
PANNAR®
2026
PRODUCT CATALOGUE
For the FARMER in you.

INTRODUCTION

The most important input in any season isn't a product – it's character.

Resilience holds steady when conditions test your plan. **Dedication** keeps the work consistent and the standards high. **Ingenuity** turns evidence into action, tailoring choices to your conditions. **Patience** invests time where it counts. **Stewardship** ensures today's gains don't cost tomorrow's ground.

At Pannar, we recognise these qualities because we see them in you – the farmers we serve.

This catalogue brings together locally tested hybrids and cultivars, practical agronomic guidance, and clear product information – tools to help you choose with confidence and farm with purpose.

As you explore these pages, you'll find solutions matched to your conditions and goals, so the hard work you invest returns value where it matters most: on your farm.

RESILIENCE. DEDICATION. INGENUITY. PATIENCE. STEWARDSHIP.

That's the FARMER in you.

FOREWORD

Dear Pannar Customer

This foreword is deeply personal for me. My father, Chris Odendaal, was among the founders of Pannar, and I have had the privilege of serving this great company for over 40 years. As I retire in April 2026, this will be my final foreword. It is a moment for me to look back with gratitude and forward with confidence.

Gratitude, first, to you – our farmers who rise early every day to work their lands in the sun, wind or rain and who face uncertainty with courage.

Confidence, because the future of agriculture will be shaped by strong, resourceful people like you. At Pannar, we believe in partnerships and we truly value the relationship we have with every customer. We stand beside you with locally bred and proven seed cultivars and practical agronomic guidance and support – tools to help you farm with confidence and purpose.

Planning for every season starts long before your planters move into the field. It starts with wisdom, passed down through generations, shaped by seasons, and sharpened by experience. Farming is more than a profession; it's a legacy. Over the past year I have witnessed that legacy in action as seasoned farmers shared advice for the next generation:

"Use science and technology to your advantage; it's there to help you, not replace you."

"Understand your soil and your climate. Choose cultivars that suit your land, not just the season."

"Seek guidance from experienced farmers and learn from their successes and challenges."

Wise words that reflect the values we hold dear at Pannar and which capture the spirit of South African farmers: those who face uncertainty with resilience, dedication, and determination, and who turn challenges into opportunities. We deeply appreciate your patience in nurturing each crop from planting to harvest and your unwavering commitment to stewarding your soil, water, people, and the communities that rely on us for generations to come. These qualities form the heartbeat of this catalogue.

I am proud of the role Pannar has played in supporting South African farmers through the decades, and I remain confident in what lies ahead. Seasons will change and challenges will come and go, but the wisdom, resilience and ingenuity of our farming communities will endure... and Pannar will continue to stand shoulder-to-shoulder with you, as your trusted partner in every season.

I believe that agriculture is one of the most noble and honourable professions and I am immensely proud of the role Pannar plays in supporting every farmer striving for success and feeding our nation! This year's product catalogue is designed not only to clearly present our product portfolio but also to provide practical value that helps you achieve greater success. I wish you the very best, both for the crop currently in your fields and for the coming seasons you are already planning for.

A final tribute to you, our farmers, for your **RESILIENCE**, **DEDICATION**, **INGENUITY**, **PATIENCE** and **STEWARDSHIP**. **That's the FARMER in you.** Thank you for the honour of serving you.

John Odendaal

Pannar Seed Business Manager

CONTENTS

TABLE OF CONTENTS

PANAGRI™ – PRECISION AGRONOMY THAT DRIVES FARMING SUCCESS

At Pannar, our commitment to you extends beyond planting. We aim to help you maximise the profitability and performance of our products through accurate placement recommendations and farm management guidelines, based on extensive agronomic trials. This is the essence of our **Panagri**™ programme.

Inspired by a 2010 visit to various US seed businesses, our scientists learned that providing top-performing products isn't enough. Seed suppliers must also guide farmers in better farm management to fully realise product potential. Thus, Panagri™ offers precise recommendations and guidelines from long-term, multi-regional trials.

"Through the Panagri™ programme, we explore how crop yields are influenced by management practices, input levels, soil properties, and weather conditions. Precision agriculture technology has significantly enhanced the quality and relevance of data from our agronomic trials. By integrating economic principles into our analysis, we aim to equip farmers with the insights they need to make informed, impactful decisions,"

says Pannar Lead Agronomist, De Bruyn Myburgh.

WESTERN WATER TABLE TRIALS

This project is an example of our product placement trials and focuses on a specific growing environment: high-potential water table soils with low clay percentages. Partnering with Omnia Nutriology, we examine hybrid interactions with the environment at various population and fertilisation rates. We evaluate populations to determine the optimal zinc source ratio per hybrid and assess fertiliser differences with varying levels of nitrogen, phosphorus, and potassium. The goal is to observe interactions affecting yield, grain quality, and standability

Our Agronomic Research Initiatives

Pannar Preferred Product (P3) Trials involve statistical strip trials to test new pipeline products at field scale under typical farm management and environmental conditions. These products are compared to Pannar's current commercial and competitor products. **P3 trial results** serve as a final test of each product's suitability for a specific region before widespread launch, ensuring their success.

Product Placement Trials determine each new pipeline product's response to different management practices and environmental conditions. These statistical strip trials focus on one product per trial, planted at various populations across different climatic regions. Agronomists evaluate factors such as yield performance, seedling vigour, prolificacy, tillering, standability, and disease risk. This data fine-tunes product and management recommendations for each area, ensuring farmers can plant these new products with confidence.

Independent Product Evaluations

In addition to our annual **P3** and **Product Placement Trials**, which are central to our **Panagri**™ programme, Pannar also engages in **Side-by-Side** and **Multi-product strip trials**.

Side-by-Side trials are conducted in participating farmers' fields, where a new Pannar pipeline product is planted adjacent to the farmer's current preferred product. These trials provide farmers with firsthand experience of new Pannar products, allowing them to compare performance directly with their existing selections.

Multi-product strip trials feature a wide array of products from various seed providers recommended for a specific area. These products are planted in strips within a single trial, ensuring uniform management practices and environmental conditions. Each year, Pannar participates in numerous strip trials, often conducted by farmer study groups, to independently evaluate the performance of products offered by seed providers.

PANAGRI®
PRACTICAL ON-FARM SOLUTIONS

Smart Tools and Insights at Your Fingertips

Designed to simplify farming, the **Pannar® Sprout™** mobile app puts essential agronomic guidance in your pocket. Explore detailed product information and up-to-date disease fact sheets complete with photographs, symptoms and practical notes to support fast, accurate diagnosis in the field.

Build confident plans with enhanced tools such as the yield estimator, plant population calculator, cultivar comparison, replant calculator, Safex price feed and currency converter.

A refreshed interface and quick representative finder provide faster access to the help you need. Crucially, offline access stores content on your device, so you can work without connectivity; the app updates automatically when you're back online.

Pannar® Sprout™ is free to download from **Google Play Store** and the **Apple App Store**, giving every farmer an easy, reliable way to make informed decisions and improve productivity.

2026 PANNAR CROP EXTRAVAGANZAS

These flagship farmer days will take place at **Val (4-5 March)**, **Kroonstad (17-18 March)**, and **Biesiesvlei (24-25 March)**, with an exciting new event taking place at **Rysmierbult (26 February)**.

Designed as more than just a showcase, the Extravaganzas offer farmers a unique opportunity to explore Pannar's latest products, gain practical insights, and connect with agronomists, Pannar representatives, and fellow farmers.

This year's highlights include cutting-edge product launches and updates from our **Panagri™** research programme, which combines rigorous multi-year trials with local expertise to help you make confident hybrid selections. Attendees will learn about managing crop challenges and discover strategies to boost productivity.

Farmers attending the events can also look forward to the ever-popular Pannar Bonanza Rewards Programme. This programme rewards those who choose to make Pannar a part of their success story. By committing early to ordering a minimum rand value of seed for the 2026/2027 planting season, farmers can enjoy a selection of Bonanza reward items.

With world-class germplasm, leading biotechnology trait packages, and premium hybrids developed for consistent results, Pannar is committed to helping you succeed.

Don't miss this opportunity to learn, network, and grow – contact your nearest Pannar representative today to register!

PANACEA® SEED AND CROP HEALTH SOLUTION – PROVEN PROTECTION, FIELD-TESTED RESULTS

Panacea® seed and crop protection is the label under which Pannar develops seed treatment programmes for optimal germination, plant population, and seedling protection as well as first-class advice for the identification and control of diseases and pests that occur on farmers' crops from time-to-time. This includes fungicide and insecticide spray programmes, which offer guidelines for the control of such outbreaks (including chemical control of stalk borer on conventional and glyphosate-tolerant hybrids).

Panacea® seed treatment – start your season with certainty

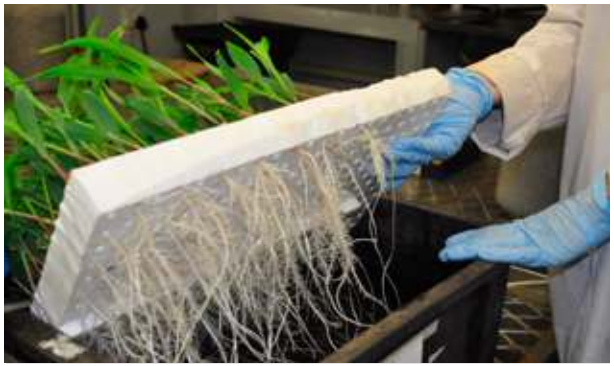
High yield potentials start with a uniform and healthy plant population. The **Panacea®** seed treatment package protects your seed and seedlings from a variety of early-season insects as well as soil- and seed-borne diseases, for a great head start. **Panacea®** seed treatments are designed, verified and proven to work with Pannar® brand genetics, giving farmers a higher level of confidence in their seed treatment options.

DESIGNED FOR OUR GENETICS

We assess hundreds of product concept combinations to develop optimal seed treatment formulations for our genetic line-up. Each year we rigorously validate these combinations in labs, greenhouses, and on farmers' fields.

Panacea® seed treatments address:

- **Plantability**
- **Cold tolerance**
- **Stand establishment**
- **Singulation**
- **Early vigour**



VERIFIED ON OUR GENETICS

At the **Corteva Agriscience Centre of Seed Applied Technologies (C-SAT)**, we rigorously evaluate our seed treatment combinations. This all-in-one facility, which includes a lab, testing centre, and seed treatment plant, utilises our exclusive six-step **PASSER** process. Only treatments that excel in this process earn the **Panacea®** mark of assurance.

- **P** — **Plantability:** Maximising seed flow and planting precision
- **A** — **Application:** Refining processes to work across seed properties (size, shape, hybrid/cultivar) and environmental conditions
- **S** — **Seed safety:** Ensuring treatments don't adversely affect seed germination
- **S** — **Stewardship:** Minimising potential adverse effects on people and the environment
- **E** — **Efficacy:** Evaluating protection and vigour to confirm the seed treatment performs as expected, even in challenging environments
- **R** — **Regulatory:** Meeting regulations and guidelines

PROVEN IN THE FIELD WITH OUR GENETICS

Our treated seed is evaluated by farmers through our **Field Test Network**, using real planters under real conditions. This on-farm testing is combined with our large-scale **IMPACT™** programme, which conducts over 60 000 plot evaluations annually. This ensures **Panacea®** seed treatments are effective across all Pannar® brand hybrids and cultivars.

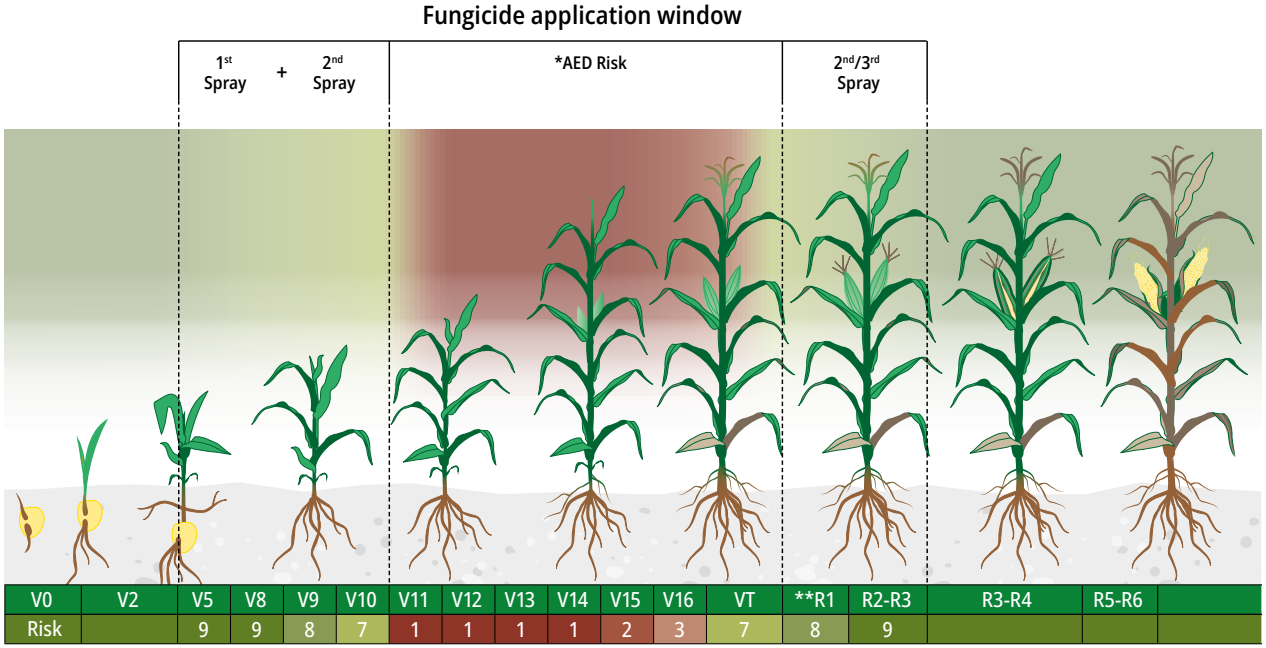
Panacea® crop protection guidance – pesticide spray programmes

Under the **Panacea®** programme, Pannar recommends fungicide and insecticide spray programmes based on Pannar's on-farm P3 trials to protect crop yield and quality.

