Volume 1 • 2018

the FORUM

HYGROTECH
SUSTAINABLE SOLUTIONS

INSIDE: GAUTIER Seeds | Saladette Tomato | Butternuts
Mini cucumber varieties | Sweet pepper options | Crisphead lettuce | Rootstocks


how can we help you?
gain knowlege
and grow.
AgriCommodities from FNB is an online market information system that collates information from a number of sources, allowing users to view daily information of the fresh produce, grain markets and weekly information for livestock and fibre. It is the first service of its kind that enables you to create portfolio reports, which can be emailed to you on a daily basis.
AgriCommodities is invaluable to a range of players in the agricultural sector. Farmers making use of the system have access to price and volume information to make informed business decisions. The system is also designed for use by fruit and vegetable vendors, processors, retailers, analysts and consultants.
Get information on all major markets, with payment options to suit you and the ability to generate reports in various formats.
Use FNB AgriCommodities to get the latest market prices.
Visit your nearest branch, email agric@fnbagricomms.co.za
contact your Banker or visit www.fnbagricomms.co.za
First National Bank, a division of FirstRand Bank Limited. An authorised Financial Services and Credit Provider (NCRCP20).
FNB
First National Bank

AFRICA

SWAZILAND
Swaziland Agricultural Supplies 00268 2505 2708
Namboard 002682518604

ZIMBABWE
Pyramid (HO) 012 545 8000

ZAMBIA
Lusaka 00260 211 250454

MOZAMBIQUE
Pyramid (HO) 012 545 8000

KENYA
Nairobi 00254 020 2053916/7/8

BOTSWANA
Gaborone 00267 318 1346
Francistown 00267 241 3906

NAMIBIA
Windhoek 00264 61-253322 / 248493

SA

WEBSITE
www.hygrotech.co.za

BOSVELD
Potgietersrus 015 491 2651
Louis Trichardt 015 516 1504/5

LAEVELD
Tzaneen 015 307 2482
Nelspruit 013 753 3774

KZN
Pietermaritzburg 033 386 6009
Durban 031 465 4084
Pongola 034 413 1164

GAUTENG
Pyramid (HO) 012 545 8000

FREESTATE
Kroonstad 056 212 3232

NORTHERN CAPE
Kimberley 053 832 4332

SOUTHERN CAPE
East London 043 732 1147
Uitenhage 041 922 9466
George 044 870 7808

WESTERN CAPE
Stellenbosch 021 881 3830
Vredendal 027 213 5609
Ceres 023 316 209
Malmesbury 022 482 2570

HYGROTECH
SUSTAINABLE SOLUTIONS

CONTENTS

ON THE COVER: An impressive aerial photo of a very neat planting of tomato Batyla on Simson rootstock at Winkelhaak Boerdery. See article on page 22 & 23. Drone photograph taken by Michael Luttig, Hygrotech Nelspruit.

Saladette Tomato	4
Fodder Beet Bangor	6
Butternuts	7
Mini-cucumber varieties	8
Sweetcorn varieties	9
Baby Marrows	10
Kic-Start	12
Onions	14
Speciality Tomatoes	16
ZAR Seed Production	18
Marlo Nursery farmers' day	19
Open field sweet peppers	20
Gautier Seeds	22
Crisphead Lettuce	24
Green Beans	27
Rootstocks	28
Multigrow rootstocks	30
Nu-Film®	32
Miller® visit	34
Rye grass forage	36
SA Sales team	38
Technical team Fertagchem	40
Technical team Forage & Pasture	41
Lawn grass deficiencies	42
Recipe	43

Editor
Theo Schoonraad
Tel: +27 12 545 8000 ▪ Fax: +27 12 545 8088 ▪ Cell: 083 273 2624 ▪ tschoonraad@hygrotech.co.za

Graphic design and layout
Melani de Beer
Tel: +27 12 545 8000 ▪ Fax: +27 12 545 8088 ▪ melani.debeer@hygrotech.co.za

THE SALADETTE TOMATO REVOLUTION

Habe Roode - Product Specialist Tomatoes

WHAT IS A SALADETTE TOMATO?

Also known as Roma tomatoes by super-markets when the hawker market concept blew over from bulk tomatoes sold in boxes or plastic creates from the back of a pick-up truck in rural areas of Southern Africa.

