

the FORUM

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Vol 2.
2021



HYGROTECH
SUSTAINABLE SOLUTIONS

INSIDE: Vegetable cultivars | Agri-Chemicals and fertilizers | Miscellaneous



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*from the***EDITOR'S PEN****TOMORROW IS ANOTHER DAY**

This is usually said after a bad experience to express one's belief that the future will be better.

We have all been through yet another unsettling and disturbing year, to say the least, whether it was in your business, private life or family life. It must then be in order to wish and pray for better times, love, joy, good health, optimism, resilience and success.

There's always hope because tomorrow is another day and you never know what is going to come through the door. Speaking about doors though, Coco Chanel came-up with this classic quote: " Don't spend time beating on a wall, hoping to transform it into a door". In other words, don't force anything.

Take each day as it comes and do your best. Things will improve in the future and your storm will clear-up.

Just hold on to that.

" Your struggles develop your strengths, when you go through hardships and decide not to surrender.....That is real strenght"

- Arnold Schwarzenegger.

All of the very best for 2022!



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ON THE COVER:
Perfect specimen of
Sweet Pepper
Taylor F1
(See page 27)

This information is based on our observations and or information from other sources. As crop performance depends on the interaction between the genetic potential of the seed and variety, its physiological characteristics, the environment including climate, disease pressure, water quality and quantity, management etc., we cannot give any warranty expressed or implied, for the accuracy, performance or applicability for the information, recommendations or products supplied, nor for the performance of crops or products relative to the information given, nor do we accept any liability for any loss, direct or consequential that may arise from whatsoever cause. * These cultivars are not on the official cultivar list, but applications have been, or will be submitted.

The influence of the Covid pandemic on the world economy has been disruptive and in certain extreme instances, devastating to companies across the globe. Agriculture has not escaped from being impacted severely.

The past six months have seen a disruption in the availability of containers and shipping. This has resulted in price increases of USD 5 000 – USD 10 000 per 40 foot container. These costs are then passed on to the end user, in the case of agriculture, the farmer. Further to this problem, shipping space is hard to come by and 4 - 6 week delays are experienced in shipping time. This is happening in real time and at this very moment South African farmers are experiencing extreme price increases on all inputs, while at the same time experiencing product shortages of crucial active ingredients used in their spray programmes. Hygrotech has also experienced the problems mentioned above, with no relief on the horizon. The speculation is that these problems may continue well into the new year, with some pessimists predicting a continuation until the fourth quarter of 2022. As if **Hygrotech** management did not already have enough challenges on its proverbial plate to contend with, it was decided that 2021 was an opportune time to investigate a possible change to the company as a whole.

During the first quarter of 2021, **Hygrotech** management in cooperation with **Zaad** management, decided it was time to analyze the structure of the company, including its offering to the South African Agriculture sector. This process was diligently conducted, explored and discussed, before implementation in April 2021. This six month process was completed the 30th September to ensure a smooth transition to a new company structure and product focus, with a view to better service Hygrotech's clients moving forward.

To summarize the changes concisely:

Hygrotech has closed the Grass and Pasture division as this can be handled effectively within the **Zaad Holdings** portfolio. **Hygrotech** will not be exporting product outside the borders of South Africa anymore. This will be handled in future by ZARP, a company within the **Zaad Holdings** portfolio.

These decisions resulted in the closure of the Pietermaritzburg and Uitenhage branches and subsequent retrenchments, which are never implemented lightly. The closing of these divisions also impacted other areas, including the Head Office, where staff members were also retrenched. The retrenchments were handled as humanely as possible, as the company has always deemed people as its most valuable asset and will continue to hold this view as part of its core values.

What then will Hygrotech be focusing on that will benefit growers throughout South Africa, you, the reader might ask?

During these intense discussions the decision was made that Hygrotech will mainly focus on two core divisions, these being F1 Hybrid Vegetable Seeds and its FertAgChem range. Within the FertAgChem range the very familiar **Miller Chemical** range of products will be getting the most focus. Complementary items, for instance seed trays and Hygromix/Peat moss, will still be part of the Hygrotech product range. Hygrotech has traditionally sourced its Hybrid Vegetable range across the globe to ensure a diversity of genetics in the portfolio. We feel that this ensures back up products within the ranges offered to South African growers.

As mentioned, this process has been completed and we are positive that Hygrotech will obtain new heights in service, offering superior products and choices to its clients. As a first step we are proud to announce that we will be supplying the full **Bakker** range of products to the South African market, many from its own breeding material. We are furthermore proud to announce that Hygrotech has reached an agreement with **Bayer** to supply **Seminis** Vegetable seeds to the South African market. More on these two companies and their products in this Forum issue !

Hygrotech management and the personnel are fully committed to the success of the company and believe that we will be sustainable and successful in all our endeavors servicing clients in South Africa with a quality range of products, backed by resourceful technical personnel.



IN MEMORIAM

Willie van Heerden

Written by Habe Roode



Willie was an unique individual with a good heart and our friendship and business relationship came from the 70's when he joined Roode Lyon Seeds as a field officer and sales representative for the eastern Free State and Northern Cape after I completed my training as a seedsman at Petoseed Co in Saticoy, California during 1970. We travelled together on many occasions to introduce and market branded seed packets / small packets, later forage and grass seeds as well as hybrid Sorghum Sudan seeds – Kow Kandy.... of the relatively unknown vegetable seed company Roode Lyon.

Interesting chain of events during our winter business trips to Aliwal North where it became so cold during the night that touching the asbestos heater with our fingers, it had no heat ! Another time when me and Willie stayed over at the Holiday Inn in Lesotho and the cashier at the casino cajoled with me and Willie had a good laugh at my discomfort.

In later years Willie left Roode Lyon to sell agricultural product in the whole of the Free State and Northern Cape to farmers and distributors. After we sold Roode Lyon and started Hygrotech during 1984 in Silvertondale, Pretoria, Willie one day walked into the office and demanded to talk to me and Doc Piet Grobler. After a one sided discussion he told me, us, that he wanted a position as a technical marketer because he was the right person for the position and that he would not take no for an answer. Well, Willie joined Hygrotech

shortly afterwards as salesman and was later promoted to Area Manager for the whole of the 'Low Veld' right up to the Mosambican border. Business problems were always resolved as needed by meeting Willie at Millies Restaurant close to Machado Dorp.

During his years of employment until his formal retirement at the age of 65 and also afterwards when he worked as a free lance marketer at Hygrotech for more than 5 years, Willie and I never bumped heads, always resolving problems in a friendly manner.

Over the years Willie surprised and spoiled me with his favourite handiwork, specifically razor edged cutting knives, biltong knives and even a biltong slicer which I still use regularly. Willie and myself were only 4 months apart in age and never a birthday, Christmas / New Year passed without us talking about the 'good old days' It is unfortunate that Willie had medical issues over the last number of years, but he was always positive and never complained about his health.

Willie is survived by his wife Hester (Hessie) and his children.

Our thoughts are with her, the children and other family members.

Go well Willie, we will meet up again one day and visit and talk further.



First time **cucumber grower** making a success

Written by Dr Martin Maboko

Mr Lameck Mitambo, a farm manager at Zambili Fresh Produce, Bronkhorstspuit, with a commitment from his team and technical support from Hygrotech, successfully grew cucumber in a high multispan greenhouse using a hydroponic system for the first time.

He had good results with the cultivar '**Rock Shock**' which was transplanted on 18 April 2021 and reached a height of 3m in a five month growing period. Thereafter, it was layered down on plant containers to allow further growth and production of cucumber fruits as the plant continued producing more flowers,

notably fruit size remained constant up to 6 meters. **Rock Shock** has proven to be a strong performer in high wire cropping system. A high yielding cultivar (33 – 38 cm long) during winter and spring seasons with good resistance package.

Disease Resistance:

IR: CYSDV - Cucumber yellow stunting disorder virus

HR: CVYV – Cucumber vein yellowing virus

IR: CMV – Cucumber mosaic virus

HR: Px (ex SF) – Powdery mildew

IR: Pcu – Downy mildew





Three-meter-high cucumber cultivar
'Rock Shock'



Layered cucumber cultivar
'Rock Shock'



Mr Mitambo standing amongst his
cucumber produce



Vegetable Development

By Christo le Grange: National Product Development Manager

2021 and still in the Covid cycle, we continue to look at different options and cultivars to improve farming for South Africa. This ongoing process is the heartbeat of any vegetable seed company and we are proud to present yet another couple of products for the future.

SWEET PEPPER - **Impulse F1***

New cultivar in the openfield segment which will be a perfect as a pre-packer and box pepper. This green to red cultivar stood out from the first trials with exceptional blocky shaped fruit. Fruit sizes 160 – 180g with excellent wall thickness are harvested from **Impulse F1***. We believe **Impulse F1*** (HY 1062) is proving it's worth.

Disease package : TMV, PVY, BLS 1-5 and TSWV



Semi-commercial 2021-2022 season

CABBAGE - **Mustang F1 *** & **Cheetah F1 ***

Baby Red cabbage (Mustang F1) & Baby Green cabbage (Cheetah F1) for the pre-pack market growers out there, will both be round shaped from the start. These two cultivars have excellent field tolerance and plant stand from 60 – 80 000 plants are recommended.

Mustang F1 head size will be around 900g – 1kg while **Cheetah F1** could be slightly smaller at 500 – 800g. By adjusting the plant population, head size can be manipulated to the required specifications.

Semi-commercial 2021 season





New edition **Gladiator F1***

By Christo le Grange: National Product Development Manager

*Our next big contender in the sweet pepper arena called **Gladiator F1***.*

This cultivar stood out in the Limpopo & Komatipoort regions. Previously known as **HY 1295**, it made a noticeable impact on all the farmers during the Marlo farmers day earlier this year and once again as the crown jewel during the Komatipoort information day during October.