Certain hybrids show significant yield improvement with appropriate fungicide sprays, especially in high disease pressure situations. Depending on the hybrid, season, and environment, one or more fungicide applications can enhance yield and agronomic performance. Contact your Pannar sales representative to learn which hybrids and environments respond best to fungicides.

For insect control, Pannar advises an **Integrated Pest Management (IPM)** strategy, including crop rotation, cultural and biological controls (e.g. opting for products with insect-resistant biotech traits), pest scouting, and using appropriate pest thresholds for insecticide application.

Fungicide Spray Programme



**AED risk especially high if stress factors occur ±V10–VT, including the use of additional surfactants or mixtures. (9 = Low Risk, 1 = High Risk). **R1 (pollination period) – it is critical to avoid any form of stress.*

Time of Application (Timing is very important)	Two (2) Spray Programme (Medium risk areas and hybrids)	Three (3) Spray Programme (High risk areas and hybrids)
FIRST APPLICATION Spray 5-8 leaf stage *(Preferably with a self-propelled or tractor rig for good coverage)*	Strobilurin/ Triazole Combination Fungicide[1]	Strobilurin/Triazole Combination Fungicide[1]
SECOND APPLICATION 21-28 days later[3] *(Ground or aerial application)*	Triazole or Triazole/ Carbendazim Fungicide[2]	Triazole or Triazole/Carbendazim Fungicide[2] **OR** Strobilurin/Triazole Combination Fungicide[1]
THIRD APPLICATION IF REQUIRED Shortly after flowering *(Ground or aerial application)*		Triazole or Triazole/Carbendazim Fungicide[2]

1 Examples of products in this group include Amistar Top® (Syngenta), Abacus® Advance (BASF), Nativo® (Bayer).
2 Examples of products in this group include Duett® Ultra (BASF), Zantara® (Bayer), Miravis Neo (Syngenta).
*3 Try to avoid spraying during the V10 to VT growth stages, which are high risk for *Arrested Ear Development (AED) as well as flowering (pollination problems).*
Important: Refer to the label for rates and instructions. Use only as indicated on the label.

NOTE: Important to rotate products as per spray programme and not to continue using the same product throughout the season. This is to prevent the build-up of resistance in the pathogen to a fungicide. (FRAC = Fungicide Resistance Action Committee. The purpose of FRAC is to provide fungicide resistance management guidelines to prolong the effectiveness of "at risk" fungicides and to limit crop losses should resistance occur).

PANACEA
ULTIMATE SEED AND CROP HEALTH SOLUTION

MAIZE HYBRID SELECTION

Selecting the right hybrid package is one of the most crucial and challenging decisions farmers face annually. Key considerations include yield performance, risk management, agronomic traits, and disease tolerance.

While criteria vary by farm, certain hybrid characteristics are universally important:

- ☐ Yield performance, stability and compensation ability
- ☐ Hybrid package
- ☐ Growing season length
- ☐ Prolificacy (multi-eared or single-eared)
- ☐ Standability
- ☐ Germination and vigour
- ☐ Disease, insect tolerance and weed control

The most desirable characteristics are discussed in short below:

Yield Performance, Stability and Compensation Ability

Reliability in yield from season to season is crucial when selecting hybrids. Success hinges on accurate yield predictions, which improve with multi-season results across various locations.

Adaptability and stability are key considerations when selecting any hybrid. Opt for hybrids that perform well in both favourable and adverse conditions to mitigate risk. It is essential to select hybrids that are stable across different environments and seasons due to unpredictable growing conditions.

Hybrid Package

No single hybrid is perfect, so using a package of hybrids is recommended to spread risk and maximise yield potential. This package should include hybrids with different genetics, resistance properties, disease tolerances, and varying growing season lengths.

Yield and adaptability depend on the interaction between a hybrid's genetics, environmental factors, and management practices such as:

- Planting date
- Rainfall distribution
- Stress factors (e.g. drought, disease, insects, hail)
- Crop rotation
- Fertilisation, soil fertility and soil type
- Cultivation practices
- Weed control

Growing Season Length

For optimal yield, plant hybrids of varying maturity to reduce the risk of hot and dry conditions during pollination. This is especially beneficial if planting within a short window. If planting over a longer period, hybrid maturity is less critical.

In dryland conditions, early growth hybrids suit cooler, temperate regions with limited heat units and higher plant populations. In warmer, drier areas, medium to medium-early hybrids are better. A hybrid package ensures not all crops are ready for harvest simultaneously, and early maturity hybrids allow for earlier returns. For high-input irrigation and double-cropping systems, ultra-early hybrids are best.

Prolificacy – Multi-eared and Single-eared Hybrids

Optimal plant population for hybrids depends on environmental potential, ear type, and stress factors during critical growth stages. "Flex-ear" hybrids have ears that vary in size with plant population (smaller ears when the plant population is increased and larger ears if the population is reduced), while "fixed-ear" hybrids maintain a constant ear size regardless of population.

MULTI-EARED HYBRIDS

Hybrids suited to low plant populations typically have robust plant types, sturdy stalks, large leaves, and bigger root masses. These traits, combined with strong prolificacy, make them adaptable to varying climatic conditions, such as those in the western maize production areas. They perform well under drought stress due to lower plant populations buffering water use and can produce a second ear under good conditions.

SINGLE-EARED HYBRIDS

Single-eared hybrids with fixed or semi-flex ears typically have upright leaves for better light penetration, reduced root mass, and thinner, woody stalks. These traits make them suitable for high plant populations and excellent yields under high potential conditions. They are better adapted to environments with reliable water supply or rainfall.

Standability

Effective combine harvesting relies on good standability, which can be compromised by root and stem rot. To minimise losses from lodging, harvest infected fields early if drying facilities are available.

Germination and Vigour

Rapid germination and strong seedlings are crucial for a successful crop. Early vigour is especially important on sandy soils prone to seedling wind damage. Hybrids vary significantly in early vigour.

Disease, Insect Tolerance and Weed Control

Healthy leaves enhance plant productivity. Evaluating hybrids' disease risk profiles is crucial for area adaptability. Fungal leaf diseases are common in high rainfall areas; a fungicide spray programme may play an important role in protecting the yield potential. Bacterial and viral infections require other innovative management practices.

The weed spectrum dictates herbicide use and hybrid selection. Glyphosate-tolerant hybrids offer the option of broad-spectrum weed control. Keep in mind that tolerance to the harder herbicides (such as sulfonylurea) differs between hybrids. Always follow herbicide recommendations and check hybrid tolerance to your preferred herbicide programme.

In summary, some basic guidelines:

- Choose hybrids with proven performance from multi-season, multi-trial data, considering yield, stability, and adaptability.
- Gradually introduce new hybrids.
- Use a mix of hybrids with different maturity classes to spread risk.
- Include early-season hybrids for early harvesting.
- Opt for hybrids with insect-resistant traits if planting late.
- In dryland areas with variable climates, consider prolific hybrids for stable yields.
- Single-eared hybrids suit high plant populations and high-potential conditions.

Notes

MAIZE HYBRID PACKAGE

Pannar's maize package comprises various growth classes and includes conventional, stalk borer insect-resistant, glyphosate herbicide-tolerant and stacked trait hybrids. These hybrids are recommended for grain and silage production, as well as for maize foggage.

ESTIMATED RELATIVE MATURITY (DAYS)	YELLOW HYBRID PACKAGE	WHITE HYBRID PACKAGE
113	PAN 3A-124 PAN 3R-524R PAN 3P-924PW PAN 3A-112 (NEW) PAN 3P-912PW	
114	PAN 4A-128 PAN 4P-928PW	PAN 3A-173 PAN 3R-573R PAN 3P-973PW
116	PAN 4A-132 PAN 4P-932PW	
118	PAN 4A-138 (NEW) PAN 4R-538R PAN 4P-938PW	
119	PAN 5R-590R PAN 4A-152 PAN 4R-552R (NEW) PAN 4P-952PW	
124		PAN 4A-111 PAN 4R-511R PAN 5A-163 PAN 5R-563R PAN 5P-963PW
125		PAN 5285
126	PAN 5A-182 PAN 5R-582R	PAN 5A-155 (NEW) PAN 5R-555R PAN 5P-955PW
127	PAN 6R-584R PAN 6P-984PW (NEW)	PAN 5P-939PW
128		PAN 5R-541R (NEW) PAN 5P-941PW (NEW)
129		PAN 5R-523R PAN 5P-923PW

YIELD

That's the FARMER in you.

You know your land. We know maize. Backed by years of research and rigorous trials, Pannar's **yellow maize hybrids** offer superior drought tolerance, standability, and consistent performance in both dryland and irrigated conditions. Our robust package includes ultra early to medium growth classes, with conventional and **PowerCore®** technology options to suit any production system. Whether you're planting your first season of **yellow maize** or your fiftieth, trust our data-driven insights and personalised agronomy advice to make every decision count.