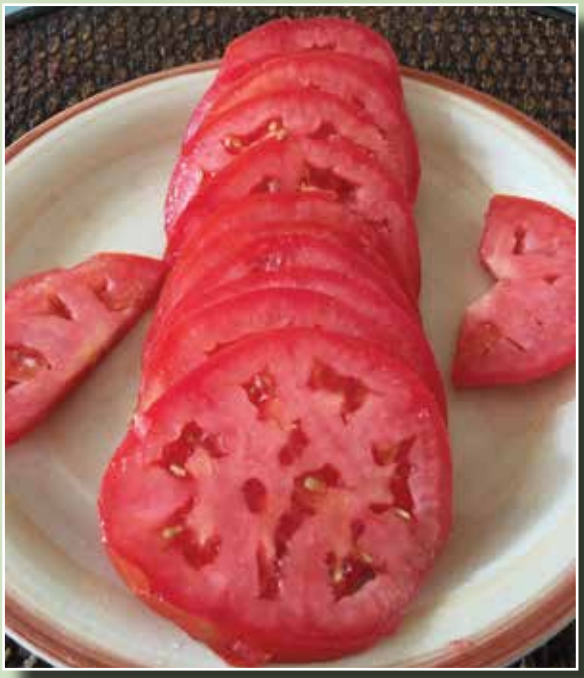
Simply, a saladette is a prettier and larger version of the old Italian Roma types that had rough shoulders, not very firm and a range of 60 – 85g in weight.

An elongated blocky king fruit of F 350 weighing 230 grams.

Some of the best features of Roma and San Marzano types are their extremely good taste, flavour and red colour, and breeding programmes over the years accommodated these features but resulting in smaller, firmer fruit with high brix (total soluble solids), specific viscosities and improved disease resistance. In today's modern world of high-tech breeding traits the fruit mass remains at 75 – 90g fruit weight but with an added feature of jointlessness – the stem staying on the plant when mechanically harvested.

A true Saladette – to use in pastas, stews, salads and pizzas – is typically larger with egg or plum shapes, smooth shoulders, extremely firm; thick walls, some with the crimson gene resulting in very high lycopene, dark red fruit and are mostly picked and sold fully ripe.

The most important characteristic of a saladette versus a round or old style Roma tomato is consumer recovery from the fruit versus a round tomato with usually an indented stem- end. Mostly a quarter or a third of the tomato is cut off to remove the stem-end scar where as a saladette only needs to be cut 5 – 10% from the top to clear the usually small, flat stem-end scar.



The 230g fruit cut into 13 equal sized slices with vertically no core "lost" in the recovery

Slightly tapered matured fruit of F 350 with 170 – 190 grams fruit mass showing 4 lobed and thick walled fruit.

The taste of a saladette being picked at full colour of ripeness is so much better than a large flat round tomato of 160 – 200g usually picked at champagne or slightly red colour. The new style saladettes on determinate and indeterminate plants will produce fruit weight of 160 – 200g as well.

So all you tomato lovers out there for the taste, flavour and recovery, change to saladettes ! There are so many to choose from and lately with very good disease resistance packages as well.

Contact your loal Hygrotech representative for more information.
Call the Hygrotech help line 012 545 8000 or e-mail us at info@hygrotech.co.za

A STEP IN A NEW DIRECTION

FODDER BEET BANGOR

Written by: Renier van Rooyen - Sales representative Southern Cape (George Office)

On the farm Dappersdal of Albert and Philip Terblanche in Kleinplaas, between George and Grootbrak river in the Southern Cape, we recently tested the new fodder beet cv Bangor from DLF seeds. This father and son are experienced vegetable farmers which made them the ideal producers to test the new variety, as the cultivation and farming practices of both crops overlap in many cases.

The trial plot was ripped, cut with a disc harrow and beds were made. Seeding was done on 29 August with their beet planter. After seeding, Pyramin was applied at 4 kg/ha and washed into the profile with irrigation. Sumi Alpha was also applied for the control of cutworm.

The fodder beet was topdressed on the 14th of September with 250 kg/ha 1:0:1 and Goltix was applied as post emergence herbicide at 5 liter per hectare. EOS oil was also added to the spray mix at a 2% solution. 7 Days later a second application of Sumi Alpha was made at a rate of 100ml/ha.

Harvesting started on the 19th of February, 174 days after seeding, with the larger bulbs weighing in at 6 kgs.

Albert and Philip are of the opinion that the best seeding time for their area would be the last week of August. Seeding later, ie October, will result in higher weed pressure, especially sedges, which are hard to control. Later seeding dates could be an option if more effective control measures are available for the production of beet.