Like a good red wine, **Gladiator F1*** matures slowly into a maroon red full colour. A long period of consistent green colour is an attractive option for most of the farmers. Average weight of about 200 – 300g fruit will provide the needed yield potential everyone requires. **Gladiator F1*** has proven its worth already in the Central, Highveld, Lowveld and Limpopo regions, while final work is still been done near the coastal and southern regions. **Gladiator F1** has an impressive disease package and could be cultivated under net house conditions as well as open field productions. **TMV (L4)**, **BLS 1-3**, **PVY** and **TSWV** will give any grower the needed insurance for a good pepper crop.

In 2018, Hygrotech introduced **Floyd F1** and we are proud that this cultivar is already becoming a leader in the pre-pack and sleeve market. **Gladiator F1** is the 'big brother' everybody was asking for. Loose as well as box market option if bigger fruit is required. Combination productions of **Gladiator F1*** and **Floyd F1** will ensure multiple market supply options for the grower. Loose, box and sleeve markets are the current preferred trends.

Hygrotech's net house and open field sweet pepper range is turning into an excellent option for any grower cultivating these crops. With the new edition of **Gladiator F1***, we believe that we could support the growers in all conditions during the production season. **Rubistar F1** is another success story from the programme and where **Phytophthora** is a concern, this is the option. This high yielding loose and box option has taken South Africa by storm.

Gladiator F1* will be available from 2021. Make sure to talk to your closest regional office to ensure that we have your requirements on record.

Do not miss out!!!





TOMATO SCX 824

The reliable choice for every producer

Written by Hugo Burger – Technical Manager Western Cape

The tomato industry is very complex and many demands are set for successful production. The cultivars presently available in the market are extremely competitive and must fit in with the producer and end-user's needs. The cultivars are also categorized in specific cultivation practices like open-field or undercover cultivation.

Open-field cultivation demands a cultivar which produces bigger fruit from the start and should still produce acceptable fruit sizes at the end of the season.

Tunnel / net house cultivation though, demands a cultivar which is more specific in its growth habit, fruit size and appearance. Tomato SCX 824 satisfies all these prerequisites and is therefore becoming more and more popular amongst producers. This cultivar has been in the Hygrotech stable for quite a while and is planted by leading producers in the Western Cape with good results. By grafting SCX 824 on a rootstock, all the good characteristics already present are further enhanced.

SCX 824 produces fruit of between 120 and 150 g with excellent holding capacity. The days from planting to harvesting are from 75 to 80 days and makes this cultivar suitable for a rapid growth rotation. The cultivar consists of a disease package of V, F2, N, TMV, TY and TSWV.

Should you want to cultivate and produce tomatoes under protection, SCX 824 is the right and popular choice to make. The quantity and quality are a given !!



Koch Brand, a tomato farmer in the Western Cape, inspecting the produce



Theo Scholtz, marketing specialist in the Western Cape, amongst the tomatoes

SCX 824 F1*



SCX 824 F1* has thick walls which ensure firm fruit with long shelf life. Slightly smaller fruit size makes it critical for this variety to be pruned to the fork to ensure optimal fruit size. Uniform green shoulder colour. Indeterminate, large round tomato, suitable for fresh market

SPECIFICATIONS

Suitability:	Fresh market
Type:	Large Round
Days to Maturity:	75 - 80 days
Fruit mass:	120 - 150 g
Fruit shape:	Flat round

DISEASE RESISTANCE

V, F2, N, TMV, Ty(T), TSWV

* This variety is not on the official varieties list, but an application has been or will be submitted



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Bakker Brothers is a seed company with a rich history and a futurist mindset. Established in the Netherlands in 1928, our company specializes in the breeding, production and sales of vegetable seeds.

Our breeding activities take place worldwide and we conduct product trials across all continents. To ensure our seeds contribute to farmers' livelihoods, our research & development team makes sure our products are bred especially to suit the needs of their markets.

Our variety selection for Hygrotech is no exception. We've carefully selected two varieties for the South-African market, our first of many to follow.



Eggplant F1 Gaudi

Best pick for growers who demand an early variety which gives you high quality fruits for a long season production

A hybrid half-long type with early maturity and beautiful, shiny fruits with excellent dark colouring. Fruits will easily reach 300-400 grams. Gaudi can be used for indoor and/or outdoor production.

Variety Characteristics	Plant Characteristics	Fruit Characteristics
Hybrid: F1	Internodes: Short	Shape: Half-long
Maturity: Early	Calyx: Green, spineless	Color: Deep Purple-Black
Cultivation: Open field, tunnel	Cultivation: Open field, tunnel	Size: 18x7cm

Dorado

Carrot F1 Dorado

Best pick for prepack, bunching and fresh market.

A hybrid Nantes type with attractive carrots that will sell quickly on the fresh market. These 22cm x 3,5 cm slender slightly tapering Nantes type carrots have a medium sized core and a good strong foliar attachment. The carrot roots have a good orange color and smooth appearance.

Variety Characteristics	Plant Characteristics	Root Characteristics
Type: Nantes	Foliage Attachment: Medium	Root Length: 20 - 23 cm
Market Segment: Fresh Market	Foliage Colour: Medium Green	Root Colour: Orange
Suitable Soil: All Soils	Plant Height: Medium	Skin (Lenticels): Smooth
Season: Main (Summer)	Bolting Resistance: High	Root Uniformity: Good
Maturity in Days: 120 - 125		
Shape: Cylindrical		



Bayer

Bayer is a Life Science company with a more than 150-year history and core competencies in the areas of health care and agriculture. With our innovative products, we are contributing to finding solutions to some of the major challenges of our time.

Vegetables by Bayer is taking a new direction as the buying power is shifting from grower through the value chain to the consumer. We strongly believe to evolve beyond seed to become a new kind of power – a growth partner! Branding plays a very important role and our differentiator will not only be our portfolio but our differentiation will also come through new business models and our brand.

Our future begins with purpose....

Purpose driven leadership that can bring together the needs of humanity and that of growers. I believe that partnerships will make it real. The success of our customers means the world to us because their success means so much to the world. To partner with growers and the industry not only growing healthy businesses but growing healthy and well-nourished people.

Our purpose will be driven by Partnership, Innovation, Performance and Sustainability. The way we see this comes to life is from 3 separate corporate brands...

It is with the same passion the South African team embraces business and ensures growth for a sustainable future. We pride ourselves with whom we partner and live the corporate image of "Food for all, Hunger for none."



Bayer launches new 'Vegetables by Bayer' brand platform

On 26 August, Bayer unveiled the "Vegetables by Bayer" brand platform, uniting two trusted brands, Seminis and De Ruiter, under one shared purpose with a new brand identity, positioning and global website.

(vegetables.bayer.com)

With more than 20 different crops and thousands of innovative vegetable seed varieties, Seminis and De Ruiter have long provided cutting-edge solutions for customers in diverse open-field and protected environments. Now, they will join forces as part of "Vegetables by Bayer" with refreshed branding and an even deeper commitment to delivering value at every step – to growers, partners, consumers, and the planet.

"By bringing together world-class experts and resources from across Bayer, the new 'Vegetables by Bayer' umbrella enables our Seminis and De Ruiter brands to provide value to our customers and partners in new and exciting ways," Inci Dannenberg, president of Global Vegetable Seeds at Bayer, said in a news release.

Science for a **better life**



De Ruiter



Seminis

That value is reflected across four core pillars: partnership, innovation, performance, and sustainability.

- **Partnership:** Beyond the farm, the Vegetables by Bayer brands are deeply engaged in Bayer's Food Chain Partnership initiatives which bring together growers, food processors, retailers, traders and others along the food value chain. With a network of 70 Food Chain managers across 44 countries, the Food Chain Partnerships team coordinates initiatives to improve sustainability, food safety, quality, yields and transparency in more than 70 different crops.
- **Innovation:** With one of the most diverse germplasm libraries in the industry, combined with digital and crop protection innovations, Bayer is committed to developing integrated solutions that improve yield and adaptability, while delivering on consumer demand. This investment in innovation is seen in the recent launch of new tomato varieties with intermediate resistance to Tomato Brown Rugose Fruit Virus (ToBRFV), a viral disease that can be easily transmitted through farming tools and equipment, plants, water, soil and people. For the grower, these new varieties mean an opportunity to protect more marketable yield without fruit and leaf symptoms and provide a more consistent supply into the food chain.
- **Performance:** From best-in-class seeds to an expert agronomic service with tailored digital solutions, "Vegetables by Bayer" partners with growers and customers to support insightful accurate decisions in relation to crop steering and management consistently building more confidence with our top varieties. For example, its Advanced Precision Horticulture (APH) Venture Initiative combines data science, plant phenotyping, optimized glasshouse climate conditions, and tangible customer insights to help autonomous monitoring of plant growth and balance to better steer plant performance, building confidence every step of the way and allowing growers to maximize crop yield and returns.
- **Sustainability:** According to the FAO, approximately 1/3 of all food produced for human consumption globally is lost or wasted each year. With its Seminis and De Ruiter vegetable seeds, Bayer is committed to helping reduce food loss and waste, ensuring high-quality, nutritious produce reaches more consumers.
- For example, as much as 40% of India's tomatoes are lost before making it to the supermarket. New Bayer tomato hybrids such as 'Ansal' provide improved shelf life and the firmness required to survive the long and challenging journey from field to market.
- Similarly, the 'Yellow Gold 48' watermelon launched in select geographies, turns yellow at the exact moment of perfect ripeness, signaling to the farmer that it is time for harvest. By collecting the fruit at this crucial moment, the melons reach the consumer at their peak freshness, and maintain that same quality for longer.
- The Pocono onion offers incredible market flexibility thanks to its long-term storage potential of up to seven months, with exceptional quality out of storage, giving growers and value chain partners greater flexibility.
- The launch comes as the United Nations celebrates the "International Year of Fruits and Vegetables 2021," which aims to raise awareness of the benefits of fruit and vegetable consumption. "From our industry-leading R&D to tailored solutions that go beyond the seed to meet the evolving needs of the market, 'Vegetables by Bayer' reflects our commitment to helping our customers grow their businesses so together we can foster a healthier, more sustainable world," said Dannenberg.