YELLOW MAIZE HYBRIDS - AGRONOMIC CHARACTERISTICS

HYBRID PLATFORM	ESTIMATED RELATIVE MATURITY (DAYS)	AVAILABLE VERSIONS		TECHNOLOGY	DESCRIPTION: KEY STRENGTHS
PAN 3A-124	113	Base	PAN 3A-124		This platform produces an attractive grain type that dries down quickly. It maintains excellent high yield potential and seasonal stability, making it the market leader for irrigation. It is also well adapted to high-potential dryland production. These are typical ultra early hybrids with upright leaf architecture, suitable for planting at higher populations while still maintaining strong standability. In areas with high disease pressure where leaf diseases are common, a preventative fungicide spray programme is recommended. PAN 3P-924PW, equipped with **PowerCore®** technology, provides protection against various above-ground lepidopteran pests and is stacked with glyphosate herbicide-tolerant technology for excellent insect and weed control.
		R	PAN 3R-524R	ROUNDUP READY® MAIZE 2	
		PW	PAN 3P-924PW	POWERCORE®	
PAN 3A-112 (NEW)	113	Base	PAN 3A-112 (NEW)		This is the fastest platform in the Pannar range and now includes the new conventional hybrid, PAN 3A-112. It has demonstrated excellent yield potential and performance in the hybrid testing programme. The platform features a more fixed-ear type, which is beneficial under high-potential conditions that require dense plant populations. PAN 3P-912PW shows good tolerance to Northern Corn Leaf Blight, which supports yield potential in environments with high disease pressure from this pathogen. **PowerCore®** technology provides protection against various above-ground lepidopteran pests and is stacked with glyphosate herbicide-tolerant technology for excellent insect and weed control.
		PW	PAN 3P-912PW	POWERCORE®	
PAN 4A-128	114	Base	PAN 4A-128		These early growth class hybrids have excellent top-end yield potential, and should be considered for high-potential fields where they will have the opportunity to reach their full potential. Particularly well suited to the eastern production areas, this agronomically well-balanced platform has good standability and will handle higher plant populations very comfortably. Under irrigation, the PAN 4A-128 series complements the ultra-early PAN 3A-124 platform very well and is a good choice for earlier planting dates to broaden the hybrid package under irrigation. In higher disease pressure environments a preventative fungicide programme is recommended. PAN 4P-928PW with **PowerCore®** technology provides broad spectrum protection against above-ground lepidopteran pests, stacked with glyphosate herbicide-tolerant technology for premium insect and weed control.
		PW	PAN 4P-928PW	POWERCORE®	
PAN 4A-132	116	Base	PAN 4A-132		This platform features a robust disease profile and excellent yield stability across varying yield potential levels. It has performed with distinction in the hybrid testing programme and shows good adaptability to different plant populations. PAN 4P-932PW, equipped with **PowerCore®** technology, provides protection against various above-ground lepidopteran pests and is stacked with glyphosate herbicide-tolerant technology for excellent insect and weed control.
		PW	PAN 4P-932PW	POWERCORE®	
PAN 4A-138 (NEW)	118	Base	PAN 4A-138 (NEW)		This platform, now featuring the new PAN 4A-138 as a base option, has performed well under a wide range of plant populations and yield potentials. Strong emergence and seedling vigour give these hybrids an early-season advantage. In environments where Common Rust is prevalent, a preventative fungicide spray is advised for these otherwise well-balanced hybrids. The new PAN 4P-938PW with **PowerCore®** technology provides broad spectrum protection against above-ground lepidopteran pests, stacked with glyphosate herbicide-tolerant technology for premium insect and weed control.
		R	PAN 4R-538R	ROUNDUP READY® MAIZE 2	
		PW	PAN 4P-938PW	POWERCORE®	
PAN 5R-590R	119	R	PAN 5R-590R	ROUNDUP READY® MAIZE 2	This platform is widely adapted with stable performance across all production areas. A very good choice for silage in the eastern production areas. This hybrid has excellent early vigour and good standability. A very healthy plant with good general disease tolerance, especially to Diplodia and Common Rust. It shows reasonable prolificacy at low plant populations. The **Roundup Ready® Maize 2** technology provides glyphosate herbicide-tolerant trait for premium weed control.
PAN 4A-152	119	Base	PAN 4A-152		The introduction of the glyphosate herbicide-tolerant hybrid PAN 4R-552R completes this widely adapted platform. These hybrids deliver stable performance across all production regions, with excellent early vigour and strong standability. They are very healthy plants with good general disease tolerance, and are well suited to low plant populations. PAN 4P-952PW, equipped with **PowerCore®** technology, provides protection against various above-ground lepidopteran pests and is stacked with glyphosate herbicide-tolerant technology for excellent insect and weed control.
		R	PAN 4R-552R (NEW)	ROUNDUP READY® MAIZE 2	
		PW	PAN 4P-952PW	POWERCORE®	
PAN 5A-182	126	Base	PAN 5A-182		These are highly reliable hybrids that maintain strong performance and stability across all yield potential levels. They offer excellent general disease tolerance and are widely adapted to all production regions, with a proven track record as top yield performers in the eastern Highveld. This platform delivers high-quality, deep-orange, glossy grain with a good test weight, making it very popular with buyers. PAN 5R-582R, featuring **Roundup Ready® Maize 2** technology, provides glyphosate herbicide tolerance for excellent weed control.
		R	PAN 5R-582R	ROUNDUP READY® MAIZE 2	
PAN 6R-584R	127	PW	PAN 6R-584R	ROUNDUP READY® MAIZE 2	Take advantage of the benefits offered by this well-balanced genetic platform, featuring an upright plant type for improved harvestability. This full-season hybrid has minimal tillering, is widely adapted, and offers a high grain index with exceptional test weight and strong standability – all contributing to its impressive yield potential. The new PAN 6P-984PW, equipped with **PowerCore®** technology, provides protection against various above-ground lepidopteran pests and is stacked with glyphosate herbicide-tolerant technology for excellent insect and weed control.
		R	PAN 6P-984PW (NEW)	POWERCORE®	

**NA: Not applicable*

DRYING RATE, PROLIFICACY, STANDABILITY AND EMERGENCE		
Good	Average	Weak

TILLERING AND DISEASE RISK			
Low	Average	High	Unknown

✗ No	✓ Yes	◆ Unknown

GROWING SEASON CLASS		GENERAL CHARACTERISTICS						DISEASE RISK						MANAGEMENT RECOMMENDATIONS					
Days to 50% Tassel	Days to Physiological Maturity	Ear Type	Drying Rate	Tillering	Prolificacy	Standability	Seedling Vigour	Northern Corn Leaf Blight (NCLB)	Grey Leaf Spot (GLS)	Common Rust	Phaeosphaeria Leaf Spot	Diplodia Ear Rot	Cob and Tassel Smut	Sulfonylurea Sensitive	Suitable for Full Irrigation	Suitable for Supplementary Irrigation	Suitable for High Population Pressure	Irrigation Plant Population per hectare ('000)	Dryland Plant Population per hectare ('000)
53-75	104-143	Semi-flex												✗	✓	✓	✓	80-90	40-70
53-75	104-143	Fixed												✗	✓	✓	✓	85-100	40-70
57-78	110-150	Semi-flex												✗	✓	✓	✓	65-80	40-70
60-79	115-150	Fixed												✗	◆	✓	✓	65-80	35-70
60-79	108-150	Fixed												✗	✗	✓	✗	65	30-65
61-80	115-155	Fixed												✗	✗	✓	✗	50-65	25-50
60-80	115-150	Fixed												✗	✗	✗	✓	N/A*	30-50
63-81	120-160	Semi-flex												✗	✓	✓	✗	50-55	25-45
60-80	120-160	Semi-flex												◆	✓	✓	✓	35-55	16-45

Yellow Maize Hybrid Package Composition

Pannar's yellow maize package brings together 20 carefully selected hybrids to support a strong, sustainable risk management strategy. Covering ultra-early to medium growth classes, this range offers flexibility for every planting schedule. Farmers can choose from conventional hybrids or advanced biotech varieties with insect resistance and herbicide tolerance, making it easy to tailor solutions to any production system.

This year Pannar is introducing **four new products in our formidable yellow maize package**. The first is **PAN 3A-112**, a conventional hybrid from Pannar's fastest platform, delivering excellent yield potential under high-density, high-potential conditions with its fixed-ear type. This platform shows good tolerance to Northern Corn Leaf Blight, which supports yield potential in environments with high disease pressure from this pathogen.

PAN 4A-138 is another new conventional hybrid for 2026, complementing the popular PAN 4R-538R and PAN 4R-938PW in the same platform. Known for consistent performance across a wide range of plant populations and yield potentials, this platform offers strong emergence and seedling vigour for an early-season advantage. While these hybrids are well-balanced, a preventative fungicide spray is recommended in areas with high Common Rust pressure to maintain optimal results.

A glyphosate herbicide-tolerant hybrid, **PAN 4R-552R**, completes the widely adapted platform that is PAN 4A-152. This hybrid delivers consistent performance across production regions, combining excellent early vigour with strong standability. Known for its overall plant health and good general disease tolerance, this platform is particularly well suited to low plant populations, making it a reliable choice for diverse farming conditions.

Pannar's new introductions conclude with **PAN 6P-984PW**, the latest addition to this full-season platform, offering minimal tillering, wide adaptability, and a high grain index with exceptional test weight. Strong standability and impressive yield potential make it a top performer. Equipped with **PowerCore®** technology, this hybrid provides broad protection against above-ground lepidopteran pests and includes glyphosate tolerance for effective insect and weed control.

NB! The implementation of an Insect Resistance Management (IRM) programme is a legal requirement when planting hybrids with insect-resistant biotech traits (look for "PW" in the product code). Refer to the schematic guidelines on page 18-19.

MAIZE AND SUNFLOWER SEED SPACING GUIDE

ROW WIDTH (cm)	45 cm		76 cm		91 cm		120 cm	
Plant population per ha	Seeds per metre	Distance between Seeds (cm)	Seeds per metre	Distance between Seeds (cm)	Seeds per metre	Distance between Seeds (cm)	Seeds per metre	Distance between Seeds (cm)
90 000	4.1	24.7	6.8	14.7	8.2	12.2	10.8	9.3
80 000	3.6	27.8	6.1	16.4	7.3	13.7	9.6	10.4
70 000	3.2	31.7	5.3	18.8	6.4	15.7	8.4	11.9
60 000	2.7	37.0	4.6	21.9	5.5	18.3	7.2	13.9
50 000	2.3	44.4	3.8	26.3	4.6	22.0	6.0	16.7
45 000	2.0	49.4	3.4	29.2	4.1	24.2	5.4	18.5
40 000	1.8	55.6	3.0	32.9	3.6	27.5	4.8	20.8
35 000	1.6	63.5	2.7	37.6	3.2	31.4	4.2	23.8
30 000	1.4	74.1	2.3	43.9	2.7	36.6	3.6	27.8
27 500	1.2	80.8	2.1	47.8	2.5	40.0	3.3	30.3
25 000	1.1	88.9	1.9	52.6	2.3	44.0	3.0	33.3
22 500	1.0	98.8	1.7	58.5	2.0	48.8	2.7	37.0
20 000			1.5	65.8	1.8	54.9	2.4	41.7
18 000			1.4	73.1	1.6	61.1	2.2	46.3
15 000			1.1	87.7	1.4	73.3	1.8	55.6
12 000					1.1	91.6	1.4	69.4
10 000							1.2	83.3

ROW WIDTH (cm)	152 cm OR 90 X 213 cm		180 cm		210 cm		230 cm	
Plant population per ha	Seeds per metre	Distance between Seeds (cm)	Seeds per metre	Distance between Seeds (cm)	Seeds per metre	Distance between Seeds (cm)	Seeds per metre	Distance between Seeds (cm)
90 000	13.7	7.3	16.2	6.2	18.9	5.3	20.7	4.8
80 000	12.2	8.2	14.4	6.9	16.8	6.0	18.4	5.4
70 000	10.6	9.4	12.6	7.9	14.7	6.8	16.1	6.2
60 000	9.1	11.0	10.8	9.3	12.6	7.9	13.8	7.2
50 000	7.6	13.2	9.0	11.1	10.5	9.5	11.5	8.7
45 000	6.8	14.6	8.1	12.3	9.5	10.6	10.4	9.7
40 000	6.1	16.4	7.2	13.9	8.4	11.9	9.2	10.9
35 000	5.3	18.8	6.3	15.9	7.4	13.6	8.1	12.4
30 000	4.6	21.9	5.4	18.5	6.3	15.9	6.9	14.5
27 500	4.2	23.9	5.0	20.2	5.8	17.3	6.3	15.8
25 000	3.8	26.3	4.5	22.2	5.3	19.0	5.8	17.4
22 500	3.4	29.2	4.1	24.7	4.7	21.2	5.2	19.3
20 000	3.0	32.9	3.6	27.8	4.2	23.8	4.6	21.7
18 000	2.7	36.5	3.2	30.9	3.8	26.5	4.1	24.2
15 000	2.3	43.9	2.7	37.0	3.2	31.7	3.5	29.0
12 000	1.8	54.8	2.2	46.3	2.5	39.7	2.8	36.2
10 000	1.5	65.8	1.8	55.6	2.1	47.6	2.3	43.5

PERFORMANCE

That's the FARMER in you.

Every season brings new challenges, but Pannar's **white maize hybrids** rise to meet them with strength, consistency, and exceptional grain and milling quality. Widely adapted and agronomically balanced, these hybrids deliver robust seedling vigour, early plant establishment, and proven performance, even under tough conditions. With conventional and **PowerCore®** technology options to suit any production system, you know you can trust Pannar's dependable **white maize package** to boost your farm's productivity and profitability.