Bulbs were cut into smaller pieces with spades before feeding it to cattle. Albert and Philip found that feeding the bulbs whole made it difficult for the cows to bite and feed on due to their shape and large size.

They also did not find any selective utilization by animals. Cows would start feeding on the foliage before moving on to the sweet bulbs. To maintain a constant supply, bulbs were harvested on a daily basis and fed to stock as needed.

The only shortfall that the Terblanche's experienced was that the field the bulbs were planted on had to be taken out of their grazing programme as it had to be left open during the uprooting process, which in turn held up the planting of the following crop. Ideally fodder beet should be cultivated on open fields so as to not interfere with other grazing and pasture utilization.

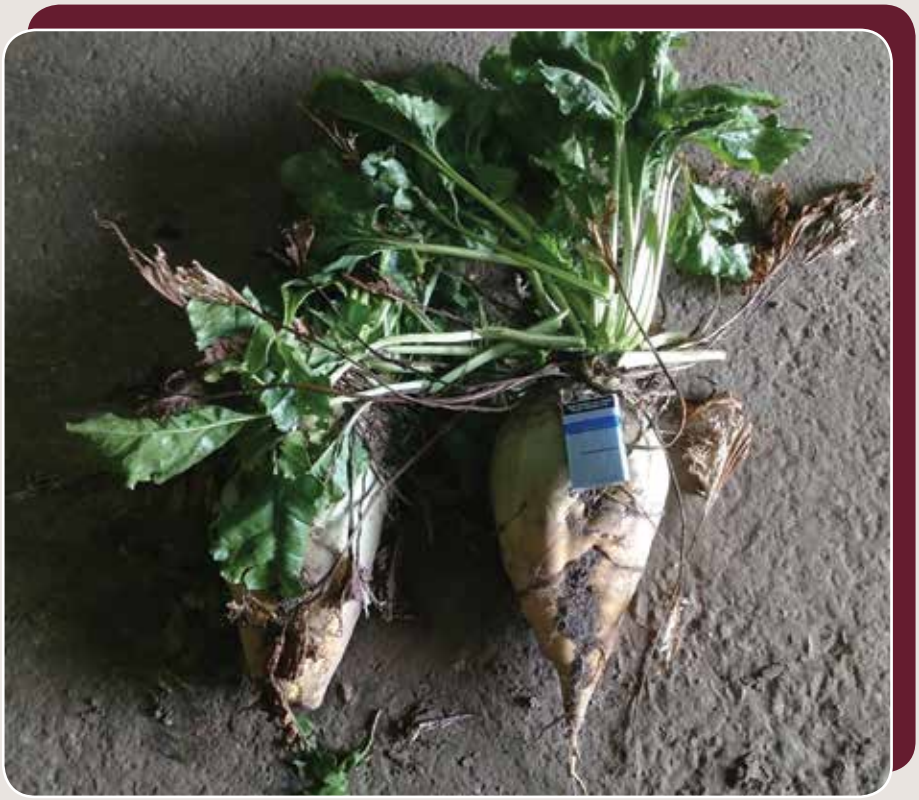
This will ultimately give the crop a longer maturing and utilization period and in so doing produce a better yield and feed compliment.

Fodder beet cv Bangor can also be used in silage bunkers where fields need to be cleared faster. Maize silage and fodder beet can be put down in alternating layers.

The bulb can either be put in whole or cut into more manageable chunks for easier consumption by animals.

If lifting is not viable, fodder beet cv Bangor can also be strip grazed at a younger stage. Animals can then uproot the bulbs after consuming all the leaves and then consume the smaller bulbs completely.

Hygrotech will have commercial seed volumes available for the new season. Be sure to place your orders timeously.



Butternuts
for every market segment

Written by Hugo Burger - Technical Manager : Western Cape Region, Stellenbosch.

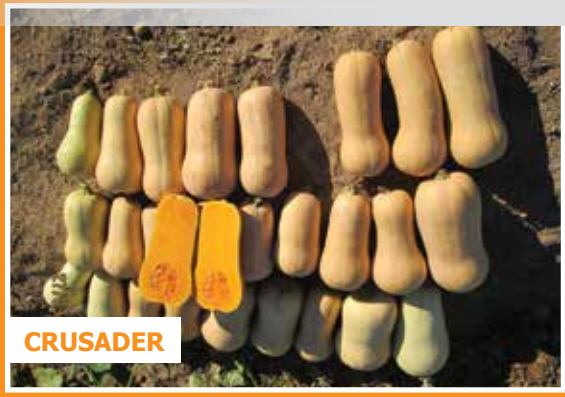
Butternuts are available for different segments in the market, from the processors, exporters, supermarkets through to the usual local buyers.