SV4129TH*

*Pending variety listing

Early maturing indeterminate round hybrid tomato with the potential for a high yield and quality medium to large fruit.

Features

- Early maturing

Advantages

- Good disease package

Benefits

- Vigorous plant with short internodes

SV4129TH* is an early medium to large indeterminate round hybrid tomato with a high yield potential. Fruit are attractive and uniform in size. The plant is vigorous with good leaf cover and short internodes. SV4129TH* has a good diseases package which includes intermediate resistance against TYLCV.

Resistance

HR : ToMV:0-2/Ff:A-E/Fol:0,1/For/Va:0/Vd:0 IR : TYLCV

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SV9054YG

Is quick into production and suitable for year round cultivation.

Features

- Shiny dark colour and less speckles with straight fruits
- Good leaf disease and virus package
- Open plant with less spines and easy harvesting

Advantages

- Higher pack out and improved grades of fruit
- Extended harvesting window
 - Fewer spines and easy harvesting lower the percentage damage on plant and fruits

Benefits

- Higher turnover based on high pack out, fruit quality and yield
- Faster turnover on the fields and saving on input costs

An excellent virus package contributes to a prolonged harvest period. With improved yield and earliness this variety is the preferred choice for Zucchini growers in South Africa.

Resistance

IR : PRSV/SLCV/WMV/ZYMV

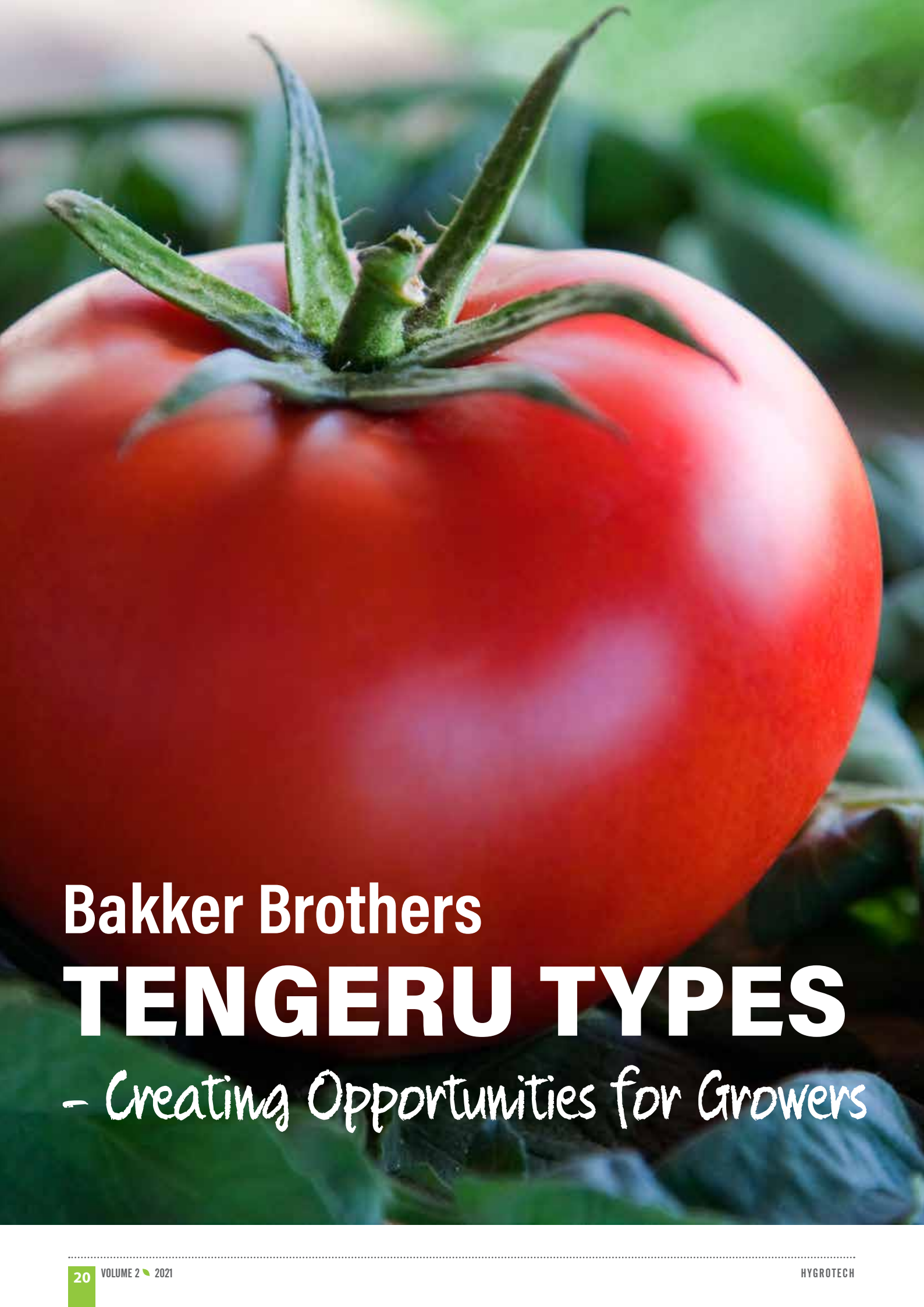
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Bakker Brothers

TENGERU TYPES

- Creating Opportunities for Growers

While Bakker Brothers' headquarters may be based in Holland, our genetics are bred to perform in the markets they were developed for! Ongoing engagement with distributors on their markets' needs and actively sharing knowledge on products from our sales team we are breeding and developing products that fit the growers needs.

Whether a need for quality seed of the standard Tengeru type or one of our more advanced hybrids, Bakker Brothers has a Tengeru variety best suited to your needs.

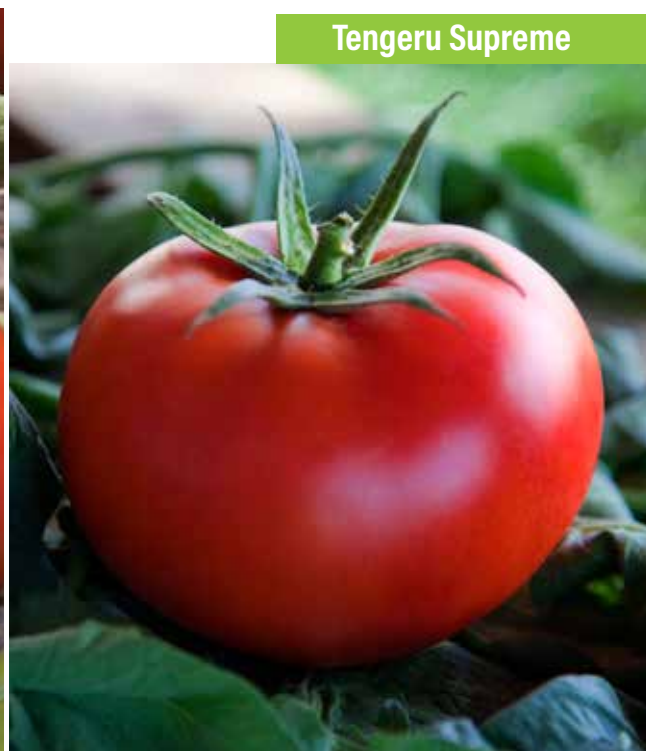
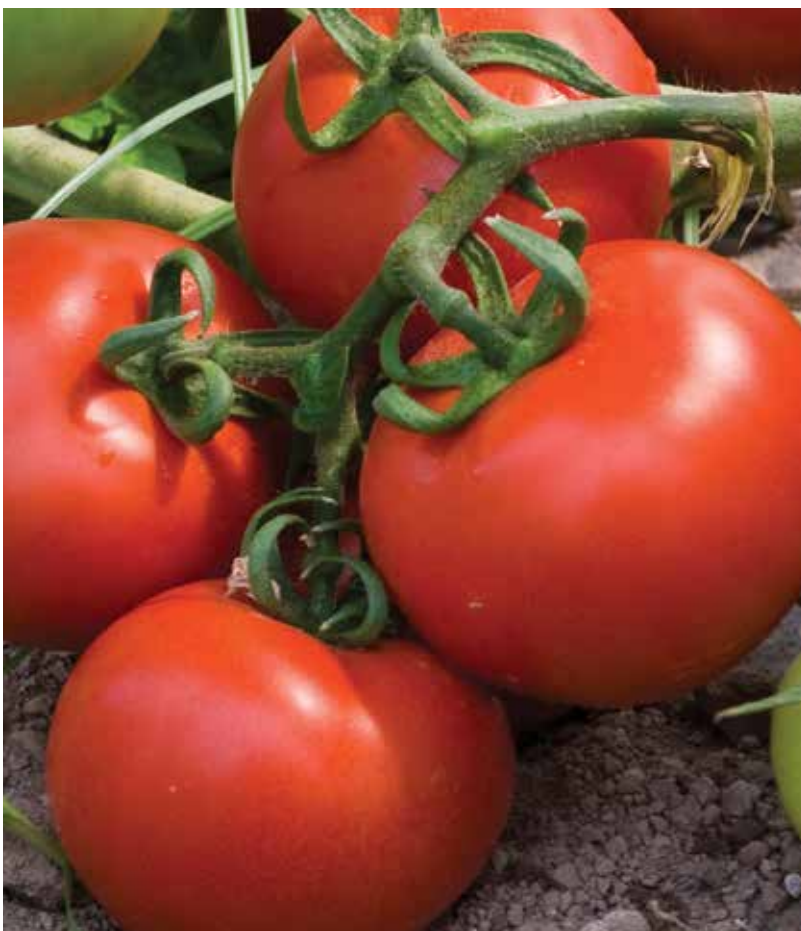
Tengeru: Still a significant player in East Africa's Tomato industry

Tengeru, originally developed by WorldVeg near Arusha, is well known and numerous sources are available in the market. We pride ourselves that we can keep to the original variety specifications and supply seeds of superior germination and with some disease resistance into the fresh tomato market. This traditional tomato segment is huge with twenty tons seeds produced annually in Tanzania and large areas planted along the Rift Valley and going into Congo. When choosing our **Tengeru**, Northern Zambia will never run out of seeds to sow!