WHITE MAIZE HYBRIDS - AGRONOMIC CHARACTERISTICS

HYBRID PLATFORM	ESTIMATED RELATIVE MATURITY (DAYS)	AVAILABLE VERSIONS		TECHNOLOGY	DESCRIPTION: KEY STRENGTHS
PAN 3A-173	114	Base	PAN 3A-173		This hybrid platform features a distinctive ultra early growth type with upright leaf architecture and strong standability. It is well adapted to irrigation and high-potential dryland regions, performing well across various planting densities. At lower plant populations, it tends to be multi-eared and delivers a high grain-to-leaf and stalk ratio. It is also suitable for high plant populations, with good disease tolerance and excellent grain quality. PAN 3P-973PW, equipped with **PowerCore®** technology, provides protection against various above-ground lepidopteran pests and is stacked with glyphosate herbicide-tolerant technology for excellent insect and weed control.
		R	PAN 3R-573R	ROUNDUP READY® MAIZE 2	
		PW	PAN 3P-973PW	POWERCORE®	
PAN 4A-111	124	Base	PAN 4A-111		This mature platform has a rock-solid track record of yield performance. In the eastern production areas it is the go-to platform under high-potential dryland conditions. It handles various plant populations and yield potential levels well. These hybrids are characterised by good general disease tolerance, standability, hectolitre mass, grain and milling quality. Performance can be more variable under hot, dry conditions.
		R	PAN 4R-511R	ROUNDUP READY® MAIZE 2	
PAN 5A-163	124	Base	PAN 5A-163		This hybrid platform is a great stable-mate for the PAN 4A-111 platform. It has good overall leaf disease tolerance and improved yield stability, particularly on moderate potential fields. It has good grain quality and will show prolificacy at lower plant populations. PAN 5P-963PW, with **PowerCore®** technology, provides protection against various above-ground lepidopteran pests and is stacked with glyphosate herbicide-tolerant technology for excellent insect and weed control.
		R	PAN 5R-563R	ROUNDUP READY® MAIZE 2	
		PW	PAN 5P-963PW	POWERCORE®	
PAN 5285	125	Base	PAN 5285		Maintains consistently good performance in the Agricultural Research Council (ARC) national trials for the western production area. Stable performance over seasons. Widely adapted and has good yield potential especially on soils with a clay content of >10% in the topsoil. These hybrids have an attractive plant type, are agronomically well-balanced and show good tolerance to Cob and Tassel Smut and Northern Corn Leaf Blight (NCLB).
PAN 5A-155 (NEW)	126	Base	PAN 5A-155 (NEW)		This versatile hybrid platform, which performs exceptionally well in the western, Free State, and central production regions, now also includes a conventional option: the new PAN 5A-155. These hybrids have an excellent prolificacy index, but are not prone to producing tillers. The platform also offers good overall leaf disease tolerance. PAN 5P-955PW, equipped with **PowerCore®** technology, provides protection against various above-ground lepidopteran pests and is stacked with glyphosate herbicide-tolerant technology for excellent insect and weed control.
		R	PAN 5R-555R	ROUNDUP READY® MAIZE 2	
		PW	PAN 5P-955PW	POWERCORE®	
PAN 5P-939PW	127	PW	PAN 5P-939PW	POWERCORE®	This widely adapted maize hybrid delivers stable performance across the western production region and features excellent prolificacy with a medium tillering index. It shows good tolerance to Grey Leaf Spot and NCLB. It features **PowerCore®** technology, which provides protection against various above-ground lepidopteran pests and is stacked with glyphosate herbicide-tolerant technology for excellent insect and weed control.
PAN 5R-541R (NEW)	128	R	PAN 5R-541R (NEW)	ROUNDUP READY® MAIZE 2	This new hybrid platform was developed and tested for high yield potential water table soils in the northwestern Free State and North West production regions. The hybrid offers good stability, broad adaptability, and a strong grain index. Agronomically, the hybrid displays an attractive plant type with good balance, a strong prolificacy index, moderate tillering, and solid standability. It performs consistently under medium to high yield potential conditions. PAN 5P-941PW, equipped with **PowerCore®** technology, provides protection against various above-ground lepidopteran pests and is stacked with glyphosate herbicide-tolerant technology for excellent insect and weed control.
		PW	PAN 5P-941PW (NEW)	POWERCORE®	
PAN 5R-523R	129	R	PAN 5R-523R	ROUNDUP READY® MAIZE 2	New generation genetics with an upright plant type allowing for improved harvestability. High yield potential on the water table soils of the northwestern Free State and also well adapted to the North West. These hybrids have good standability, an excellent prolificacy index, and high test weight, contributing to their yield potential. PAN 5P-923PW, featuring **PowerCore®** technology, provides protection against various above-ground lepidopteran pests and is stacked with glyphosate herbicide-tolerant technology for excellent insect and weed control.
		PW	PAN 5P-923PW	POWERCORE®	

DRYING RATE, PROLIFICACY, STANDABILITY AND EMERGENCE		
Good	Average	Weak

TILLERING AND DISEASE RISK			
Low	Average	High	Unknown

✗ No	✓ Yes	◆ Unknown

GROWING SEASON CLASS		GENERAL CHARACTERISTICS						DISEASE RISK						MANAGEMENT RECOMMENDATIONS							
Days to 50% Tassel	Days to Physiological Maturity	Ear Type	Drying Rate	Tillering	Prolificacy	Standability	Seedling Vigour	Northern Corn Leaf Blight (NCLB)	Grey Leaf Spot (GLS)	Common Rust	Phaeosphaeria Leaf Spot	Diplodia Ear Rot	Cob and Tassel Smut	Sulfonylurea Sensitive	Suitable for Full Irrigation	Suitable for Supplementary Irrigation	Suitable for High Population Pressure	Irrigation Plant Population per hectare ('000)	Dryland Plant Population per hectare ('000)
56-76	105-145	Fixed												✗	✓	✓	✓	80-100	45-70
58-79	115-148	Semi-flex												✗	✓	✓	✗	55	35-55
58-79	115-148	Semi-flex												◆	✗	✓	✗	55	25-45
60-80	116-150	Semi-flex												◆	✗	✓	✗	35	16-45
61-80	116-150	Semi-flex												✓	✗	✓	✗	35	16-45
63-81	120-169	Semi-flex												✓	✗	✓	✗	35	16-45
63-81	120-169	Semi-flex												◆	◆	✓	✗	35	16-45
63-81	120-169	Semi-flex												◆	◆	✓	✗	35-50	16-45

White Maize Hybrid Package Composition

Pannar's market-leading white maize package offers a winning combination of wide adaptability, agronomic balance, and exceptional grain and milling quality. Designed to thrive under diverse conditions, these hybrids deliver vigorous seedlings, rapid early establishment, and consistent performance – season after season. With both conventional and **PowerCore®** technology options available, Pannar provides dependable solutions to boost productivity and profitability for every farming system.

This season, Pannar is introducing **three new white maize hybrids**. The first is the new conventional hybrid **PAN 5A-155**. This platform, which includes PAN 5R-555R and PAN 5P-955PW, continues to set the standard for performance in the western, central, and Free State production regions. These hybrids combine an outstanding prolificacy index with a minimal tendency to produce tillers, ensuring efficient growth and yield potential. Added to this is strong leaf disease tolerance, delivering dependable crop health throughout the season.

PAN 5R-541R and **PAN 5P-941PW** were developed specifically for high-yield potential water table soils in the northwestern Free State and North West regions. These hybrids deliver excellent stability, broad adaptability, and a strong grain index. Their agronomic profile includes an attractive, well-balanced plant type, a robust prolificacy index, moderate tillering, and reliable standability, ensuring consistent performance under medium to high yield conditions. PAN 5P-941PW, featuring **PowerCore®** technology, provides advanced protection against above-ground lepidopteran pests and incorporates glyphosate herbicide tolerance for effective insect and weed control.

NB! The implementation of an Insect Resistance Management (IRM) programme is a legal requirement when planting hybrids with insect-resistant biotech traits (look for "PW" in the product code). Refer to the schematic guidelines on page 18-19.

MANAGEMENT OF BIOTECH MAIZE HYBRIDS

Insect and weed control are crucial in crop production. Biotech crops provide significant benefits to farmers by offering protection against stalk borers and tolerance to specific herbicides, including glyphosate.

Grain producers may only grow hybrids with biotech traits if they sign a valid Technology Use Agreement (TUA), accepting the conditions for planting biotech seed. Farmers must follow biotech product user guidelines, including planting suitable refuge areas for insect-resistant hybrids and adhering to herbicide dosage and application timing for herbicide-tolerant hybrids.

Co-Existence of Biotech and Conventional Crops

For decades, various agricultural systems have co-existed successfully worldwide, from production to supply chains. Best practices have evolved to ensure high-purity, high-quality seed and grain to support trade. An example is the close production of maize, sweetcorn, and popcorn. Co-existence strategies should meet market requirements using science-based standards and flexible management practices, adapting to changes in products, markets, or practices.

Success depends on cooperation, communication, flexibility, and mutual respect among farmers. Over the years, farmers have adapted to innovations with new farm management practices and technologies. Farmers must implement best practices to meet market standards, ensuring crop integrity and marketability. This applies to all markets, whether for maize, sweetcorn, organic, or conventional crops. Each farmer must communicate with neighbours to gauge the need for appropriate management practices.

HERBICIDE-TOLERANT HYBRIDS

Pannar® brand hybrids with the glyphosate herbicide-tolerant biotech trait are designated by the letters "R" or "PW" in the seed product code.

Crops with biotech traits for tolerance to herbicides enable farmers to use specific herbicides without harming the crops. For instance, glyphosate-tolerant maize can withstand glyphosate applications at recommended rates, while non-tolerant Pannar maize varieties cannot.

IMPORTANT – READ BEFORE PLANTING: If you have any questions after reviewing this information, please contact your authorised Pannar sales representative or agronomist.

Importance of Managing Herbicide-Tolerant Crops and Weed Resistance to Herbicides

Effective management of herbicide-tolerant crops is essential to preserve their value and ensure the continued effectiveness of associated herbicides. When managed correctly, farmers can benefit from herbicide-tolerant crops year after year.

For detailed insights on how weeds develop resistance and the best practices to prevent it, see the graphic on page 20.

Management of Volunteer Herbicide-Tolerant Crops

Some crop seeds can escape harvest, germinate the following year, and become "volunteer" weeds, regardless of herbicide tolerance. Effective management of these volunteers requires advanced planning and monitoring. Key strategies include crop and herbicide rotation, proper adjustment of harvesting equipment, and cultivation and tillage management. Plan at least a year ahead when planting herbicide-tolerant crops to ensure a weed management plan is in place, using alternative herbicide modes of action and/or tillage for the next crop.

Hybrids with Glyphosate Herbicide-Tolerance Offer the Following Benefits:

- Broad-spectrum weed control
- Excellent crop safety
- Conservation cultivating practices
- Herbicide application flexibility
- Ease of management

Glyphosate herbicide can be used with certain residual pre-emergence and post-emergence herbicides, either independently or as tank mixtures, for better weed control. Consult your Pannar or chemical representative for safe and optimal use guidelines.

Pannar markets maize hybrids with the glyphosate tolerance gene under licence from the Bayer Group (maize with the **Roundup Ready® Maize 2** trait). Only **Roundup PowerMAX® (L7769)** herbicide is recommended by the registration holder for post-emergence use on maize with the **Roundup Ready® Maize 2** trait.

Roundup Ready® and **Roundup PowerMAX®** are registered trademarks used under licence from the Bayer Group. **ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Roundup Ready®** crops contain genes that confer tolerance to glyphosate, the active ingredient in **Roundup®** brand agricultural herbicides. **Roundup®** brand agricultural herbicides will damage or destroy crops that are not tolerant to glyphosate.

Roundup PowerMAX® contains Glyphosate (Caution) Reg. No. L7769. Act No. 36 of 1947.

STALK BORER INSECT-RESISTANT HYBRIDS

Pannar® brand hybrids with stalk borer insect-resistant biotech traits are designated by the letters "PW" in the seed product code.

The insect-resistant traits in Pannar biotech hybrids produce Bt-proteins that protect crops from first and second instar stalk borers, affording the crop the opportunity to develop to its full potential. These traits are effective only against small, immature larvae, not late-stage larvae.

IMPORTANT – READ BEFORE PLANTING: If you have any questions after reviewing this information, please contact your authorised Pannar sales representative or agronomist.

Insect Resistance Management (IRM) Strategy

The IRM strategy is designed to safeguard the effectiveness of insect-resistant trait technology by preserving the efficacy of Bt-proteins against target insect pest species. This approach helps to extend the lifespan of the technology and ensures its continued value for farmers over the long term. For a detailed explanation, refer to the graphic on page 18, which illustrates how the IRM strategy works.

Options for the Refuge

The farmer must select one of the following options to plant a refuge:

Option A: 5% non-Bt-maize refuge

- In practice, this means that for every 95 hectares of Bt-maize, the farmer must plant five hectares of non-Bt-maize.
- This non-Bt-maize may not be treated with any insecticide registered for control of maize stalk borers.

Option B: 20% non-Bt-maize refuge

- In practice, this means that for every 80 hectares of Bt-maize, the farmer must plant 20 hectares of non-Bt-maize.
- This non-Bt-maize may be treated (if economic thresholds are met) with an insecticide that is not Bt-based.

In addition to choosing either an Option A or Option B refuge, growers must follow specific requirements when planting the refuge. The graphic on page 19 provides detailed guidance and illustrates how a refuge should be planted and managed in compliance with IRM standards.

Monitoring Compliance with IRM Strategy Refuge Requirements:

By signing the Technology Use Agreement (TUA), farmers planting insect-resistant biotech crops agree to allow Pannar to monitor their compliance with IRM requirements, as mandated by the GMO Act (Act 15 of 1997). Monitoring may be conducted by:

- An independent third party or Pannar contractor
- A Pannar representative or agronomist during routine visits

Pannar representatives must provide guidance to farmers to ensure proper refuge planting compliant with regulations. Bt-maize and non-Bt-maize (refuge) areas should be clearly marked for easy identification. Adhering to stewardship requirements is essential - non-compliance is viewed in a very serious light.

Detailed guidelines for Bt-maize production are available from your Pannar representative.

Our Commitment to Excellence Through Stewardship®

Pannar is a member of **Excellence Through Stewardship® (ETS)**, and Pannar® brand products are marketed following ETS Product Stewardship Guidance and Pannar's stewardship policies. Biotech crops and materials can only be exported, used, processed, or sold in regions where they have received all necessary regulatory approvals. Moving biotech materials across borders into areas where they are not approved is illegal under national and international laws. Growers should consult with their buyers or grain handlers to understand their stance on the products being purchased.