The exporters and supermarkets usually prefer the same size fruit and shape, whilst the processors prefer bigger size fruit. The local buyers (households and hawkers) though, prefer any size and shape.

The are cultivars available with excellent cultivation traits for each of the above segments. The following cultivars are available for your specific requirements:

1. **CRUSADER** is the new variety with a good potential for high yields - suitable for the local market. The plants are vigorous with a runner growth habit. The fruits are blocky and weigh more or less 2.5 kg with medium sized seed cavities.
2. **PRISM** has a semi bush type growth habit with fruits which weigh 1.8 kg on average. The flesh is deep orange coloured with a medium size seed cavity. This variety is suitable for the export market.
3. **BUGATTI** has a creeping growth habit with fruits which can weigh up to 2.7 kg. This is a typical processing variety with uniform big fruit and shape. With the attractive orange flesh colour and medium big seed cavity, it is the appropriate cultivar for this purpose.
4. **HSR 4861** has a semi-bush type growth habit and the fruits weigh 1.6 kg. With this fruit size, it is extremely suitable for the supermarkets to do the so-called 'half cuts'. This cultivar could also be utilized as an export product.
5. **HSR 4838** is also a semi-bush type with fruit of approximately 2 kg. The fruits are blocky with medium big seed cavities. This is a double purpose cultivar, suitable for exports as well as for the local market.

With all these cultivars available, butternut producers are able to obtain good results and with happy buyers of their produce.



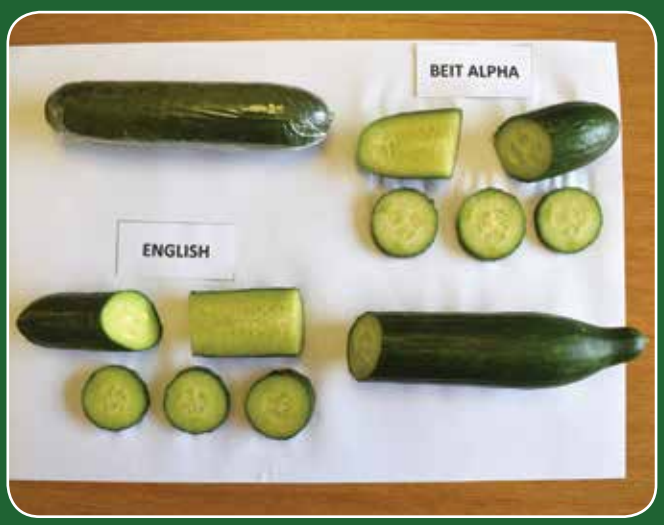
New High Performing English and Mini-cucumber Varieties (Beit-Alpha) for Summer and Autumn Season

Written by Dr Martin Maboko - Hygrotech National Group Horticulturist

Cucumber is an easy warm weather crop to grow provided there is sufficient sunlight. Some breeders breed cucumber varieties that are better adapted to summers with longer days, high light intensity and higher temperatures, while others breed for winter conditions with shorter days, lower light intensity and lower temperatures. It is important to select varieties that are adaptable to climatic changes within the growing season. Forty four English (Dutch) cucumbers and 8 Beit-Alpha cucumbers were evaluated in Pretoria during the summer to autumn season of 2017-2018. English cucumbers were also evaluated in KwaZulu-Natal and Western Cape. Good new cucumber cultivars that meet different South African market requirements are forthcoming in August 2018. These cultivars are associated with good quality characteristics such as good disease package, fruits that are uniform in diameter, spineless, dark green colour, good fruit set and yield, cylindrical, without long neck and deep ribbed and are tolerant to heat.

Beit-Alpha cucumber

Beit-Alpha is an easy crop to grow with little or no skewed fruits and is ideal for greenhouse production. Some Beit-Alpha cultivars can produce marketable fruits nearly 2-3 times more than English cucumber cultivars. Beit Alpha's are always shorter than English cucumber, though they differ in length. They are small in size, having a length of between 10-22 cm and have a better taste with less postharvest attention. The market in South Africa is still dominated by the English types in spite of the good yield and quality attributes of Beit-Alpha.