Tengeru Supreme, an improvement on the well-known standard, grows slightly taller when compared to the original Tengeru.

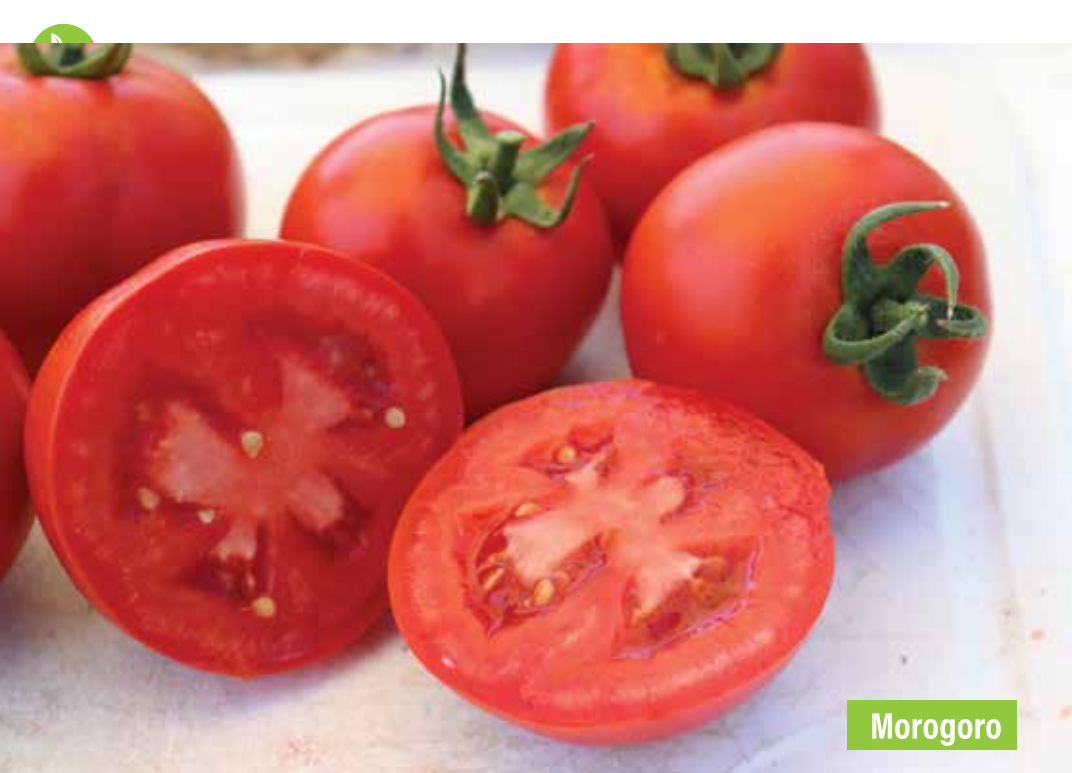
The hardiness of **Tengeru** was maintained but is now available with a longer harvesting window, through extended sets. To gain as much benefit from this feature it is recommended that **Tengeru Supreme** should be trellised (staked) or at least planted on well raised beds with good drainage in the rainy season. This feature allows for a longer harvesting season with Tengeru Supreme with more opportunities to obtain good volumes and prices.

However, it does not stop there as **Tengeru Supreme** also includes resistance to Nematodes. This ensures that the plants 'roots stay active and healthy for longer – supporting the needs of the plant in the longer season!



Tengeru Supreme

Tengeru



Morogoro

Morogoro goes beyond the reach of other hybrids varieties in the market with an extensive disease resistance package including resistant / [tolerance] to:

1. Tomato Mosaic Virus - ToMV
2. Tomato Yellow Leaf Curl Virus - [TYLCV]
3. Tomato Torrado Virus - ToTV
4. Bacterial Wilt - [Rs]
5. Gray Leaf Spot - Ss
6. Fusarium - Fol-2
7. Verticillium - Va
8. Alternaria Stem Canker - Aal
9. Nematodes - Mi

Tengeru Type Hybrids: Even More Supreme

Morogoro is a first-generation hybrid and as the very first Tenderu-type hybrid, it is starting to make inroads into the market. Apart from the normal qualities of this type – Morogoro is earlier than any other Tenderu type variety with a good set of high-quality fruits of 120-150gr. Its growth habit is like that of **Tenderu Supreme** and best results were recorded when the plants have a good trellis / staked support, allowing the plant canopy to thoroughly protect the fruits throughout the season.

Morogoro furthermore boasts an impressive disease package, which especially targets the disease challenges faced by growers in the Rift Valley and East-Africa.



Morogoro



Vizela's plant is vigorous and gives good cover in the growing season and boasts an impressive disease package which includes:

1. Tomato Mosaic Virus - ToMV
2. Tomato Yellow Leaf Curl Virus - [TYLCV]
3. Tomato Spotted Wilt Virus - TSWV
4. Tomato Torrado Virus - ToTV
5. Bacterial Wilt - [Rs]
6. Grey Leaf Spot - Ss
7. Bacterial Speck - Pst
8. Fusarium - Fol-2
9. Alternaria Stem Canker - Aal
10. Verticillium - Va

"Tengeru Supreme, an improvement on the well-known standard, grows slightly taller when compared to the original Tengeru"

Growers of this variety should understand that to create maximum benefit from its earliness they need to harvest **Morogoro** earlier when compared to traditional harvest practise and harvest when the fruits are starting to turn colour. The exceptional quality and deep red colour automatically make **Morogoro** a hot sale but can only be secured when it is on the market in time.

Bakker Brothers also has other hybrid varieties which although not in the traditional **Tengeru** segment offers good solutions when looking for slightly larger fruits while keeping the advantages of the new hybrids' and sometimes even more!

Our **Vizela** has a highly round fruit shape and an exceptionally good heat set. The maturity is medium-early and its very firm fruits weigh 150-180gr.

Our very latest variety under development - **BB STM 0544** is a notable achiever with consistent performances under even the toughest and most extreme of weather and climate conditions. **BB STM 0544** is a promising newcomer of excellent quality. The fruits are round and very firm. On average the fruits weigh 140-160gr. The plant is strong and gives good cover and have similar disease packages that the rest of the hybrids of Bakker Brothers.

While this article focuses on the **Tengeru** range – visit the **Bakker Brothers** website to explore our growing range in oval shape tomatoes – some commercial like **Vilani** and **Vilaka**, but like the round series a similar pipeline to feed future commercial releases.



Morogoro

Rubistar becoming a Market Leader

The large fruited green/red sweet pepper cultivar Rubistar, for the loose and box market, proved to be a highly adaptable variety suitable for different climatic areas. When compared with opposition cultivars after four years of trials, Rubistar stands out in yield, number of fruits harvested and the ability to maintain fruit size throughout the production season. We present some data for Rubistar and to complete our list of options for the 2019/2020 season, remember to include pepper Floyd and pepper Gladiator F1*, two excellent green/red sweet peppers cultivars for the sleeve and box market.

Sweet peppers were tested by Hygrotech personnel in the different pepper production areas of South Africa. Pepper producers can choose their pepper cultivar or combination of cultivars according to their market demand. Based on our data, Hygrotech sweet peppers were divided into categories namely loose, box and sleeve market applications (Table 1):

Table 1. Hygrotech sweet peppers suitable for loose, box and sleeve market

Cultivar	Description	Application	Disease package
Rubistar	<ul style="list-style-type: none"> Rubistar produced the biggest fruit on average throughout the harvest period Large fruited, open field, bell sweet pepper High yield potential. Fruit are mostly four lobed with thick walls The plant is a bush with good leaf protection Tolerance to Phytophthora capsici (Pc) 	Loose and box market	TSWV, Xcv 1-3, PVY, Pc
Floyd	<ul style="list-style-type: none"> Has a high yield potential Produces large blocky peppers with a dark green colour turning into red. 	Loose, box and sleeve market	TSWV, Xcv 1-3, Bs, TMV
Rocky	<ul style="list-style-type: none"> Has a high yield potential Produces large blocky peppers with an intense dark green colour turning into red. Average fruit weight slightly heavier than Floyd Commercial seed available during 2019 	Loose, box and sleeve market	TSWV, Xcv 1-3, Bs, TMV

Repetitive data after four years of trials in Komatipoort at JF Steyn Boerdery explains why Rubistar is taking the loose and box market by storm. In open field trials Rubistar not only performed the best in keeping its size throughout the season (Table 2), but also gave higher cumulative yield data compared to the standard cultivars (Graph 2). Rubistar also produced the most number of fruit in comparison over a season (Graph 1).