Excellence Through Stewardship® is a registered trademark of ETS. For more information, visit https://www.excellencethroughstewardship.org/.

INSECT RESISTANCE MANAGEMENT (IRM) – RATIONALE & REQUIREMENTS

Insect Resistance Management (IRM) is a critical component of sustainable agriculture. It ensures the long-term effectiveness of insect-resistant crops (also known as Bt-crops) by slowing the development of resistance in pest populations. This is achieved through a strategic approach known as the High Dose/Refuge Strategy.

Why IRM is necessary

- Selection pressure can lead to insect populations evolving resistance to Bt-proteins.
- Without IRM, the number of resistant individuals in a pest population will increase, rendering Bt-crops ineffective at preventing pest damage above the economic threshold.
- Implementing IRM protects crop productivity, farmer profitability, and food security.

The IRM Strategy – High Dose/Refuge Approach

COMPONENT 1:

- Bt-crops are engineered to produce high levels of Bt-proteins.
- This dose controls nearly all target pests feeding on the crop.
- Only pests with full resistance to Bt-proteins can survive.
- Individuals with full resistance are rare in pest populations.

COMPONENT 2:

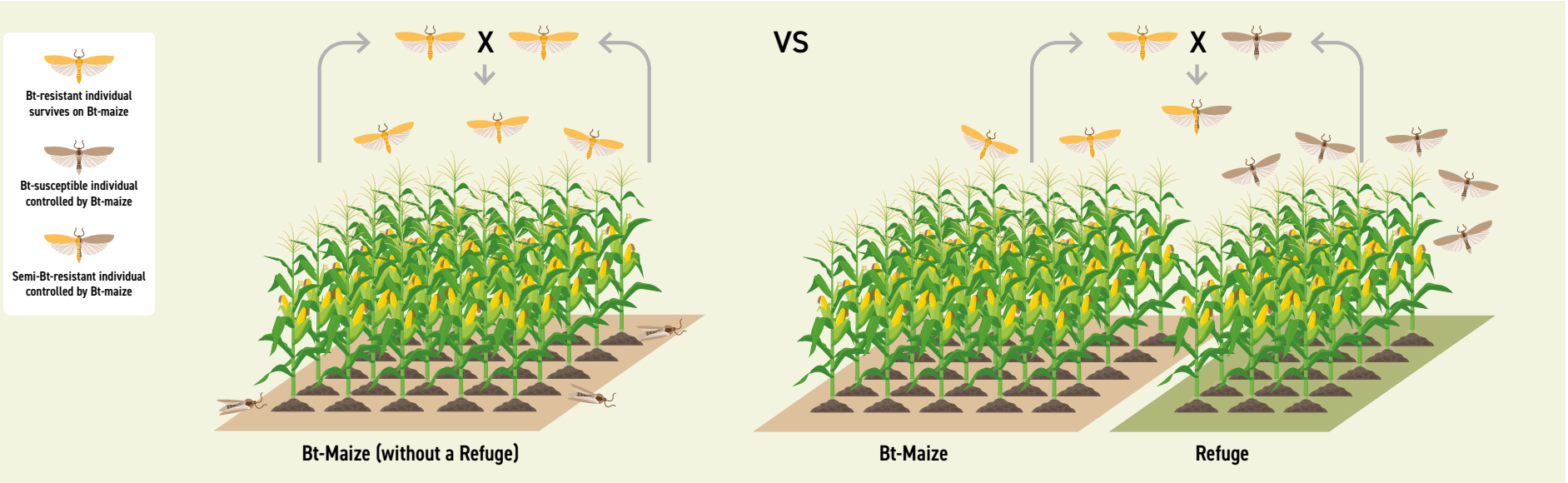
- A refuge is a nearby area planted with non-Bt-crops.
- It allows Bt-susceptible pests to survive and reproduce.

How It Works

- Many susceptible pests survive in the refuge.
- Very few resistant pests survive in the Bt-crop.
- Resistant pests are likely to mate with susceptible ones due to the difference in numbers and proximity.
- Their offspring are only partially resistant and cannot survive on Bt-crops.
- This prevents the resistance gene from spreading in the population, ensuring fully resistant pests remain rare.

Implementation Requirements

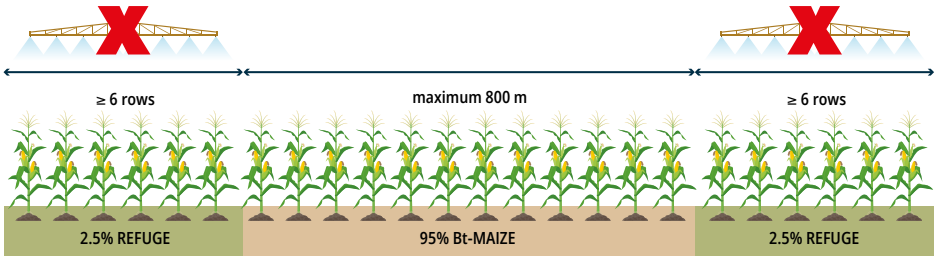
- **Refuge Size** – Follow the specific percentage requirement for refuge planting.
- **Refuge Placement** – Plant refuge areas close to Bt-fields for effective mixing of resistant and susceptible pests.
- **Monitoring** – Regularly inspect fields for pest survival or unexpected damage.
- **Reporting** – Immediately report unusual survival of target pests to Pannar representatives.



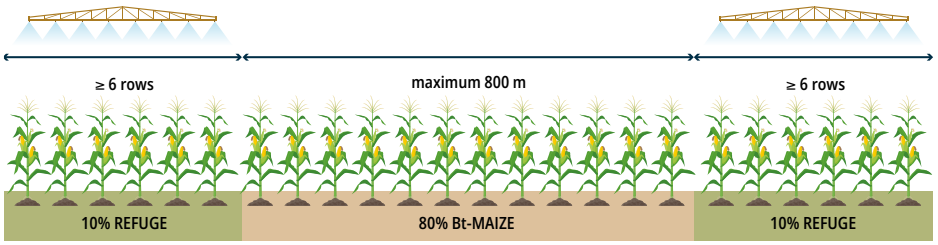
PLANT THE CORRECT REFUGE AREA FOR MAIZE

STEP 1: Choose the best option for your farm.

OPTION A: 5% non-Bt-refuge that may not be treated with an insecticide.



OPTION B: 20% refuge that may be treated (if economic thresholds are met) with an insecticide that is not Bt-based.



STEP 2:

Refuge Requirements:

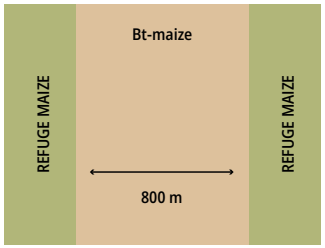
- ☐ Use a hybrid with a similar maturity as your Bt-crop
- ☐ Plant refuge within seven days of Bt-crop
- ☐ Apply same agronomic practices to both Bt and refuge crop
- ☐ Always plant your own refuge
- ☐ Cover at least two field borders
- ☐ Keep refuge within 400m of all Bt-plants
- ☐ Include minimum six refuge rows in each strip refuge
- ☐ Don't allow refuge and Bt-rows to cross
- ☐ Don't mix refuge and Bt-crop seeds

STEP 3:

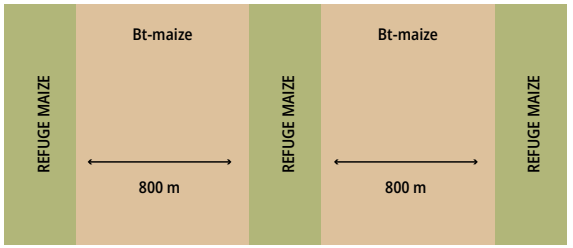
Monitor and inspect your refuge and Bt-crop regularly (at least once a week) and immediately contact your seed representative/agent if stalk borer infestation is observed in the Bt-crop.

CORRECT LAYOUT OF THE REFUGE AREA

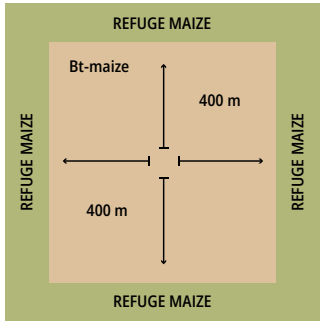
BLOCK POSITIONING



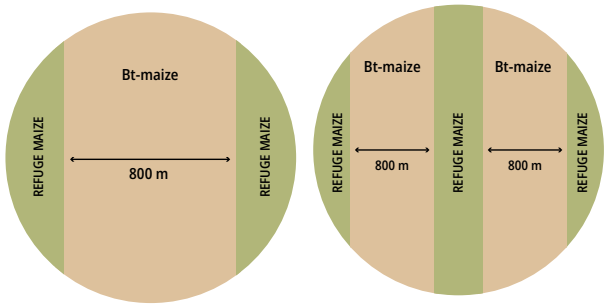
STRIP POSITIONING



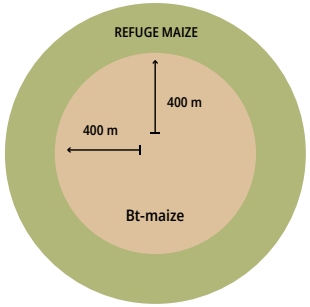
PERIMETER POSITIONING



PIVOT POSITIONING



BORDERING OF PIVOT



PIVOT SIZE		MINIMUM NUMBER OF ROWS REQUIRED PER ROW WIDTH IN METRES (5% REFUGE)					
Radius (m)	ha	0.60 m	0.75 m	0.91 m	1.00 m	1.20 m	1.50 m
178	10	8	6	6	6	6	6
252	20	11	9	7	6	6	6
309	30	13	10	9	8	7	6
357	40	15	12	10	9	8	6
*399	50	17	13	11	10	8	7
*437	60	18	15	12	11	9	7
*472	70	20	16	13	12	10	8
*505	80	21	17	14	13	11	9
*535	90	23	18	15	14	11	9
*564	100	24	19	16	14	12	10
*592	110	25	20	16	15	12	10
*618	120	26	21	17	16	13	10

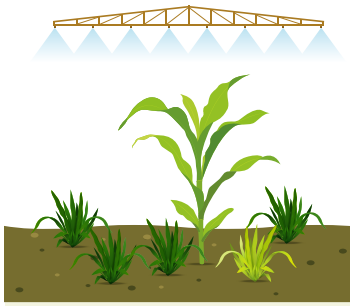
** User must also plant at least six rows in the centre of the pivot, in addition to the rows on the outside.*

WEED RESISTANCE MANAGEMENT - RATIONALE AND REQUIREMENTS

Herbicides help farmers control weeds and protect crop yield and quality. However, repeated use of the same herbicide allows weeds to adapt and develop resistance, a natural biological process accelerated by over-reliance on a single control method instead of integrating chemical, agronomic, and non-chemical practices.

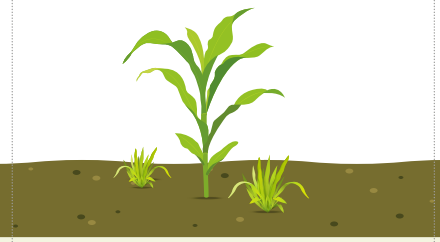
How does herbicide resistance evolve?

STEP 1:



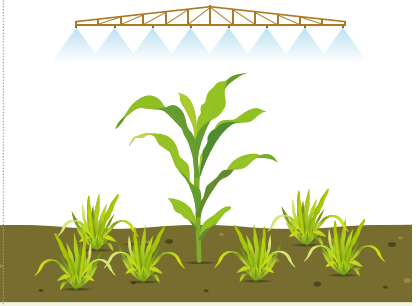
Herbicide is applied to control weeds. A few weeds are naturally resistant and survive.

STEP 2:



Resistant weeds grow, produce seeds, and add them to the soil seed bank. Over time, the proportion of resistant weeds increases.

STEP 3:



Repeated use of the same herbicide enables resistant weeds to multiply rapidly, eventually causing complete herbicide failure.

Managing Herbicide-Tolerant Crops and Weed Resistance

Proper management preserves the value of herbicide-tolerant crops and the effectiveness of herbicides, allowing annual use when done correctly.

Best Practices:

- ☐ **Diversify modes of action:** Herbicide-tolerant crops don't limit you to the use of one mode of action. Include conventional herbicides in your weed management strategy.
- ☐ **Avoid overuse:** Limit repeated applications of the same herbicide or mode-of-action group in a season.
- ☐ **Follow label instructions:** Remember the principle: the label is the law. Apply herbicides at recommended rates and weed growth stages; only use registered products.
- ☐ **Combat resistance:** Use herbicide mixtures or sequential treatments as directed on labels.
- ☐ **Integrate other methods:** Rotate crops, cultivate mechanically, delay planting, and plant weed-free seed.
- ☐ **Prevent spread:** Clean equipment before moving between fields.
- ☐ **Monitor fields:** Scout after application for escapes or shifts; control resistant weeds promptly to prevent seed dispersal.
- ☐ **Report issues:** Inform your Pannar representative or agronomist about problematic weeds.