SWEET CORN VARIETIES

	Days to Maturity	Disease Tollerance	Market	Cob Length	Cob Width	Rows	Plant Height	Planting Slots			
								Central	Lowveld	Bushveld	S/Cape
Escalate	85	Rust(HR) NCLB (IR)	Fresh/Proccessing	22	54	18	1,8	Aug-Feb	Mrt-Aug	Mrt-Aug	Sep-Feb
Jubilation	85	Rust(HR) NCLB (IR)	Fresh/Proccessing	20	54	20	1,8	Aug-Sep	Mrt-Aug	Aug-Sep/ Feb-Jun	Sep-Feb
Gladiator	83	Rust(HR) NCLB (HR)	Fresh/Proccessing	20	55	18	2,1	Aug-Sep	Aug-Sep	Aug-Sep	Sep-Feb
Remus*	78	Rust(HR) NCLB 3/5	Fresh	18	52	18	1,6	Aug-Sep	Aug-Jan	Aug-Jan	Sep-Feb
Rusalter	77	Rust(HR) NCLB 3/5	Fresh	18	50	16	1,7	Aug-Jan	Aug-Jan	Aug-Jan	Sep-Feb
Rising Sun*	70	Rust(IR) NCLB (IR)	Fresh	20	52	14	1,8	Jul-Sep	Jun-Jul	Jun-Jul	Jul-Sep
Rubicon*	80	Rust(HR) NCLB (HR)	Fresh	18	51	16-18	1,8	Aug-Sep	-	-	Sep-Feb
HY2269*	83	Rust(IR) NCLB (HR)	Fresh/Proccessing	20	54	18	1,75	Aug-Sep	Mrt-Aug	Mrt-Aug	Sep-Feb
HY1494*	85	Rust(HR) NCLB (IR)	Fresh/Proccessing	22	54	18	1,8	Aug-Feb	Mrt-Aug	Mrt-Aug	Sep-Feb
HY3278*	82	Rust(IR) NCLB (IR)	Fresh/Proccessing	21	56	18	1,9	Aug-Sep	Mrt-Aug	Mrt-Aug	Sep-Feb
HY3006*	80	Rust(IR) NCLB (IR)	Fresh/Proccessing	21	55	18	1,75	Aug-Sep	Aug-Sep	Aug-Sep	Sep-Feb

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

HYGROTECH
SUSTAINABLE SOLUTIONS

New & Old Baby Marrows

Written by: Christo Le Grange - Product Development Manager

As promised in our previous Forum, Hygrotech and Seedcor are proud to introduce the new baby marrow ranges. The existing range just got up-graded with 5 new cultivars, giving the grower diversity options according to the climatic differences in all the regions.

HY-GREEN F1

The high yielding potential under heat conditions, makes HY-GREEN F1 the cultivar of choice. Days to maturity: 45 – 55days. This dark green zucchini's specifications are: diameter of 3 – 3,5cm and lengths of 7 – 14cm.
Disease tolerances: ZYMV, ZMV,WMV & Px.

ZU-VERDI 25 F1*

Open growing bush type for main season cropping. Less prone disease areas or season preferred. This medium green zucchini specifications: diameter of 2,5 – 3cm and lengths of 10 – 14cm.
Disease tolerances: WMV & CMV

ZU-VERDI 72 F1*

Open growing bush type for main season cropping. Less prone disease areas or season preferred. Very similar to the above mentioned cultivar, with slightly shorter fruit. This medium green zucchini specifications: diameter of 2,5 – 3cm and lengths of 10 – 13cm.
Disease tolerances: WMV & CMV

RAGNAR F1*

RAGNAR F1 *

A Dark green zucchini, more compact growing style bush type for full season cropping where disease prone conditions are a factor according to seasons and areas. Specifications: diameter of 2,5 – 3cm and lengths of 11 – 14cm. **Disease tolerances:** ZYMV,WMV & CMV

ZU-VERDI 25 F1*

GUNNSTEIN F1 *

A dark green zucchini, more compact growing style bush type for full season cropping where disease prone conditions are a factor according to seasons and areas. Specifications: diameter of 2,5 – 3cm and lengths of 11 – 15cm. **Disease tolerances:** ZYMV,WMV & CMV

KALAHARI F1*

A medium to dark green zucchini, open growing bush type for main season cropping. Less prone disease areas or season preferred. Specifications: diameter of 2,5 – 3cm and lengths of 10 – 13cm. **Disease tolerances:** (IR) ZYMV,WMV, CMV & (IR)Px

NAMIB F1* SeedCor It's all about seed

A medium to dark green zucchini, open growing bush type for main season cropping. Less prone disease areas or season preferred. Specifications: diameter of 2,5 – 3cm and lengths of 12 – 14cm.