Table 2. Average weight in gram per picking of Rubistar (weight divided by number of fruit) in comparison to two opposition cultivars in a comparative pepper trial, JF Steyn, Komatipoort.

Average weight (gram) of peppers per picking									
	Pick 1	Pick 2	Pick 3	Pick 4	Pick 5	Pick 6	Pick 7	Pick 8	Season average
Standard 1	0	255	286	243	198	140	164	150	208
Standard 2	245	273	260	238	231	180	160	151	215
Rubistar	303	295	319	266	242	126	168	176	224

Rubistar for loose and box market applications



Rubistar at Mooketsi



Rubistar at Marlo

Outstanding characteristics of Rubistar:

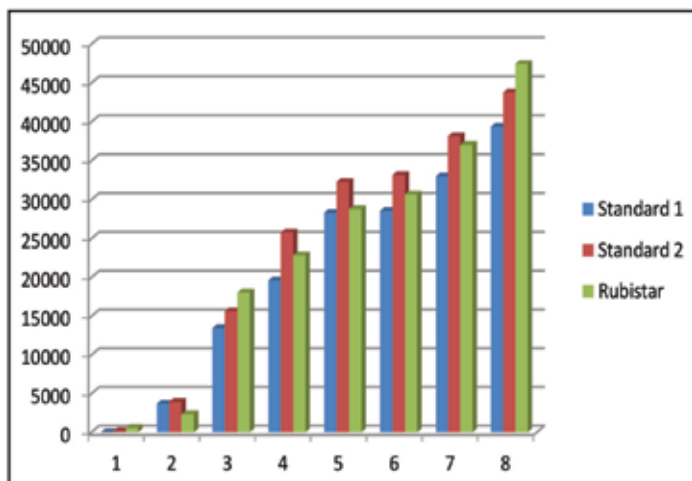
- Disease tolerance against *Phytophthora capsici*. Therefore roots and plants stay healthier until the end of the production period. A profit for pepper production is mostly realised at the end of the production cycle
- Fruit with very thick walls
- Intense dark green peppers
- Keep fruit size well
- Produces a high number of fruits
- High yield potential
- The Rubistar plant is a bush type with good leaf protection
- Rubistar is suitable for open field production as well as in nett structures



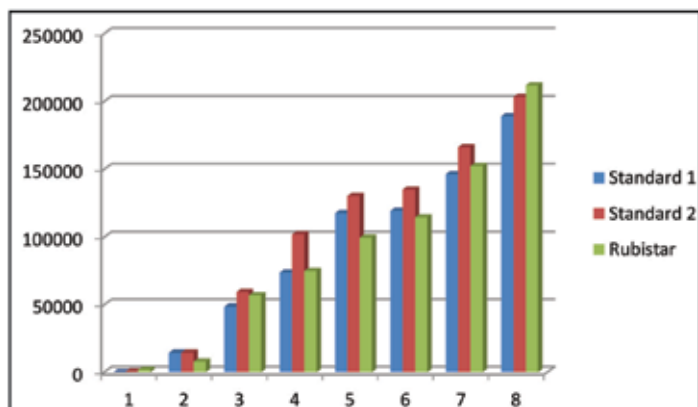
Rubistar at Komatipoort



Graph 1. Cumulative number of fruit harvested per picking per hectare in a comparative pepper trial, JF Steyn, Komatipoort, 2018



Graph 2. Cumulative calculated yield (kg) per hectare in a comparative pepper trial during 8 pickings, JF Steyn, Komatipoort, 2018



Floyd and Gladiator F1 * for loose, box and sleeve market



Gladiator F1*



Sweet Pepper Tunnel and Nett House options

Written / compiled by Christo le Grange – National Product Development Manager – Hygrotech

The selected cultivars are the following:

TAYLOR F1

Green to Red – tunnel & net house cultivar

Disease Package: Tomato Spotted Wilt, Tobacco Mosaic Virus 1 & 2, Potato Y Virus

FLOYD F1

Green to Red – open-field, net house & tunnel cultivar

Disease package: Tomato Spotted Wilt, Bacterial Spot, Tobacco Mosaic Virus (L4) & Bacterial Leaf Spot 1,3

HOPKINS F1

Green to Yellow – tunnel & net house cultivar

Disease Package: Tomato Spotted Wilt, Tobacco Mosaic Virus 1 & 2, Potato Y Virus

HY 1052 F1 (Phase trials only)

Green to Yellow - open-field, net house & tunnel cultivar

Disease package: Tomato Spotted Wilt, Bacterial Spot, Tobacco Mosaic Virus (L4) & Bacterial Leaf Spot 1,3

The drive behind the programme was not just to find the best option for tunnel production, but also looking at versatile options for the growers. The two cultivars achieving this were, FLOYD F1 (commercial already) & HY 1052 F1 (only in phase trialling).

Tunnel, net house & open-field productions on both the mentioned cultivars are possible. Tunnel & net house production on TAYLOR F1 & HOPKINS F1 came to the fore reaching final plant heights of 2,8 – 3,5m. These selected tunnel cultivars will give the needed quality to any grower in this market segment. From the get-go TAYLOR F1 outgrew all



Andrew – Marlo Nursery/kwekery



the other material with a strong leaf cover structure. We decided to stop collecting data in week 19 since most of the material was going into stress due to cold conditions. TAYLOR F1 stood the test of times and was still growing strong. HOPKINS F1 has a smaller structured plant, but do not be fooled by the finer plant, because the facts have shown that it was the highest yielder during this period.

Yield (fruit weight), fruit quality & plant structure formed the basis of the trial and we are happy to share our findings below. The table below shows the yields obtained per week from the data collected on the Green to Red options (1) "Damaged" fruits refer to mainly sunburn and deformed fruit.

(2) Yields obtained per week on the Green to Yellow options :

	HOPKINS F1						HY 1052 F1 (Phase trial)					
Harvest	Marketable (g)			Damaged (g)			Marketable (g)			Damaged (g)		
p/20 plants	Weight	Fruits	Ave p/ fruit	Weight	Fruits	Ave p/ fruit	Weight	Fruits	Ave p/ fruit	Weight	Fruits	Ave p/ fruit
Week 1	5526	53	104,3	482	5	25,6	3733	19	197,5	0	0	0,0
Week 2	6714	48	139,9	566	5	113,2	5259	26	202,3	306	3	102,0
Week 3	2338	15	155,9	693	6	115,5	2368	12	197,3	0	0	0
Week 4	1313	8	164,1	378	3	126,0	3978	17	234,0	163	1	163,0
Week 5	4675	23	203,3	409	2	204,5	2636	12	219,7	206	1	206,0
Week 6	7894	48	164,5	789	5	157,8	9773	41	238,4	606	3	202,0
Week 7	6415	33	194,4	555	4	138,8	7260	32	226,9	705	3	235,0
Week 8	2997	15	199,8	726	5	145,2	2170	9	241,1	0	0	0
Week 9	2570	12	214,2	494	3	164,7	2086	9	231,8	278	2	139,0
Week 10	8344	40	208,6	633	3	211,0	6906	28	246,6	539	3	179,7
Week 11	8035	40	200,9	412	3	137,3	3452	15	230,1	445	2	222,5
Week 12	4853	26	186,7	1291	7	184,4	6636	28	237,0	188	1	188,0
Week 13	1370	7	195,7	588	3	196	1530	7	218,6	0	0	0
Week 14	2805	14	200,4	708	4	177	4653	18	258,5	0	0	0
Week 15	5074	24	211,4	1419	13	109,1	3388	14	242,0	325	2	162,5
Week 16	3995	18	221,9	1366	7	195,1	4013	17	236,1	0	0	0
Week 17	1873	9	208,1	514	4	128,5	3689	16	230,6	231	1	231
Week 18	1862	8	232,8	290	2	145	2801	14	200,1	300	2	150
Week 19	984	5	196,8	0	0	0	2456	11	223,3	184	1	184
Totals	79637	446	189,65	12313	84	148,6	78787	345	226,9	4476	25	181,9



From left to right: Dirk le Roux, Herman de Beer and Emile du Plessis

Yield from 20,000 plants and projected yield from 30,000 plants :

p/20,000 plants	79,637 kg	HOPKINS F1	p/30,000 plants	119,456 kg
p/20,000 plants	78,787 kg	HY 1052 F1	p/30,000 plants	118,181 kg

Weight per plant :

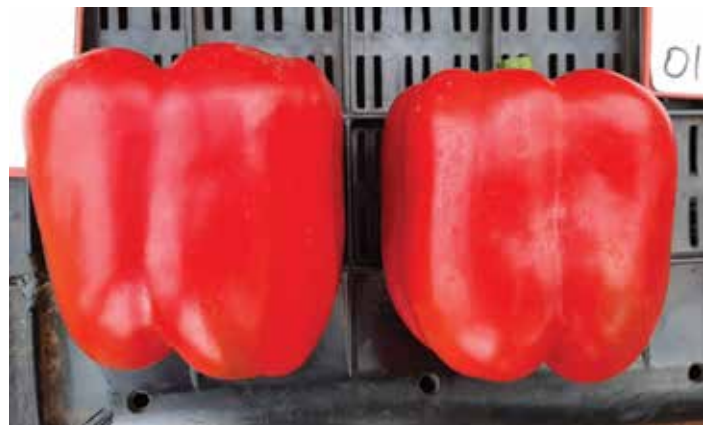
HOPKINS F1 : p/plant	3,98 kg
HY 1052 F1 : p/plant	3,94 kg