Notes

RELIABILITY

That's the FARMER in you.

Reliable performance begins with superior genetics. Pannar's **sunflower hybrids**, available as conventional or **Clearfield® Plus**, deliver strong standability, uniform maturity, and high oil content. Consistently leading ARC national trials for yield potential and stability, these hybrids offer dependable results. With expert agronomic support, validated trial data, and staggered flowering options to manage Sclerotinia risk, Pannar ensures confident decision-making, season after season.

Pannar® brand sunflower hybrids offer versatility and reliability for any production system. With conventional and Clearfield® Plus options, these hybrids deliver excellent yield potential, wide adaptability, and proven stability under diverse conditions. Consistently leading ARC national trials, they provide confidence season after season. Staggered flowering helps manage Sclerotinia risk, while expert agronomic support and validated trial data ensure informed decisions and dependable results.

This year, Pannar is excited to introduce **PAN 7103CLP**, a three-way cross hybrid featuring the **Clearfield® Plus** trait for effective alternative weed control. Like PAN 7102CLP, it flowers early but offers a longer grain-filling period and stay-green dry-down. With higher yield potential, improved oil percentage and better oil yield plus enhanced Alternaria tolerance, **PAN 7103CLP** is a powerful new addition to Pannar's sunflower package.

Sunflower Hybrid Package Selection Guide

Pannar's sunflower hybrids are versatile and suitable for planting in various sunflower production regions. However, the ideal hybrid package depends on your planting date.

- **Early planting (end October to November):** Build your package around the high-potential PAN 7180CLP, supported by PAN 7160CLP and PAN 7102CLP for risk management.
- **Optimal planting (end November to December):** Anchor your package with PAN 7160CLP, complemented by PAN 7180CLP for extended growth and PAN 7102CLP or the new **PAN 7103CLP** for shorter-season flexibility. This combination diversifies your portfolio and helps manage risk.
- **Late planting (end December to mid-January):** Choose PAN 7102CLP or **PAN 7103CLP** – our short-season hybrids – for reliable performance. In cooler areas or late planting dates, pair them with PAN 7160CLP for added security.

For farmers preferring conventional hybrids, PAN 7090 remains the trusted choice for main planting across all regions.

To tailor your hybrid mix for maximum yield and oil potential, consult your Pannar sales representative or agronomist. Their expert advice ensures your package aligns with local conditions and production goals.

Clearfield® Plus Production System

Pannar markets a range of Pannar® brand sunflowers with the **Clearfield® Plus** trait technology that compete head-to-head with the conventional hybrids, providing an alternative for weed control and crop rotation. The **Euro-Lightning® Plus** herbicide provides effective post-emergence control of a variety of broadleaf weeds and grasses. Pannar® brand hybrids with the **Clearfield® Plus** trait (suffix CLP) are only registered for the use of **Euro-Lightning® Plus** herbicide (Reg. No. L10316). Pannar does not support the use of any other post-emergent herbicide on our CLP hybrids as they would not have been tested or proven in official qualification trials. The inherent herbicide resistance is a natural mutation; the hybrids are not genetically modified, and all sunflower hybrids are GMO-free.

Clearfield® Plus Stewardship Guidelines

- Always grow Pannar® brand sunflowers with the **Clearfield® Plus** trait in a three-year rotation with other crops (i.e. **non-Clearfield® Plus** wheat/maize/sunflowers):
  - This breaks the cycle of continuous sunflower production and allows use of alternate mode-of-action herbicides and tillage.
  - It also promotes good agronomics by reducing disease and insect pressure in sunflowers.
- Use alternate (non-ALS) mode-of-action herbicides with activity on sunflowers in the rotational crop (i.e. growth regulator or photosynthesis inhibitor):
  - This reduces the selection pressure from continuous dependence on the ALS-inhibiting acetolactate synthase herbicide.
  - It also provides an alternate mode of action to control volunteer sunflowers with the **Clearfield® Plus** trait and other ALS-resistant weeds present.
- Limit the sole reliance on ALS herbicides to no more than two out of four years in the same field:
  - Where applicable, use sequential or tank mix partner herbicides with multiple modes of action on target weed species in the sunflower crop and in rotational crops.
- Do not plant sunflowers with the **Clearfield® Plus** trait on fields with a history of heavy wild sunflower infestation:
  - This reduces the threat of outcrossing of sunflowers with the **Clearfield® Plus** trait with wild sunflowers.
- Control wild sunflowers in areas adjacent to sunflower fields with the **Clearfield® Plus** trait (road ditches, field borders and fence rows) through the use of non-ALS herbicides and/or mowing prior to seed set:
  - This minimises the potential of cross-pollination of wild-type sunflowers with sunflowers with the **Clearfield® Plus** trait.
  - It also promotes good sanitation practices by eliminating vectors for insects and disease.
- Control emerged wild sunflowers prior to planting sunflowers with the **Clearfield® Plus** trait with non-ALS burndown herbicides (no till/min till) or tillage (conventional till):
  - This reduces reliance on ALS herbicides for controlling the spread of wild sunflowers.
  - It also eliminates any emerged, naturally occurring biotype that may be resistant to ALS-inhibiting herbicides.

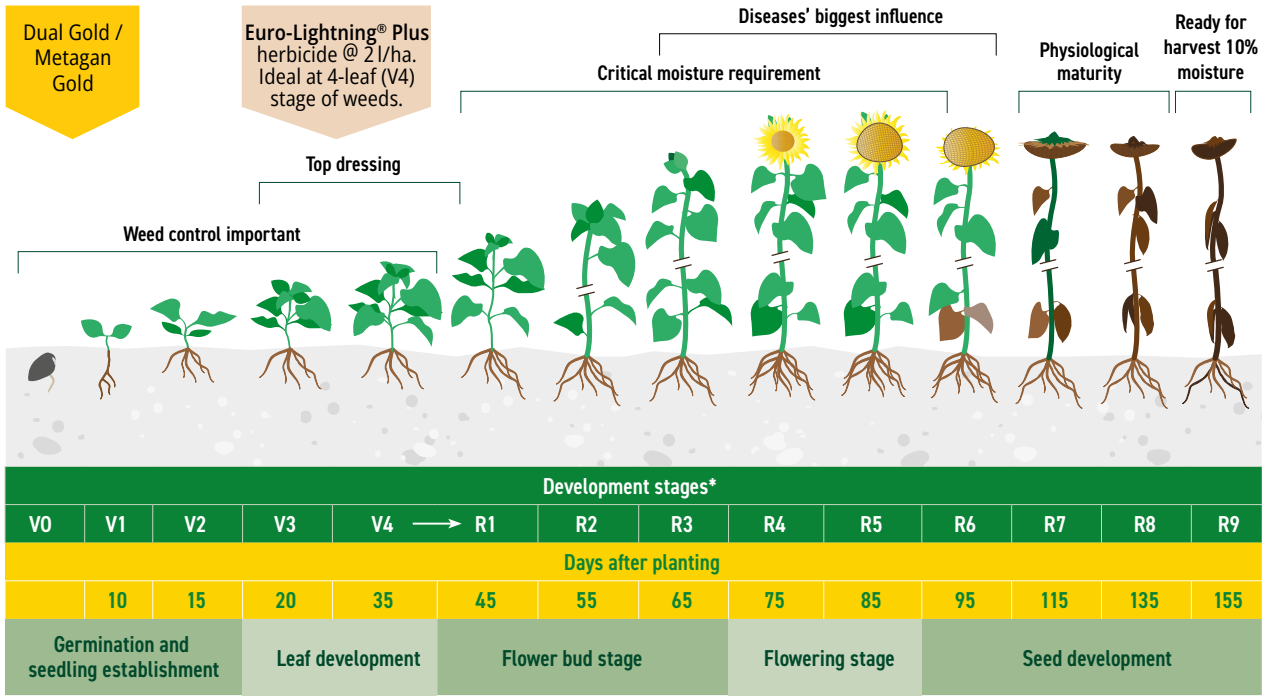
Clearfield® Plus Herbicide Programme

- For successful control, apply at the two- to six-leaf stage of weeds.
- Prior to the use of **Euro-Lightning® Plus**, spray tanks, booms, and nozzles must be thoroughly cleaned and decontaminated of all previous spray residues.
- **Poor water quality:** Only use flowable (50%) high quality ammonium sulphate that does not contain any other components such as added acidifiers or acidifying systems, humic or fulvic acids, additional adjuvants, wetters, stickers, spreaders or conditioning agents.
- **Soil application:** 150-250 litres (l) water/hectare (ha).

Euro-Lightning® Plus Herbicide at 2 l/ha

SUBSEQUENT CROPS	WAITING PERIOD
Pannar® brand sunflowers with the **Clearfield® Plus** trait	NONE
Wheat	4 months
Maize (all maize-producing areas including irrigation), dry beans and soybeans	9 months
All other crops	20 months

*Valid only if the correct amount of **Euro-Lightning® Plus** is applied and a minimum of 350 mm rain falls.*



**Planting date/climate may influence development.*

DIRECTIONS FOR USE: USE ONLY AS DIRECTED

General Information:

- **Clearfield® Plus** is an internationally registered trademark belonging to BASF and appears in a registered logo including the words "**Clearfield® Plus Production System**".
- The "**Clearfield® Plus Production System**" is a combination of agronomically advanced seeds (natural selection) and custom-designed herbicides. The **Clearfield® Plus** name and logo link the seed and herbicide together. These plants are not GMOs.
- The mode of action of **Euro-Lightning® Plus** involves uptake by the plant foliage, which is followed by translocation to the growth points. After **Euro-Lightning® Plus** application, susceptible weeds may show yellowing and weed growth will stop. Susceptible weeds stop growing and either die or are not competitive with the crop.
- **Euro-Lightning® Plus** must only be applied to **Clearfield® Plus** sunflower hybrids after the two-leaf stage of the crop (ideally at four leaves). However, do not apply when the leaf canopy of the crop is too large as this could intercept the spray and prevent the herbicide from reaching the targeted weeds.
- Application should be completed by 32 days after planting.
- The weeds must be between the two- and six-leaf stage at application and must be actively growing. They should not be under stress (e.g., drought, waterlogged conditions or nutrient imbalances) during application, as this can limit the uptake and translocation of the product, resulting in poor weed control.
- Adequate soil moisture is important for optimum **Euro-Lightning® Plus** activity.
- In regions where water quality is known to be poor, a flowable (50%) high-quality ammonium sulphate, at a 2% dilution, can be used to ameliorate the water before adding **Euro-Lightning® Plus**.
- Ensure thorough coverage and wetting of the weeds.
- If needed, a suitable, registered pre- or post-emergent graminicide can be applied prior to, or following the application of **Euro-Lightning® Plus**. **Euro-Lightning® Plus** should never be applied in a tank mix with any other herbicide. Always refer to the applicable product label and apply in the directed manner.