Disease tolerances: WMV, CMV

We are proud to show-case the **new** baby marrow produc ranges on offer from both Hygrotech & Seedcor. We believe our ranges will suit the diversity of the South African market.
For more information regarding your area specifications and preferred sowing slots, contact your nearest Hygrotech or Seedcor office, or Christo at: 078 052 3186

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

KIC-START

KEY EFFECTS ARE:
- **Cell enlargement and stem growth**
- **Root initiation**
- **Apical dominance**

Written by Pieter Vorster -
Fertagchem Technical Manager

What is Kic-Start?
Kic-Start is a water soluble 7:3:1 nutrient solution with chelated cation micro elements and auxins which can be used as a root stimulant or growth stimulant.

When to Kic-Start?
Kic-Start is formulated to stimulate growth during the first crucial weeks after transplanting seedlings or establishing trees. It also stimulates roots of old established crops where production goes down.

Why Kic-Start?
It has promising results and it gives your crop a healthy head start.

What is Auxins?
Auxins are one of the 5 major classes of plant hormones. In general, plant hormones control every aspect of plant growth and development. Plant hormones are produced in very small concentrations, but even a minute amount can have a profound effect. Reactions to plant hormones always depend on their relative concentrations compared to other hormones present. It is the hormonal balance that controls the growth and development of each plant. Auxin was the first plant hormone detected. The most prominent auxin is IAA (Indol-3-acetic acid). IAA is synthesised from tryptophan or indole primarily in leaf primordia, young leaves and in developing seeds. Auxin is the key plant hormone as it not only initiates different effects but also controls the action of all other plant hormones like cytokines and gibberellin.

Balance of auxin and cytokines:
In the 1950's a series of experiments showed how the ratio between auxin and cytokines works. If auxin is added to a plant then the cells grow very large but they don't divide. If cytokines is added - and auxin is present - then the plant cells divide. Therefore, the ratio of auxin to cytokines determines how the cells will differentiate. In young plants, a surplus of auxin will initiate root growth. A higher concentration of cytokines will support the development of shoots and shoot buds. If the concentrations of both are equal then the plant cells will grow but will remain undifferentiated. The exogenous application of auxin will promote root growth and initiate the synthesis of cytokines in the root meristem. These freshly produced cytokines will signal the plant to grow more shoots, leading to a naturally balanced bigger and stronger plant.

The auxin-like activity and phosphate dominated extract stimulates prolific adventitious root formation when **Kic- start** is applied to almost any plant. This drastic increase in root tips leads to an increased level of cytokines in treated plants, as this group of hormones is mainly produced in root tips. The increased root volume and number of root tips also increase moisture and nutrient uptake from the soil. The improved nutrient status together with the higher level of cytokines in the plant secure better top growth that causes the increase in yield and quality of crops. The improved root system also makes the plant more resistant to stresses such as drought, waterlogging, soil nutrient deficiency and salinity, nematode infestations and soil borne diseases.

Kic-start applied to plants in nurseries not only shortens the period in the nursery prior to plant-out, but also produces plants with a stronger root system, showing enhanced transplant shock resistance. **Kic-start's** efficiency as a cost effective agricultural fertiliser has been proven in numerous programmes under differing climatic conditions and on a wide variety of crops. **Kic-start** has a broad application base, is easy to apply and is compatible with most crop protection chemicals and foliar feeds. Its consistency in result and cost efficiency has led to its position in the market.

WHAT IS KIC-START?
Kic-Start is a water soluble 7:3:1 nutrient solution with chelated cation micro elements and auxins which can be used as a root stimulant or growth stimulant.

How to Kic-Start?

It can be applied as soil drench or in the planting hole of seedlings or trees and also through a drip irrigation system a few days after transplanting. It is compatible with most fungicides and pesticides except those who contain large amounts of copper or sulphur and alkaline materials. See the leaflet for the dosage of different applications and more information.

