSTAN NADASEN (JUNIOR RESEARCH COORDINATOR)
AND JABULILE MAHLANGU (RESEARCH INTERN): GRAIN SA

PRECISION PLANTING starts with calibration



Clean every planter before heading back to the field each season. However, getting a planter ready for optimum planting is more than just cleaning. Planter calibration must be done properly before planting to maximise the yield.

A planting mistake can drastically affect the final yield. A too-high or too-low plant population will cost you money, so it is best to plant adequate seeds to ensure that the final plant stand is optimum for the desired yield. Obtaining an optimum yield depends on how you prepare and set your planter. Adjusting the planter to plant a specified number of seeds per metre or row is important in obtaining a proper stand.

SETTING A PLANTER FOR THE DESIRED PLANTING RATE

Suppose the desired maize stand is 40 000 plants per hectare. Assuming there will only be 90% of surviving, healthy plants, the planting rate (PR) can be calculated by the following equation: PR = plants per hectare desired/emergence percentage.

$$PR = 40\,000 / 0,90$$

$$PR = 44\,444 \text{ seeds/hectare}$$

Seeds per metre or row required for planting:

Convert the planting rate to reflect the row spacing in use. In this example, a 90 cm row spacing is used for the calculations. One hectare is 100 m wide and 100 m long – or 10 000 m².

To calculate the distance between the seeds:

1. Calculate the number of rows per 100 metres. This is done by dividing 100 by the row spacing in this example: $100 \text{ m} \div 0,9 \text{ m} = 111 \text{ rows}$.
2. Divide the planting rate (PR) by the number of rows. For example, $44\,444 \text{ (PR)} \div 111 \text{ (rows per 100 metres)} = 400 \text{ pips per 100 metres of row}$.
3. Divide a 100-metre row by the pips per 100 metres to calculate the interplant spacing. Example: $100 \div 400 = 0,25 \text{ metres apart}$.
4. This means that in 1 metre, 4 pips must be planted. Example: $1 \div 0,25 \text{ metres} = 4 \text{ per metre}$.

With this knowledge, the planter can be taken to the land to measure the plant density.

Seed dispensing can be done as follows:

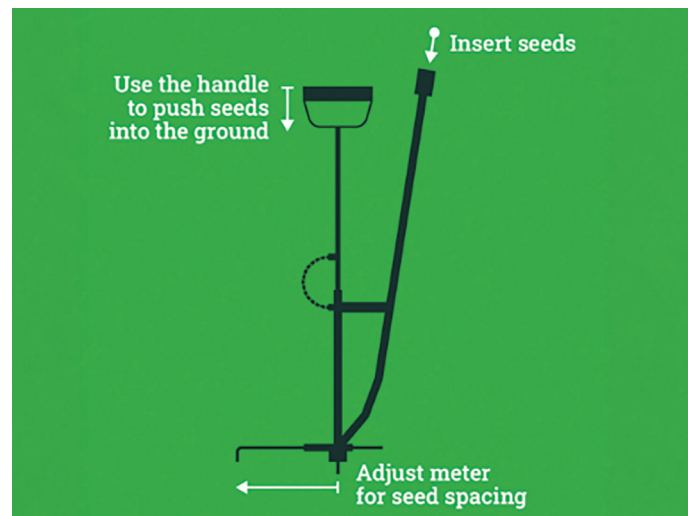
1. Mark out a distance of 10 m in the field.
2. Set the plant depth so that the seed is placed on the soil.
3. Plant at the normal planting speed over the measured distance of 10 m.
4. Count the number of seeds delivered in a row over the distance of 10 m.
5. Divide 10 by the number of pips counted.
6. This gives you the interplant spacing.

If the plant population must be changed, change the gear combinations as indicated on the planter calibration table. If there are many double seed deliveries or seed is not delivered at all, make sure the right tray has been selected for the seed size for tray and vacuum planters. Check the correct vacuum delivery for vacuum planters. Make sure finger-wheel planter dispensing mechanisms are working correctly.

Remember, you can't correct a planting mistake without replanting, so make sure that everything is working correctly. Compare the number of bags of seed planted with the bags needed for the field regularly. Check the planting distance regularly.

HAND PLANTERS

It is also important to calibrate a hand planter, as it helps to ensure correct seed placement and improves crop establishment. It can reduce input costs and seed wastage. Calibrate it at the start of each planting season, especially if it has been stored for a long time or after repairs have been done.



Follow these five steps before planting a large area:

1. Fill the planter with seed.
2. Plant at a measured distance (for example, 10 m).
3. Count the seeds dropped.
4. Compare the result with your target spacing and population.
5. Adjust the planter and repeat if necessary.

The Farmer Development Programme offers an intensive training course on planter and boom sprayer calibration. Find out more from your regional office.