SUNFLOWER HYBRIDS - AGRONOMIC CHARACTERISTICS

HYBRID	TECHNOLOGY	RELATIVE MATURITY*						DESCRIPTION: KEY STRENGTHS	GENERAL CHARACTERISTICS				
									Yield Probability				
		Growing Season	Days to 50% Flowering*	HU to 50% Flowering*	Days to Physiological Maturity*	HU to Physiological Maturity*	Days to Harvest*		1.5 t/ha Yield Potential	2.5 t/ha Yield Potential	3.5 t/ha Yield Potential	Emergence	Drydown
PAN 7090	Conventional	Medium Late	67	790	115	1 190	150-155	This three-way cross conventional hybrid has consistently delivered top performance in Pannar P3 trials, demonstrating good yield potential, oil content, stability, and adaptability. Recommended as part of the main planting for all sunflower production regions.	8	7	6	8	7
PAN 7102CLP	**Clearfield® Plus**	Medium	64	760	112	1 160	145-150	This single cross hybrid contains the **Clearfield® Plus** trait, with the benefit of an alternative choice for weed control. In terms of yield potential and stability, it competes on an equal footing with the conventional hybrids. This hybrid is based on PAN 7049 genetics. PAN 7102CLP is slightly quicker than the other medium late hybrids. When planted in a package with other hybrids, its earlier flowering date helps to manage the risk of Sclerotinia infection.	4	6	8	8	9
PAN 7103CLP (NEW)	**Clearfield® Plus**	Medium	64	790	115	1 190	150-155	This new three-way cross hybrid features the **Clearfield® Plus** trait, offering the advantage of an effective alternative weed control strategy. This hybrid flowers early, similar to PAN 7102CLP, but has a slightly longer grain-filling period and slower dry-down rate (stay-green). This hybrid is intended to replace PAN 7102CLP in the product package, based on its increased yield potential, oil percentage, and oil yield. **PAN 7103CLP** also shows improved tolerance to Alternaria when compared to PAN 7102CLP.	6	6	6	8	7
PAN 7160CLP	**Clearfield® Plus**	Medium Late	69	800	116	1 200	150-155	This three-way cross hybrid has consistently delivered top performance in the ARC national trials since its introduction to the market. It has extremely good yield potential and reliability at all yield levels. It is renowned for performance and stability. It contains the **Clearfield® Plus** trait, with the benefit of an alternative choice for weed control. Based on PAN 7100 genetics, it has the same yield potential and stability as the conventional hybrids.	8	8	7	6	7
PAN 7180CLP	**Clearfield® Plus**	Medium Late	70	810	118	1 210	150-155	Based on the genetics of the well-known PAN 7080, but with the benefit of an alternative choice for weed control provided by the **Clearfield® Plus** trait. It has excellent yield potential, has maintained a phenomenal performance record, and is well-adapted to all production regions with exceptional stability under varying conditions.	7	7	8	8	9

GENERAL CHARACTERISTICS										DISEASE RISK		MANAGEMENT RECOMMENDATIONS		
Average Oil Content	Self Fertility	Plant Height	Stem Curvature	Neck Strength	Stalk Strength	Root Strength	Standability	Uniformity	Test Weight	Verticillium	Alternaria	Supplementary Irrigation	Supplementary Irrigation Plant Population per ha ('000)	Dryland Plant Population per ha ('000)
41%	9	7	6	7	8	8	6	7	39	5	7	8	60	35-55
38%	9	7	7	8	8	8	5	9	39	4	4	7	60	35-55
44%	9	8	7	7	8	8	6	7	39	5	7	8	60	35-55
41%	9	5	6	7	8	8	7	7	39	7	6	8	60	35-55
39%	9	5	7	8	8	8	7	9	40	7	6	7	60	35-55

Clearfield® Plus and Euro-Lightning® Plus are the registered trademarks of BASF.

*Always follow grain marketing guidelines, stewardship practices and herbicide label directions. **Clearfield® Plus** sunflower hybrids are tolerant to **Euro-Lightning® Plus** herbicide, and this is indicated by the letters "CLP" in the seed product code. Other crops, including conventional sunflower hybrids that do not contain the **Clearfield® Plus** trait or have confirmed imazapyr tolerance will be severely damaged if unregistered imazapyr-based herbicides are applied.*

**RELATIVE MATURITY*
Varies according to planting date and temperatures during the growing season.

YIELD, CHARACTERISTICS AND MANAGEMENT RATINGS	
9 = Excellent	1 = Poor

DISEASE RISK RATINGS	
9-8 = Highly Tolerant	7-6 = Tolerant
5-4 = Moderately Tolerant	3-1 = Susceptible

PLANT HEIGHT		
Short stature is desirable	9 = Short (150 cm)	1 = Tall (210 cm)

STEM CURVATURE		
9 = Erect	8 = Semi-erect (preferred)	7 = Semi-pendulous (preferred)
6 = Pendulous	5 = Fully Pendulous	

QUALITY

That's the FARMER in you.

Excellence isn't optional - it's expected. Pannar's **soybean cultivars** are bred for uniformity, strong standability, and consistent grain quality across diverse regions and seasons. With a broad range of maturity classes to suit nearly all planting dates and densities, they combine high yield potential with agronomic strength and adaptability. Supported by expert advice and trial-proven genetics, Pannar's versatile **soybean package** is the choice of farmers who know that quality begins with the seed.

Pannar® brand soybeans set the standard for performance and profitability. Our cultivars combine exceptional yield potential with strong agronomic traits, ensuring reliability across regions and seasons. With a broad range of maturity classes for flexible planting dates and densities, plus proven genetics and expert support, Pannar offers farmers a trusted choice for quality soybean cultivars.

Selecting the best maturity group for your area

In South Africa, soybean production areas are defined by altitude rather than latitude, creating three distinct zones: cool, temperate, and warm.

The **cool production areas** are located in the higher-lying eastern Free State, Mpumalanga and KwaZulu-Natal, which are characterised by a shorter production season with moderate summer days and relatively higher rainfall.

The **temperate production areas** include the central parts of the Highveld as well as the North West and the western Free State and generally have a longer production season with warmer days and average rainfall.

The **warm production areas** have a long growing season with hot days and less rainfall, and soybeans are mostly grown in these areas under irrigation.

The first step in choosing a cultivar is to identify your production area and yield potential. Next, select the appropriate maturity group for your conditions. Early groups suit cool zones and late planting, while medium and later groups thrive in temperate and warm areas with longer seasons.

Crop Rotation with Soybeans

A strong crop rotation system is vital for sustainable farming, and soybeans play a key role, especially when paired with maize in medium- to high-potential areas.

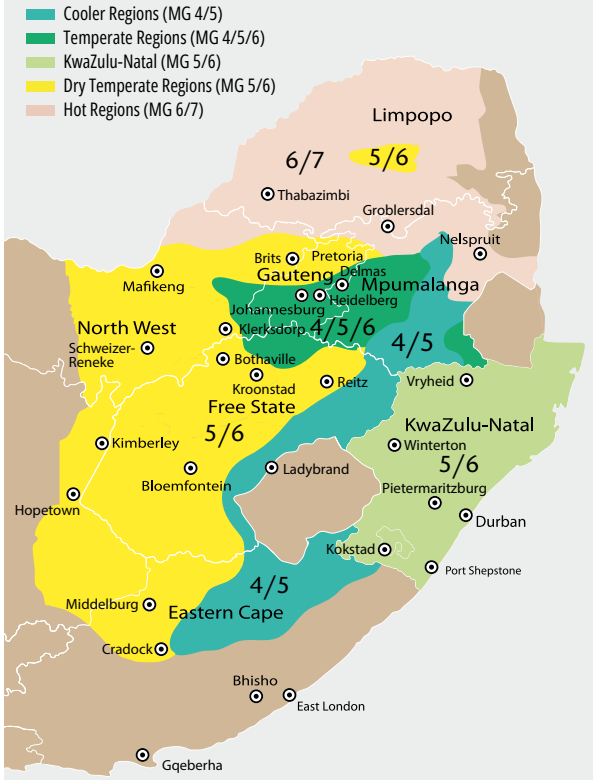
Soybeans naturally fix nitrogen in the soil, reducing the need for synthetic fertilisers and improving soil health for subsequent crops. This rotation also disrupts pest and disease cycles, reducing chemical use and building resilience.

Pannar's soybean cultivars are designed to perform across diverse conditions, making them an ideal choice for integrated rotations. By incorporating Pannar soybeans into your programme, you can boost maize yields, enhance soil fertility, and create a more productive, sustainable farming system.

Rhizobium Strain Groups

All Pannar cultivars are compatible with Rhizobium Strain Groups A, B, C, D, and E. All yield data is generated using Group A Strain WB74, which means that if a farmer chooses to use a different strain of Rhizobium, the yield information and cultivar recommendations provided may vary.

Soybean Production Regions



*MG = Maturity Group
Map data courtesy of University of Pretoria

Always follow grain marketing guidelines, stewardship practices and pesticide label directions. Varieties that are glyphosate tolerant (including those designated by the letter "R" in the product code) contain genes that confer tolerance to glyphosate herbicides. Glyphosate herbicides will kill crops that are not tolerant to glyphosate.

Glyphosate
Tolerant

SOYBEAN CULTIVARS - AGRONOMIC CHARACTERISTICS

Glyphosate Tolerant

CULTIVAR	TECHNOLOGY	MATURITY GROUP (MG)		RELATIVE NUMBER OF DAYS TO 50% FLOWERING*	RELATIVE NUMBER OF DAYS TO HARVEST MATURITY*	DESCRIPTION: KEY STRENGTHS	PLANT AND SEED CHARACTERISTICS							RECOMMENDED PLANT POPULATION	
		Early: MG 4.5-5.4 Medium: MG 5.5-6.4 Late: MG 6.5-7.4		Temperate Areas Mid-November Planting Date	Temperate Areas Mid-November Planting Date		Standability	Shattering Resistance	Compatibility with Rhizobial Strain Groups#	Growth Type	Pubescence	Flower Colour	Hilum Colour	Early Planting ('000)	Late Planting Date or Narrow Row Widths('000)
PAN 1515R	Glyphosate Tolerant	Early	5.0	57	126	This variety hits the maturity sweet-spot. It is quick enough to fit into the early maturity category, but late enough to have a decent yield. This versatile variety will cater for all your early maturity variety needs, be that for the main planting in the cool areas or delayed planting after wheat in the temperate areas.	8	8	A; B; C; D; E	Indeterminate	Light Tawny	Purple	Brown	300	450
PAN 1521R	Glyphosate Tolerant	Medium	5.7	61	137	If we need to single out a cultivar for preferential planting it is PAN 1521R. Unmatched yield potential and stability (yield probability) over different yield potentials, production areas and seasons. Equally well-suited to cool, temperate and hot regions. This cultivar has a characteristically strong and deeply developed root system, which comes into its own in the water table soils of the western production regions. A winning combination of yield and agronomic characteristics.	9	9	A; B; C; D; E	Indeterminate	Grey	Purple	Imperfect Black	300	450
PAN 1555R	Glyphosate Tolerant	Medium	5.7	63	138	A cultivar with high yield potential and good stability across all production areas and seasons. An excellent teammate for PAN 1521R. This variety can withstand sub-optimal conditions better than most, and should be part of your cultivar package particularly where you expect tough soil or climate conditions.	8	9	A; B; C; D; E	Indeterminate	Tawny	Purple	Brown	300	450
PAN 1644R	Glyphosate Tolerant	Late	6.7	63	142	The yield leader. It is a good choice for all the temperate production areas (including the North West and western Free State) and for cultivation under irrigation. The cultivar's strong root system makes it very suitable for the water table soils in the western production areas.	7	8	A; B; C; D; E	Indeterminate	Grey	Purple	Imperfect Black	300	380

**Varies according to planting date and temperatures during the growing season.*

RATINGS	
9 = Excellent	1 = Poor

DISEASE RATINGS			
9-8 = Highly Tolerant	7-6 = Tolerant	5-4 = Moderately Tolerant	3-1 = Susceptible

#RHIZOBIUM STRAIN GROUPS	
Group A: (Strain WB74) NFX/MicroN/GraphEx (Microbika); Nitro-Liq/RhizoLiq/Signum (MBFi); Soycap (Soygro); Rhizomax (Intelligro); Stimuplant	**Group B:** (Strain 532C) HiStick/Rhizoflo (BASF) **Group C:** (Strain 5080) Biocult Maximise (Nulandis/N Lab) **Group D:** (Strains USDA 110 and 442) Induct/Induct Pro (MBFi) **Group E:** (Strain 5079) Elite (MBFi)

FORTITUDE

That's the FARMER in you.

When the weather turns, your crop doesn't have to. Pannar's **grain sorghum** is built to endure. With exceptional drought tolerance, robust standability, and reliable grain fill under stress, these hybrids are your partner in resilience. Whether you're planting in marginal soils or facing erratic rainfall, Pannar **sorghum** delivers consistent performance based on proven field data. Rooted in one of the world's oldest sorghum breeding programmes, Pannar's locally tested genetics are built to thrive - season after season, challenge after challenge.

Pannar® brand sorghum hybrids are known for their exceptional yield potential, wide area adaptability, and environmental resilience. Since 1978, Pannar has led one of the world's oldest sorghum breeding programmes, sourcing diverse germplasm and rigorously testing it through our local evaluation network. This commitment ensures that every hybrid thrives in Southern African conditions, season after season. Our portfolio includes both sweet- and bitter-grain types with excellent malt quality, meeting the needs of farmers and processors alike.

Sorghum has sustained African diets for thousands of years, and today it offers compelling advantages for modern farming. It tolerates drought, withstands temporary waterlogging, and grows in soils where maize, soybeans, or sunflower may fail. By incorporating sorghum into your crop rotation, you reduce risk, improve sustainability, and secure profitability, even in unpredictable weather. With Pannar sorghum you gain genetics rooted in tradition and strengthened by innovation, developed to help you succeed when conditions are toughest.