Fruits per plant :

HOPKINS F1	22,3	Fruits per plant
HY 1052 F1	17,3	Fruits per plant



Taylor - harvest week 5



Taylor - harvest week 16

Harvest	TAYLOR F1						FLOYD F1					
	Marketable (g)			Damaged (g)			Marketable (g)			Damaged (g)		
p/20 plants	Weight	Fruits	Ave p/fruit	Weight	Fruits	Ave p/fruit	Weight	Fruits	Ave p/fruit	Weight	Fruits	Ave p/fruit
Week 1	6005	29	207,1	270	3	90,0	6754	33	204,7	617	6	102,8
Week 2	8037	38	211,5	999	8	124,9	7508	41	183,1	223	2	111,5
Week 3	3877	19	204,1	452	3	150,7	3240	17	190,6	838	6	139,7
Week 4	1652	8	206,5	263	2	131,5	1585	8	198,1	127	1	127,0
Week 5	2261	9	251,2	0	0	0	1357	6	226,2	1180	6	196,7
Week 6	5377	21	256,0	0	0	0	7565	34	222,5	422	2	211,0
Week 7	7033	27	260,5	0	0	0	6550	29	225,9	275	1	275,0
Week 8	4362	18	242,3	348	2	174,0	3997	18	222,1	71	1	71,0
Week 9	2320	9	257,8	475	2	237,5	1886	9	209,6	85	1	85,0
Week 10	6980	27	258,5	1152	6	192,0	2486	11	226,0	1186	10	118,6
Week 11	2711	11	246,5	340	2	170,0	3880	18	215,6	914	5	182,8
Week 12	7792	35	222,6	0	0	0	6743	39	172,9	1016	8	127,0
Week 13	3517	16	219,8	0	0	0	2999	16	187,4	0	0	0
Week 14	1576	7	225,1	0	0	0	470	2	235,0	212	2	106
Week 15	1556	6	259,3	0	0	0	3126	16	195,4	718	4	179,5
Week 16	960	4	240,0	448	2	224	2369	12	197,4	228	1	228
Week 17	2345	11	213,2	195	1	195	5037	27	186,6	1316	13	101,2
Week 18	5238	22	238,1	675	4	168,75	1421	8	177,6	416	3	138,6
Week 19	2340	10	234,0	0	0	0	2053	12	171,1	598	3	199,3
Totals	75939	327	234,43	5617	35	168,94	71026	356	202,5	10442	75	150,04

Yield from to 20,000 plants and projected yield from 30,000 plants :

p/20,000 plants	75,939 kg	TAYLOR F1	p/30,000 plants	113,909 KG
p/20,000 plants	71,026 kg	FLOYD F1	p/30,000 plants	106,539 KG

Weight per plant :

TAYLOR F1 : p/plant	3,80 kg
FLOYD F1 : p/plant	3,55 kg

Fruits per plant :

Even with higher fruit volume shown by Floyd F1, the average fruit weights were smaller, for this reason that Taylor F1 obtained higher yields.

TAYLOR F1	16,4	Fruits per plant
FLOYD F1	17,8	Fruits per plant

Pepper plants on harvest - week 10



Harvest - week 3 Red



Harvest - week 3 Yellow



Harvest - week 13 Red



Harvest - week 13 Yellow

We believe with this data, every tunnel farmer will have the tools and information to make an informed decision. Hygrotech's Sweet Pepper Range will grow from strength to strength with continued work been done to keep us on top of our game.

Emile du Plessis - Harvest week 18



Hopkins - Harvest week 11



Hopkins - Harvest week 16



WALTHAMAX

WALTHAMAX was selected from a Waltham source, the breeder of which did a super selection and an inbred line that could be considered as a Field Hybrid with superior size, uniformity and straight, long thick necks.

Competitively priced against other OP Waltham sources, its consistent uniformity in shape and size and its yield and uniform fruit size, puts it in a league of its own.

The picture shows a mature seed production field in Northern California with general uniform shape and size typical of **WALTHAMAX**.





Investigating the effect of **MILLERPLEX** on maize seed production under **pivot irrigation** in South Africa

Written by Charl Kotze¹ and Lodewyk van Staden²
FertaChem area technical manager¹ & Nelspruit area marketing manager²

INTRODUCTION

Maize (*Zea mays* L.) is South Africa's most important grain crop, being produced in all the summer rainfall production areas with the Free State province contributing the most hectares. In most developed countries it serves as a secondary food source in the form of meat and dairy products. However, in developing countries such as South Africa its used as a primary food source with more than half of the production being for human consumption. The total hectares planted in South Africa over the past 20 years fluctuated between 1.94 and 2.8 million hectares with the contributing yield during the same period ranging between 8 and 16 million tons. These plantings were mainly propagated from hybrid seeds, produced by fertilising female plants with pollen from a male population in the same field.

Unfortunately, commercial growers need to buy new hybrid seed every season as they do not produce viable yields if replanted. Annual seed production is therefore needed and is the responsibility of designated licensed growers. By having these plantings under irrigation, it

not only shortens the production period but increase the productivity markedly. Fertilising regimes are known to further increase the productivity of these plantings. Therefore, during the 2020-21 season a registered kelp-based foliar feed from Miller Chemical and Fertilizer, LLC called Millerplex (K6899) was evaluated in the Ohrigstad area of the Limpopo Province, South Africa.

MATERIALS AND METHODS

During the 2020-21 production season, 3.5ha of a 10ha maize plot propagated under pivot irrigation was treated with a dual application of Millerplex ® at a rate of 428ml/ha using a towable boom sprayer that was calibrated to 350L/ha. The initial application occurred at V4 growth stage and was followed by a second one 14 days later. The rest of the plot served as a treated control and received the grower's standard foliar feed regime. At harvest, groups of 5 plants were removed from five predetermined areas within each treated segment resulting in a total of 25 plants per treatment.

Firstly, each plant was inspected to determine the number of ears produced per plant from the respective



Figure 1. Maize ears retrieved per 5-plant plot with A) being the grower standard foliar feed regime and B) the ears retrieved from the 3.5ha plot that received 2x Millerplex applications at a rate of 428ml/ha.

“The gathered data and subsequent statistical analysis suggest that Millerplex did not only have a significant effect on the parameters regarding ear size, but the ones resulting in yield increase as well. ”

treatments (Table 4), which was then expressed as either a one or a two eared plant. The one eared plants consisted of a primary ear while the two eared plants had a smaller secondary ear as well (Figure 1). The primary and secondary ears of each treatment were respectively compared using ear length, ear circumference, number of kernels rows and weight per ear (Tables 1 and 2) as parameters.

Furthermore, to determine the effect that each treatment had on yield, the kernels were manually

removed from each cob and combined according to their originating 5-plant plots. From each combined 5-plant plot 100 kernels were weighed and an average weight per kernel determined. Thereafter, the total kernel weight of each 5-plant plot was determined and using the average kernel weight an estimated number of kernels per ear could be calculated by dividing the total kernel weight with the average single kernel weight (Table 3 and Figure 2). All the collected data were subjected to statistical analysis through ANOVA using a student t-test of least significance difference ($P < 0.05$)

RESULTS AND DISCUSSION

From Table 1 it can be observed that not only did Millerplex induce statistically longer primary ears, yielding cobs with a mean length of 16.7 cm compared to 15.1 cm of the grower standard but statistically heavier maize ears as well. With the resulting plots yielding ears with a mean weight of 250g compared to 225.3g of the grower standard plots. It should be mentioned that the Millerplex treated plots yielded primary ears with a mean circumference of 0.2 cm larger than the grower treated plots, however with 0.2 fewer kernel rows per ear. Both abovementioned parameters did not differ significantly.

Table 1. The effect on the primary ears of irrigated maize after treatment with Millerplex and a grower standard foliar feed regime during the 2020-21 production season in Ohrigstad, Limpopo Province, South Africa.

Treatment	Length (cm)	Circumference (cm)	Number of kernel rows	Weight/maize ear (g)
Millerplex	16,7aX	15,9	14,8	250,0a
Standard	15,1b	15,7	15,0	225,3b
P- value ($P < 0,05$)	0,003	0,340	0,654	0,002
LSD	0,987	-	-	15,412

**Means in the same column followed by similar letters do not differ significantly ($P < 0.05$)*

Table 2. The effect on the secondary ears of irrigated maize after treatment with Millerplex and a grower standard foliar feed regime during the 2020-21 production season in Ohrigstad, Limpopo Province, South Africa.

Treatment	Length (cm)	Circumference (cm)	Number of kernel rows	Weight/maize ear (g)
Millerplex	7,7	13,5aX	14,0a	82,2a
Standard	6,9	12,6b	11,3b	64,6b
P- value ($P < 0,05$)	0,053	0,037	0,004	0,041
LSD	-	0,818	1,776	16,855

**Means in the same column followed by similar letters do not differ significantly ($P < 0.05$)*

Table 3. The effect on irrigated maize seed yield after treatment with Millerplex and a grower standard foliar feed regime during the 2020-21 production season in Ohrigstad, Limpopo Province, South Africa.

Treatment	Total weight of kernels (g)	Weight per kernel (g)	Number of kernels
Millerplex	1288a	0,478	2695a
Standard	1091b	0,462	2361b
P- value ($P < 0,05$)	0,004	0,277	0,049
LSD	115	-	321,062

**Means in the same column followed by similar letters do not differ significantly ($P < 0.05$)*



Figure 2. The difference in total kernel yield from the five combined 5-plant plots, with the Millerplex at (2x) 428ml/ha yielding a total of 6.438kg and the grower standard a total of 5.456kg.