Become a successful livestock farmer

PART 2: A PRODUCTIVE BEEF ENTERPRISE

Achieving one calf per cow annually is a key driver of profitability in beef production. Yet successful reproduction is not determined only when bulls are introduced to the herd. In part 1 of this series, the focus was on effective reproduction, which is built on a foundation of good veld management, proper nutrition, steady animal growth, appropriate body condition and careful planning throughout the year. In part 2, some other important aspects of beef production are covered.

HEIFER SELECTION

The development of replacement heifers deserves particular attention. Although age is important, weight matters just as much.

Age is an important consideration for deciding when a heifer should enter the breeding herd, but it should never be used on its own. Consider the live weight, growth and body condition alongside age.

Two heifers of the same age may differ greatly in physical development. One heifer may have received sufficient milk as a calf, been properly weaned, grown on good-quality grazing and received appropriate supplementation. Another heifer of the same age may have experienced poor nutrition, disease, parasites, weaning stress or periods of poor grazing.

Although both animals may be 18 or 24 months old, they may not be equally ready for breeding. This is why a target based on mature body weight is useful. A practical guideline is that a replacement heifer should reach approximately 60% of the expected mature weight of the cows in that herd before she is exposed to the bull. This approach combines age with physical development.

- If mature cows in the herd normally weigh about 500 kg, a 60% target would be about 300 kg. If mature cows weigh about 450 kg, the equivalent target would be about 270 kg.
- The kilogram figure therefore differs from herd to herd.
- The farmer first needs to know the mature size of the cows being produced and then manage replacement heifers towards an appropriate breeding weight.

WHY BREEDING WEIGHT IS IMPORTANT

The objective of mating a heifer is not simply to get her pregnant. She must be able to carry the pregnancy, calve successfully, produce sufficient milk for the calf, continue her own development and become pregnant again during the next breeding season. This is particularly important for first-calving females.

Unlike a mature cow, a young female is still growing while she is pregnant and lactating. Her nutritional resources therefore must support maintenance, continued growth, milk production and reproduction. If she enters her first pregnancy too light or in poor body condition, the nutritional pressure after calving can be severe. She may lose body condition while producing milk, take longer to return to reproductive cycling and fail to conceive during the next breeding season. The farmer may then lose a full year's calf production from that female.

For this reason, breeding an underdeveloped heifer simply because she has reached a certain age may create a problem that only becomes visible after her first calf is born. The better approach is to develop replacement heifers properly before mating.

The scale is a breeding tool

Too often cattle are weighed only when they are being sold. At that stage, the farmer is using the scale mainly as a marketing tool. The same scale can provide valuable information much earlier. Weighing should therefore become part of routine reproductive management.

- A birth weight, where practical, provides a starting point.
- Weaning weight gives an indication of calf performance during the suckling period.
- Subsequent weights show whether a replacement heifer is growing quickly enough to achieve the target breeding weight.

For example, a farmer may record a heifer of 210 kg at weaning. When she is weighed again before



the breeding season, she may be 285 kg. If the mature cows in the herd average 500 kg, the target breeding weight at 60% is approximately 300 kg.

The farmer can immediately see that the heifer has not yet achieved the desired target. This information allows the farmer to make a deliberate management decision instead of relying on appearance or age alone.

Regular weighing also helps identify animals that are not growing as expected. The farmer can then investigate whether the problem is nutrition, disease, parasites, genetics or another management factor.

BODY WEIGHT AND BODY CONDITION MUST WORK TOGETHER

Live weight provides valuable information, but weight alone does not tell the whole story. Use body-condition scoring alongside weighing.

Two cows may weigh the same but differ in frame size, pregnancy status and the amount of body reserves they carry. Body-condition scoring allows the farmer to assess whether the cow has sufficient energy reserves for the production stage she is entering.

Before breeding, females should therefore be assessed for both live weight and body condition. The production plan uses a body-condition score of approximately 3 out of 5 as a desirable level when preparing cows for mating.

The aim is not to have excessively fat cows. The objective is to avoid animals entering breeding in poor condition. If cows are already thin at the start of mating, correcting the problem through expensive supplementation during the breeding period may be difficult.

Preparation should begin earlier. Where the coming calving season is expected to occur during a period of limited grazing, supplementation may need to begin before calving for the cows to enter calving in acceptable condition.

FIRST-CALVERS REQUIRE SPECIAL ATTENTION

Young females that have just produced their first calf are often among the most demanding animals in the breeding herd. They must produce milk, recover from calving, continue growing and conceive again within a relatively short period. They should therefore not simply be managed in the same way as mature cows without considering their additional nutritional needs.

Where possible, first-calvers should receive access to the best available grazing and should be monitored carefully for weight and body-condition loss. Parasite control is also important because a heavy parasite burden can further reduce the amount of nutrition available to the animal.

This is another reason why controlled grazing and controlled breeding complement each other. If different production groups can be managed in separate camps, the farmer has a better opportunity to allocate grazing according to nutritional need.

ONE CALF A YEAR REQUIRES GOOD TIMING

A cow's pregnancy lasts approximately nine months.