GRAIN SORGHUM HYBRIDS - AGRONOMIC CHARACTERISTICS

RATINGS		
9 = Excellent	1 = Poor	◆ Insufficient Data

HYBRID	GROWING SEASON CLASS		DESCRIPTION: KEY STRENGTHS	PLANT CHARACTERISTICS									POSITIONING AND ADAPTABILITY			SEED SIZE (SEEDS/KG)
	Days to 50% Flowering*	Days to Harvest*		Seedling Vigour	Standability	Head Exertion	Plant Height (cm)	Uniformity	Threshability	Grain Colour	Grading	Head Smut	Heavy Clay Soils	Irrigation	Dryland	Class 2
PAN 8816	76-79	135-142	Excellent yield potential and stability. Very uniform growth habit and good standability. Attractive plant type. Large-seeded grain, high test weight and good threshability. Classified GM; good malt quality. Good general leaf disease tolerance. Good Head Smut tolerance. Plant where Head Smut problems have occurred in the past. Open head (panicle) facilitates spraying.	Good	8	Good	112-117	8	8	Red	GM	8	✓	✓	✓	33 000-34 000
PAN 8625	79-82	140-145	Outstanding yield performance and agronomic characteristics. Widely adapted. Bitter grain type; classified GH. Good malt quality. Medium plant height with good standability. Good tolerance to Head Smut.	Good	8	Intermediate	120-130	7	6	Brown	GH	7	✓	✓	✓	33 000-34 000
PAN 8951	70-75	122-130	Excellent yield potential and test weight. Great option for tough dryland conditions. Widely adapted. Closed head (panicle) with large-seeded grain and good threshability.	Good	8**	Intermediate**	110-120	8	8	Red	GM	◆	✓	✓	✓	33 000-34 000

**Varies according to planting date and temperatures during the growing season. **May change as more data becomes available.*

PLANNING

That's the FARMER in you.

Farming isn't guesswork. It's strategy and foresight. It's the quiet work done long before the first seed hits the soil. At Pannar, we recognise the thinker behind the action. We're here with expert support, tailored tools and proven products to help you plan with confidence, and grow with purpose.

CONTACT THE PANNAR TEAM

HEAD OFFICE	
Pannar Seed (Pty) Ltd Regal House 7 Montrose Park Boulevard Victoria Country Club Estate 170 Peter Brown Drive Pietermaritzburg, KwaZulu-Natal, 3201	**GPS: S** 29°34'31.0"; **E** 30°20'10.4" **Tel:** (033) 413 9500 **Email:** infoserve@pannar.co.za

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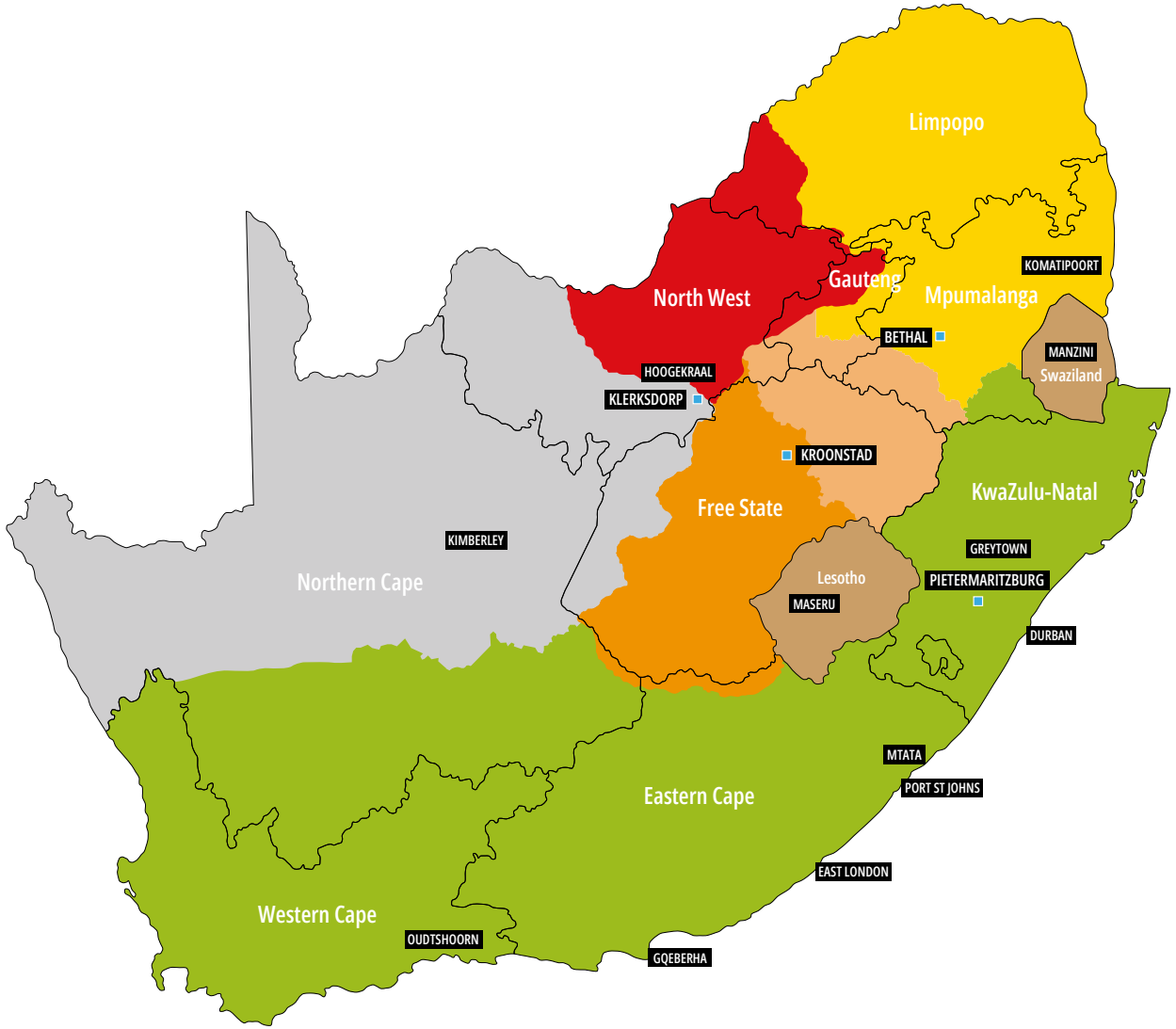
RSA REGIONAL MAP



Regional Office: Marketing

RSA REGIONAL OFFICES

GAUTENG, SOUTHERN MPUMALANGA AND EASTERN FREE STATE

AREA SALES MANAGER	AGRONOMIST	CSR	HEIDELBERG/ BALFOUR/NIGEL	HARRISMITH/ WARDEN/BETHLEHEM	FRANKFORT/ VILLIERS/HEILBRON
					
Carl Otto 079 523 9980	**Nico Barnard** 082 850 1503	**Merylin Solomons** 066 474 2609	SALES REPRESENTATIVE **Francois Hamman** 071 410 7110	SALES REPRESENTATIVE **Mechiel Groenewald** 066 475 6178	SALES REPRESENTATIVE **Gerrit Nel** 073 246 9416

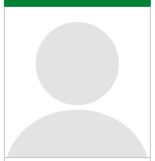
STANDERTON/ VREDE/VOLKSRUST	POTCHEFSTROOM/ VEREENIGING	PARYS/SASOLBURG /KOPPIES	REITZ/PETRUS STEYN /ARLINGTON
			
SALES REPRESENTATIVE **Johan Hamman** 083 526 4123	SALES REPRESENTATIVE **Stephan le Roux** 078 612 4065	SALES REPRESENTATIVE **Nelia Louw** 083 455 6909	SALES REPRESENTATIVE **Phillip Nel** 066 440 6185

WESTERN FREE STATE

AREA SALES MANAGER	AGRONOMIST	CSR	KROONSTAD/ VILJOENSKROON	BOTHAVILLE/ VILJOENSKROON	BOTHAVILLE/ VILJOENSKROON
					
Jaco Naudé 083 287 0949	**Charl van der Merve** 082 785 1216	**Michelle Botha** 066 089 8009	SALES REPRESENTATIVE **Piet Delport** 082 448 5704	AGENT (ROBVIL) **Stefan Prehn** 082 417 7193	AGENT (ROBVIL) **Martin Bullock** 082 921 0887

BLOEMFONTEIN	SENEKAL/ FICKSBURG	WESSELSBRON	WELKOM	HOOPSTAD
				
SALES REPRESENTATIVE **Alex van der Watt** 079 527 7695	**Vacant**	SALES REPRESENTATIVE **Martin Maartens** 082 377 3618	SALES REPRESENTATIVE **Le Roux Breytenbach** 084 451 9050	SALES REPRESENTATIVE **Hannelie Tait** 083 967 7858

EASTERN HIGHVELD AND LIMPOPO

AREA SALES MANAGER	AGRONOMIST	CSR	ERMELO	CAROLINA	DELMAS/ BRONKHORSTSPRUIT
					
Joe Payne 082 456 8120	**Vacant**	**Jane Potgieter** 083 644 9087	SALES REPRESENTATIVE **Anina Naudé** 082 454 5543	SALES REPRESENTATIVE **Fanie Roux** 082 928 7378	SALES REPRESENTATIVE **Bennie de Villiers** 076 510 6150

MOKOPANE	BETHAL	LYDENBURG	MIDDELBURG	BRITS/PRETORIA/ THABAZIMBI
				
SALES REPRESENTATIVE **Deon van Heerden** 083 283 4251	SALES REPRESENTATIVE **Stefan Barnard** 071 676 2296	SALES REPRESENTATIVE **Dawie Jacobs** 083 455 7969	SALES REPRESENTATIVE **Franna Joubert** 083 388 2617	AGENT **Derrick Myburgh** 082 876 2353

KWAZULU-NATAL AND CAPE

AREA SALES MANAGER:	AGRONOMIST	CSR	SOUTHERN KWAZULU-NATAL	KWAZULU-NATAL MIDLANDS	WINTERTON
					
Phillip Hollenbach 082 658 5450	**Kerry Rowlands** 067 415 9533	**Sabitha Munsami** 066 089 6825	AGENT **Andrew du Plessis** 082 332 4870	SALES REPRESENTATIVE **Gavin Thomson** 076 489 8343	SALES REPRESENTATIVE **Dawid le Roux** 066 394 1737

VRYHEID	WESTERN CAPE	EAST LONDON	NORTH EASTERN CAPE
			
SALES REPRESENTATIVE **Willem Jansen van Rensburg** 082 973 6671	AGENT **Nico Schoeman** 082 826 0606	AGENT **Duwal Edwards** 083 228 5951	AGENT **Eugène Marais** 083 777 7091

RSA REGIONAL OFFICES CONTINUED

NORTHERN CAPE

AGRI-BUSINESS MANAGER

Flip Botha
082 650 4525

AGRONOMIST

Klaas van Wyk
072 665 6488

CSR

Amanda Pullen
066 474 2585

HARTSWATER/ JAN KEMPDORP

SALES REPRESENTATIVE
Charlie de Beer
082 856 5430

HOPETOWN/ DOUGLAS

SALES REPRESENTATIVE
Riaan Janse van Vuuren
082 782 1287

PRIESKA/ UPINGTON

AGENT
Johannes Fourie
083 260 4182

VANDERKLOOF

AGENT
Henri Griesel
082 921 5245

JACOBSDAL

AGENT
Hendri Strydom
066 299 9751

NORTH WEST

AREA SALES MANAGER

Jannie Blignaut
083 659 5400

AGRONOMIST

Jan Erasmus
066 474 2619

CSR

Verusha Naicker
066 285 7713

KOSTER

SALES REPRESENTATIVE
Hein Kloppers
060 995 7288

LICHTENBURG

SALES REPRESENTATIVE
Johann Botes
083 780 6197

COLIGNY

SALES REPRESENTATIVE
Jacques Lubbe
083 449 4536

MAFIKENG

SALES REPRESENTATIVE
Hendrik Mokoto
082 767 7333

SANNIESHOF

SALES REPRESENTATIVE
Pokkenos Otto
071 552 5511

VENTERSDORP

SALES REPRESENTATIVE
Pieter Geldenhuys
082 929 0570

SCHWEIZER-RENEKE

SALES REPRESENTATIVE
Edo Janse van Rensburg
082 496 6058

WOLMARANSSTAD

SALES REPRESENTATIVE
Francois Mellett
082 613 3436

DELAREYVILLE

SALES REPRESENTATIVE
Cornel Ferreira
079 878 6486

NOTES

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Roundup Ready® Maize 2 is a registered trademark of the Bayer Group.

Roundup Ready® is a registered trademark used under license from the Bayer Group.

ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS.

Roundup Ready® crops contain genes that confer tolerance to glyphosate, the active ingredient in **Roundup®** brand agricultural herbicides. **Roundup®** brand agricultural herbicides will damage or destroy crops that are not tolerant to glyphosate.

RR2 contains the **Roundup Ready® Maize 2** trait that provides crop safety for over-the-top applications of registered glyphosate herbicides when applied according to label directions.

Sunflower

Clearfield® Plus and **Euro-Lightning® Plus** are the registered trademarks of BASF.

Soybeans

Always follow grain marketing guidelines, stewardship practices and pesticide label directions. Varieties that are glyphosate tolerant (including those designated by the letter "R" in the product code) contain genes that confer tolerance to glyphosate herbicides. Glyphosate herbicides will severely damage or destroy crops that are not tolerant to glyphosate.

Glyphosate
Tolerant

Think Before You Farm-Save Seed

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