Table 4. The number of ears per plant after being treated with either Millerplex or a grower standard foliar feed regime during the 2020-21 production season in Ohrigstad, Limpopo Province, South

Treatment	Number of maize ears/plant
Millerplex	1288a
Standard	1091b
P- value ($P < 0,05$)	0,004
LSD	115

**Means in the same column followed by similar letters do not differ significantly ($P < 0.05$)*

When comparing the secondary ears of the two treated plots, Millerplex induced statistically thicker ears (13.5cm compared to 12.6cm), more kernel rows (14 compared to 11.3) and heavier ears (82.2g compared to 64.6g). It did result in longer cobs as well, but in this case was not significantly more (Table 2).

The data collected from the four combined 5-plant plots of each treatment revealed a similar trend and can be seen in Table 3. In this case the Millerplex treated plots yielded a mean accumulative kernel weight of 1288g compared to 1091g of the grower standard and an estimated mean number of kernels per 5-plant plot of 2695 compared to 2361. This was in both cases significantly more. Although it resulted in heavier kernels as well it was not significantly more. Lastly it was found in Table 4 that when the number of ears per plant were determined there was slightly more in the Millerplex treated plots. This was however not significantly more and only resulted in an increase of 0.12 (Table 4).

The gathered data and subsequent statistical analysis suggest that Millerplex did not only have a significant

effect on the parameters regarding ear size, but the ones resulting in yield increase as well. It resulted in only marginally more ears per plant, but once the size of the ears was investigated it was found that not only were the ears longer regarding the primary and secondary ears, but each ear was on average respectively 25g and 18g heavier as well. The larger and heavier ears resulted in a higher total kernel weight per 5-plant grouping as well as heavier kernels and therefore approximately 334 kernels more per plot.

If you consider that the maize was planted at a density of 65 000 seeds per ha and you extrapolate the 1288g achieved in the Millerplex treated plot per 5-plant grouping it suggests a potential yield of approximately 16,6 tons per hectare. However, when comparing this to the extrapolated weight of the grower standard (1091g/5-plant plot) which potentially yielded 14.1 tons per hectare it shows a drastic increase. Therefore, the data suggests that Millerplex applied at a rate of 428ml/ha could be a suitable foliar feed when applied at V4 developmental stage followed by a second application 14 days later.

NEW TRIAL RESULTS:

ASCO-GRO ON SOYBEANS

By Johann van der Vyver (African Technical Sales Director: Miller Chemical & Fertilizer, LLC)

Asco-Gro (Reg. no. K6714 of Act 36 of 1947) is a product from Miller™ Chemical and Fertilizer, LLC. It consists of kelp extracts and is combined with macro- (N, P and K) and several chelated secondary nutrients (Mn and Ca) along with molybdenum and iron. Previous Forum articles ("Investigating the effect of Asco-Gro on soybean vegetative growth and yield" – Volume 1, 2019 and "The ASCO-GRO effect" – Volume 1, 2020) reported on investigations conducted with Asco-Gro during soybean production. The results indicate that the inclusion of Asco-Gro within a soybean spray program increases the yield. A recent independent study echoed these results, while another independent study confirmed that Asco-Gro (with Nu-Film P) in a tank mixture with a glyphosate containing herbicide does not have adverse effects on glyphosate tolerant soybeans. These trials were conducted in the Mpumalanga Province of South Africa during the 2021 production season. PAN1555R was the soybean variety of choice and were sown at 450 000 plants per hectare.

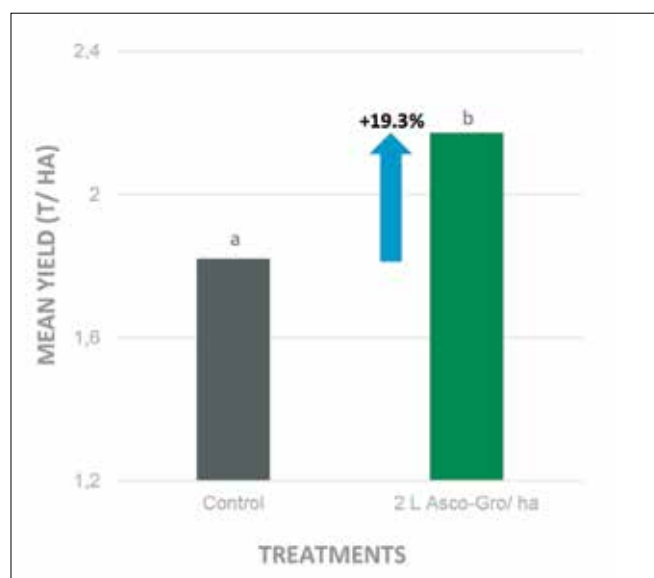


Figure 1: The effect of various treatments on mean soybean yield in T/ ha.

TRIAL 1: Effect on yield

The trial consisted of 7 replicates for each of the two treatments. Every replicate was a plot of 4 m x 10 m (40 m²) = 1800 plants. Asco-Gro was applied at 2L/ha, 42 days after sowing, at the R1 phase (BBCH = 51; first flower buds visible) in 200 L water per hectare. At maturity the pods from each replicate were harvested and the average yield of seed per hectare was determined in tons per hectare. The latter was compared to the average seed yield from the untreated replicated (7) plots. The Asco-Gro treatment significantly increased the yield by almost 20% (Figure 1), when compared to the untreated control.

In addition to yield, the average weight of 100 seeds was determined for the Asco-Gro treated plants and the

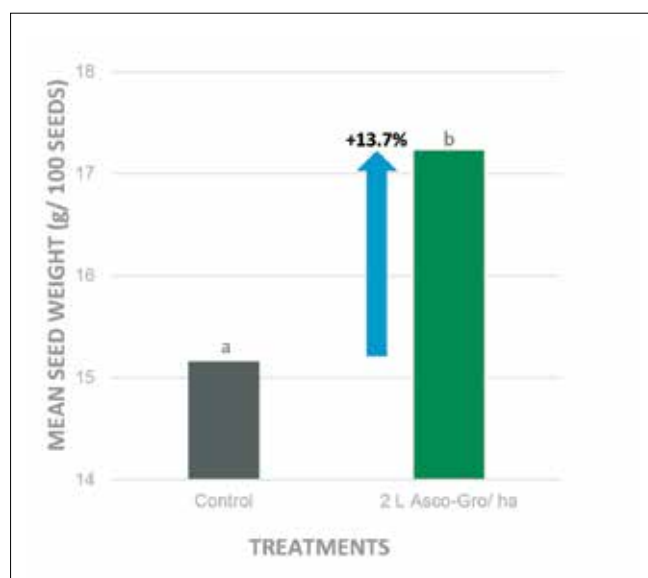


Figure 2: The effect of various treatments on mean soybean seed weight in g/ 100 seeds.

untreated plants. Seed from the Asco-Gro treated plants had a significant increase in average weight (13.7%) when compared to the average seed weight of the untreated plants (Figure 2). The size of the seed from the Asco-Gro treated plants appeared visually bigger when compared to seed from the untreated plants (Figure 3).

TRIAL 2: Asco-Gro in a tank-mix with a glyphosate herbicide

The application of Asco-Gro on soybean as described above and in previous Forum articles has become popular. Recently Miller was approached to illustrate the effect of a glyphosate (540 g/ L) containing herbicide in a tank mixture with Asco-Gro and *Nu-Film P® (adjuvant to be applied with Asco-Gro) on glyphosate tolerant soybeans and weeds present.



Figure 4: Mean percentage control of different weeds after different Days After Treatment (DAA).