Control

Kic-Start

Potatoes

Beans

Maize

Control

Kic-Start

Sugar Cane

Peppers

Tomatoes

Beetroot

ONIONS

Back to basics

Written by: Christo Le Grange - Product Development Manager

The onion plant has been grown and selectively bred in cultivation for at least 7 000 years and the common three coloured varieties are yellow, brown and red (called purple in some countries).

While the large, mature onion bulb is most often the preferred product to use, the immature stages could be harvested before bulbing occurs. If an onion is harvested after bulbing has begun, but the onion is not yet mature, the bulbs are sometimes referred to as "green" onions. Additionally, onions may be bred and grown to mature at smaller sizes, depending on the mature size and the purpose for which the onion is used. Pickle onions are an example.

Dehydrated onions are used for onion powder in seasoning, when the fresh ingredient is not available. Onions are basically grown according to day lengths and temperature.

Day length or day light hours are determined by the sun's movement and the ray's angle in relation to the earths amount of light during the seasons and daily sun received. Each onion variety will form a bulb only after it has received a certain number of hours of day light each day for a certain number of days. Because of this onions are categorized into three main groups: **Long-day, Intermediate-day** and **Short-day** varieties.

Temperatures stimulate the onion to stop producing a bulb and begin sending up flower shoots and forming seeds, called bolting. Once an onion reaches a certain size (this differs by variety) temperatures of between 4°- 10°C, will cause it to bolt. Onions are cool-season biennial plants, meaning they require two seasons to complete the cycle from seed to seed. These seasons are separated by a cold winter season.

There are many varieties of onions suited for growing bulbs. When you choose a bulb onion variety for your region, it is important to know how many day light hours you will have during the growth season as well as the annual low and average temperatures during that time. Onions first develop leaves then depending on the variety and day length start to form bulbs. For example, short day onions will start making bulbs much earlier than long day varieties in the year, when there are only 10 – 12 hours of daylight. Preferred leave count will be 7 or more to ensure good bulb development.

Because location or latitude determinate day length, some onion varieties are not suited for some locations. Short day onions require 12 to 14 hours of day light to form bulbs. Intermediate day onions require 13 to 15 hours of day length.

Hygrotech Seed is renewing its focus on the South African onion market by sourcing onions from different countries around the globe to suit grower requirements in all the onion producing regions. This diversity will allow Hygrotech to make grower specific recommendations which will ensure top quality product for the end user.

The late short day category is the biggest market segment in South Africa (Central & Northern regions), and we are proud to introduce our latest varieties, Hazel & Hickory.

HAZEL*

Hazel is late short-day variety with a roundish bulb shape. Cream to brown colour bulbs, make this cultivar an attractive choice for the growers for easy marketing of a quality product. Plant stand of 1- 1,2mil will help the growers obtaining possible bulb size of medium to large. Lower plant stand will increase bulb sizes to mainly large. Suggested sowing/planting slots would be: **Highveld & Limpopo – 25th February to 25th March. Western Cape & Northern Cape - 5th May to 10th May.** Contact your local representative for more accurate planting suggestions.

HICKORY*

Hickory is late short-day variety with a top shaped bulb. Cream to brown colour bulbs, make this cultivar an attractive choice for growers for easy marketing of a quality product. Plant stand of 1- 1,2mil will help the growers obtaining possible bulb sizes of medium to large. Lower plant stand will increase bulb sizes to mainly large.

Suggested sowing/planting slots would be: **Highveld & Limpopo – 25th March to 15th April. Western Cape & Northern Cape - 5th May to 10th May.** Contact your local representative for more accurate planting suggestions. Both these varieties have good disease tolerance and a wider planting slot than most late short day varieties in its class.

Good results from last year have already resulted in semi-commercial plantings in 2018. Make sure to include **Hazel & Hickory** in your planning schedule this season.

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

SPECIALITY TOMATO CULTIVARS HIT THE MARKET

Written by Hugo Burger – Technical Manager: Western Cape region, Stellenbosch branch

Speciality tomatoes are mainly the cherry, mini Roma and the so-called 'Tiger' types.

This market is very specifically aimed on size, shape, colour and aroma of the cultivars. The varieties should comply with a minimum sugar content (brix) to be accepted by the supermarkets. Yield also plays an important role to ensure profitability. Every cultivar, trialed and tested, is therefore measured to these standards to decide whether it should be commercialized, or not. Every year new cultivars are entering the market and this year was no exception. Four new cherry tomatoes, a mini Roma and a 'Tiger' oval-shaped type, were identified for future marketing.