To maintain a yearly production cycle, she therefore has only a relatively short period after calving to recover and conceive again. This places considerable importance on the nutritional period immediately before and after calving.

If she calves shortly before good-quality grazing becomes available, the improving veld helps support lactation and recovery. If she calves during the poorest nutritional period of

the year, the farmer must replace what the veld cannot provide. This difference can significantly affect production costs.

A controlled mating and calving season should therefore not be viewed simply as a reproductive programme. It is also a feed-cost management strategy. The objective is to use the cheapest available feed source – well-managed natural grazing – during the period when the cow needs nutrition most.

MEASURE PRODUCTION, NOT JUST CATTLE NUMBERS

A large herd is not necessarily a productive herd. The important question is how efficiently the breeding herd converts the farm's grazing resources into calves and ultimately kilograms of beef.

The farmer should be able to follow the production chain from the number of females exposed to the bull, to the number that become pregnant, the calves born, calves surviving to weaning and the kilograms ultimately produced. A farm with fewer cows but a high calving and weaning percentage may be more profitable than a larger herd carrying many unproductive females.



The objective is to avoid animals entering breeding in poor condition

The objective should therefore be to improve the productivity of each breeding animal rather than simply increasing herd numbers.

BRING THE COW, VELD AND CALENDAR TOGETHER

Good reproductive management does not depend on one intervention. It comes from combining several practices correctly. The farmer needs to understand when the veld normally provides its best grazing. The farmer should then plan the mating season for calving and early lactation to occur close to that period.

Select replacement heifers using age, live weight and body condition rather than age alone. A target such as 60% of expected mature weight gives the farmer a measurable basis for deciding whether a heifer is sufficiently developed for breeding. The scale should therefore become part of routine herd management, while natural mating should be managed through a defined breeding period, suitable bull-to-cow ratios and healthy, fertile bulls.

Finally, every important event should be recorded. When the farmer knows the heifer's weight, the cow's condition, the bull's fertility, the timing of the rains and the reproductive history of each female, breeding becomes far less dependent on chance.

The aim is ultimately simple: To have a healthy female enter the breeding season at the correct age, weight and body condition, conceive within a controlled mating period, calve when good grazing is becoming available, raise a strong calf and return to breeding condition in time to reproduce again.

This is how the environmental cycle and production cycle are brought together. And this is how controlled grazing, good nutrition, weighing, record keeping and controlled natural mating can turn cattle numbers into a productive beef enterprise.



A platform to share farming ideas

The Phahama Grain Phakama (PGP) Farmer Development Programme (FDP) schedules regular farmers' days. These events are more than just a forum for knowledge transfer. They offer farmers the opportunity to share ideas, address common challenges and connect with fellow producers and stakeholders in the agricultural and service sectors.

A successful farmers' day, which was sponsored by Absa, was held in Ermelo, Mpumalanga, recently. Guest speakers included:

- Dr Langa Simela (featured in the photo) from Absa, who introduced the bank's blended finance solution to farmers.
- Wandile Mbonani from Khula explained how they can assist with input supplies and provide bridging finance.
- Chris Phakati from Bayer discussed climate conditions, cultivar selection, and how planting dates can affect the crop performance and yield.
- Johan Cilliers from the UP-FABI Diagnostic Clinic gave an informative presentation on different plant diseases, explaining how to identify them, recognise symptoms and understand its effect on crops.



Growing the next generation of agriculture

In the past few weeks, the Grain SA Schools Programme visited a total of 81 schools to help lay a foundation for future agricultural success – 55 in the Mbombela area, 16 in the Free State and ten schools in the Lichtenburg region. The programme aims to introduce teenagers to agriculture, food systems and potential career paths in the farming sector.



Here is some of the feedback from the pupils:

- 'What I learned is that maize is produced mostly in the Free State. Wheat is produced mostly in the Cape. Farming is so fabulous, and on the farm, you can feel the rhythm of life.'
- 'The visit was of value to me, as it helped me learn more about agriculture. I learnt about a veterinary doctor, an animal pathologist and animal scientists. It also made me want to become an animal scientist. Agriculture has always been my dream.'
- 'It was so good to learn about agriculture. I learned so much and I realised that I could build a career out of agriculture.'
- 'We learnt everything about what agriculture is, what food engineers do and what fashion designers provide for us. Without agriculture, there would be no food to eat or clothes to wear.'
- 'I learned about careers in agriculture and animals. I have to start taking agriculture seriously.'

Seen on facebook

Farmers from the Morokweng Study Group in North West met at the Department of Agriculture's offices in Morokweng to plan for the 2026/2027 production season. With the possibility of an El Niño bringing hotter and drier conditions, early planning can help farmers make better decisions about planting dates, crops and production inputs.



This past harvest marked a turning point for 49 members of four PGP study groups in Driefontein, Siyacathula, Donkerhoek and Sheepmoor. They received equipment through a partnership between PGP and the Global Food Initiative.