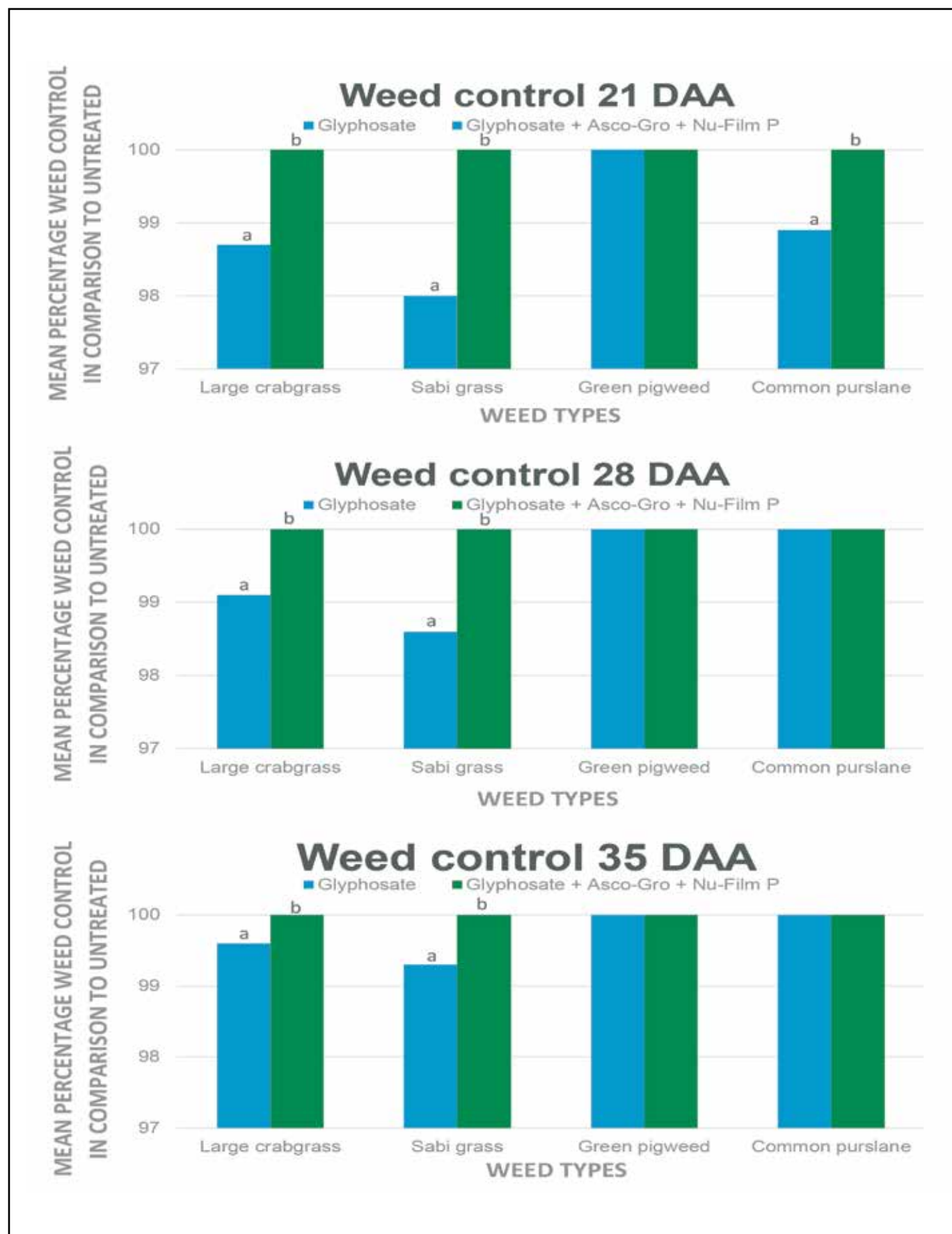




Figure 3: Visual appearance of 100 soybean seeds from different treatments. Note the larger seed from plants treated with 2 L Asco-Gro/ ha (bottom photo) vs seed from untreated plants (top photo).

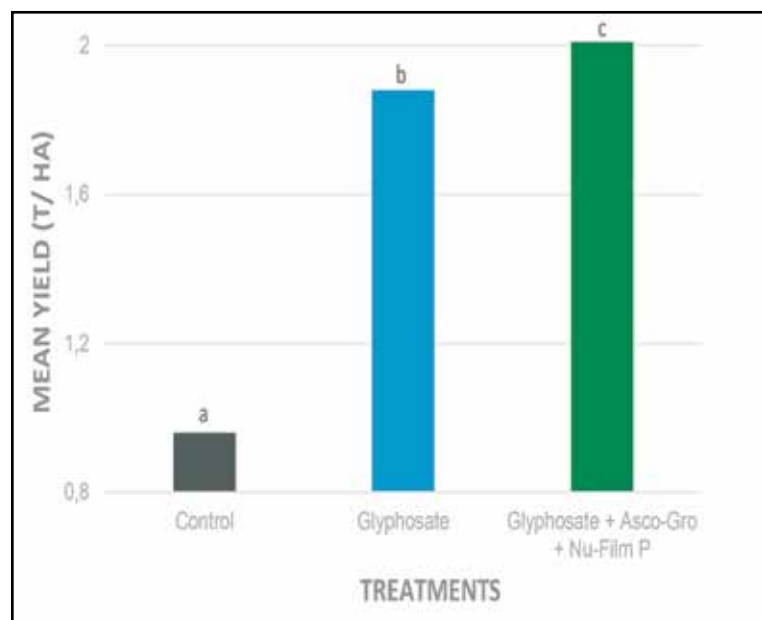


Figure 5: The effect of various treatments on mean soybean yield in T/ ha.

The number of replicates, size of the replicated plots, timing of application and application volume were similar as described in Trial 1. However instead of two treatments the trial had three:

1. Untreated control.
2. Glyphosate herbicide (540 g/ L) at 2 L/ ha.
3. Glyphosate herbicide (540 g/ L) at 2 L/ ha + Asco-Gro at 2 L/ ha + Nu-Film P at 150 ml/ ha.

• Compatibility

No physical compatibility problems i.e., separation, foaming or sedimentation etc. were observed with any of the compounds during preparation and application.

• No-phytotoxicity

No signs of phytotoxicity were observed in any of the treated plots of any treatment throughout the duration of the trial.

• Efficacy

Grass weeds, large crabgrass (*Digitaria sanguinalis*) and Sabi grass (*Urochloa mosambicensis*) and broad leaf weeds, green pigweed (*Amaranthus hybridus*) and common purslane (*Portulaca oleracea*) were present in all plots when the trial started. Weed control was monitored for all three treatments at 21, 28 and 35 days after application. Although very much similar, the combination of the glyphosate herbicide in a tank-mix with Asco-Gro and Nu-Film P often managed to control the various weeds significantly better than the glyphosate herbicide by itself (Figure 4).

• Yield

The combination of glyphosate, Asco-Gro and Nu-Film P resulted in significantly the best yield average of the treatments (Figure 5).

The results from this trial confirms that Asco-Gro (with Nu-Film P) in a tank-mix with a glyphosate herbicide does not have a negative effect on the efficacy of glyphosate nor the tolerance of glyphosate tolerant soybeans.

Should you require anymore information, regarding the use of Asco-Gro on soy or any other crop, contact Hygrotech Head-Office or your Hygrotech Technical Advisor.

*** Nu-Film P is trademark of Miller Chemical & Fertilizer, LLC and contains 875 g/L Poly-1-Menthene. Reg. No. L2980 of Act 36 of 1947.**



Christmas Gingerbread House



This is the simplest gingerbread house recipe you will ever find. How you decorate it is all up to your imagination and supplies. Make it with the kids at Christmas or any other special occasion or just on the weekend for a fun activity.

Ingredients

Gingerbread House Ingredients

675g self-raising flour
15ml ground ginger
10ml cinnamon
7ml ground cloves
5ml nutmeg
185ml baking margarine, chopped
250ml soft brown sugar
125ml syrup
2 eggs, lightly beaten

Royal Icing Ingredients

2 egg whites
750ml icing sugar
4 drops lemon juice
1 Decorate with various sweets of your choice
1 White vermicelli
1 Icing sugar



Step by step method



- Process flour, spices and margarine until crumbly.
- Add sugar and syrup and enough egg for the mixture to just combine.
- Knead the dough on a floured surface until smooth. Cover with cling wrap and place in the fridge for 1 hour to rest.
- While the dough is resting, make your patterns for the house.
- Cut rectangles out of cardboard in the following sizes:
Roof: 12 x 19 cm Side walls: 10 x 16 cm back: 16 x 18 cm Mark a point halfway (8cm) across short side of the 16 x 18 cm template. This is the top side where the roof will join the wall. Measure 10cm up from the base along each 18cm side. Draw a line from the top point to the 10cm mark to form the gable (point in the roof). Trim along this line to form a template that resembles a triangle on top of a rectangle. Roll out on a floured board to about 6mm thick and cut out 2 of each pattern piece.
- Bake at 170°C for 10 - 15 minutes until pale golden in colour. While the shapes are still warm, cut a door in the front piece and windows in the side pieces. Neaten any sides.
- Keep the door for later to be iced in the open position. Cool slightly before removing from the tray. When cold, they are ready to decorate.
- On a cake board or tray start to assemble the house. If possible let it dry thoroughly before decorating with sweets and candy canes. You may need to support the sides with tins to stabilise while drying. Use royal icing to glue the house together.
- Sift icing sugar. Beat egg whites lightly and then add icing sugar gradually, beating well, until the icing reaches piping consistency. Beat in lemon juice.
- Spoon into a small plastic bag and snip off one corner to make a piping bag. Use this to pipe along the edges.
- Use the remaining royal icing to pipe snow dripping off the roof and around the windows. Glue a door handle onto the door and decorate the rooftop with sweets. Make a garden with sweets and scatter white vermicelli to form snow. Pipe roof tiles onto the roof.





Do's


- ✓ Always follow the label instructions and pay special attention to pollinator warnings or precautions.
- ✓ Interrogate Agri-Intel (www.agri-intel.com) for pesticides that are registered for the purposes required; the labels are, however, the final port of call for safety and use instructions.
- ✓ Apply directly to the target plant and ensure minimal spray drift.
- ✓ Apply early evening when bees have returned to their hives.
- ✓ Communicate with all beekeepers in the area and inform them of planned spray programmes.
- ✓ Scout the area for pollinators before applying.
- ✓ Be aware of spray residues and the amount of time they may still be toxic to bees.
- ✓ Remember that systemic insecticides have long periods of residual activity.
- ✓ Ensure that flowering plants or weeds that are attractive to bees are not in the area of application.
- ✓ Familiarise yourself with the product. Insecticides are the most hazardous to bees while fungicides and plant growth regulators have less impact.
- ✓ Ensure that equipment has been correctly calibrated for the application.
- ✓ Ensure to practise integrated pest management and only apply pesticides when absolutely necessary.

Don'ts

- ✗ Apply directly onto flowers. If no other option exists but to apply pesticides in bloom, do not apply directly onto the flowers.
- ✗ Apply while pollinators are active in the area that needs to be treated.
- ✗ Apply at night because inversion can prevent successful deposition of pesticides onto the target and cause serious drift.
- ✗ Apply any product that is not registered for the specific crop or application method.
- ✗ Apply during windy conditions, especially if foliar application is the only available option.
- ✗ Mix pesticides with substances that could be a lure for pollinators.
- ✗ Apply pesticides to standing water bodies.

Recommended

Plant bee attractive indigenous flora like aloes and fynbos to lure bees away from crop areas where they may be at risk.



From all of us here at
Hygrotech
we are wishing you a happy
holiday and prosperous
New Year!