CHERRY TYPES:

Tomato 1724* is an indeterminate grower with long bunches with uniform fruit sizes which makes it suitable to harvest in bunch form. The fruit weighs 20 g on average and is firm with a nice red colour.

Disease package: V, F2, N, TSWV, and TY.

Tomato 1725* is an indeterminate grower with slightly smaller fruit with an average weight of 16 g. This cultivar is more suitable to the harvesting of fruit in a loose format.

Disease package: V, F1,N,Bs, TSWV and TY.

Tomato 1726* is the cultivar with the smallest fruit size of 12 g and has big bunches with a good yield. The fruit is firm with a good taste. This cultivar should be harvested in loose format.

Disease package: V, F1,N, Bs, TSWV and TY.

Tomato 1581* is a very strong grower with uniform fruit with an average weight of 26 g.

The bunches are long and make this cultivar suitable to be harvested in bunch format. Disease resistance still to be confirmed.

MINI ROMA TYPES:

Baby Roma* is the new mini Roma type in the market and has long bunches with uniform fruit sizes. The fruit can be harvested in bunch format within 75 days after transplanting. The fruit, with firm flesh, weighs 34 g on average.

Disease package: V, F2, TMV,TSWV and TY. This cultivar is also suitable for open land cultivation, but the fruit would become smaller in size.

16652* is a 'Tiger' type cultivar with a Roma shape. The fruit is very firm and aromatic. The fruit weighs 20 g on average. This cultivar is a very strong grower which could be cultivated under protection as well as on open land. Disease package still to be confirmed.

SALADITA* is the old stalwart in the mini Roma market. This cultivar can be cultivated in both open land as well as under protection. The fruit is very uniform with good taste and weighs between 15 – 25 g.

Disease package: TMV, F1.

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

HISTORY OF ZAR SEED PRODUCTION (PTY) LTD

Written by Henry Coetzer: Hygrotech Chief Operating Officer

Hygrotech started with Seed Production in 1997 and appointed well-known agricultural seed producer, Dirk Lamprecht, to manage the Seed production division until his retirement in 2015.

In 2013 Habe Roode, current chairperson of Hygrotech, started **ZAR Seed Production (Pty) Ltd** due to the demand for high quality locally produced seed.

ZAR Seed Production (Pty) Ltd was established to facilitate not only the seed production, but also the cleaning, grading and packaging of the seed.

ZAR Seed Production (Pty) Ltd is based in Kroonstad as the town is central and easily accessible to most producers and farmers. Today, **ZAR Seed Production** is still run by Habe Roode with the assistance of Henry Coetzer, Chief Operating Officer of Hygrotech.

Five years later, the company boasts with storing and cleaning facilities of 2,500m^2 and three land inspectors which are accredited with Sansor.

ZAR Seed Production also invested in two seed cleaning machines together with an unique seed colour sorter.

ZAR Seed Production can produce and clean the following products:

1. All vegetables seeds, mainly focusing on onions, leeks, garden peas, cucumber, pumpkin and beans.
2. All pastures, mostly rye/stooling rye and oats.

Keep an eye out for the ZAR Seed production team in the years to come.

The ZAR Seed Production Team, Koos du Toit, acting Seed Production Manager together with his team.

Paprika planted in Louwna, a total of 2 tons were produced

Onion seed production under irrigation in Dewagensdrift

Production land in Louwna, 5 tons of Leeks were produced

ZAR is spreading its wings and would like to call on all farmers who would be interested in becoming seed producers. Contact Henry Coetzer on 082 692 8499 or contact us via email at henry.coetzer@hygrotech.co.za.

Limpopo's own "Vegetable Nampo" Kicks off

18 March 2018 will be remembered for the first ever Marlo Nursery "Vegetable Nampo" farmers day. What a day! Hygrotech & Seedcor would like to thank Marlo Nursery for hosting the day. We hope this event could further help in broadening the future of the vegetable industry. This event was attended by all the major roll players in the vegetable seed industry, hence the reason for the great success.

Full product ranges included: factory tomatoes, indeterminate saladette, determinate saladette, inderterminate round, sweet peppers, hot peppers, butternuts, cabbages, melons, watermelons & pumpkins. Seedcor products worth mentioning: ***Hunter & *Avenger –** Harper type melons stood out on the day. The 'old faithfull' varieties Pilgrim butternut and Monaco jalapeno were also on display.

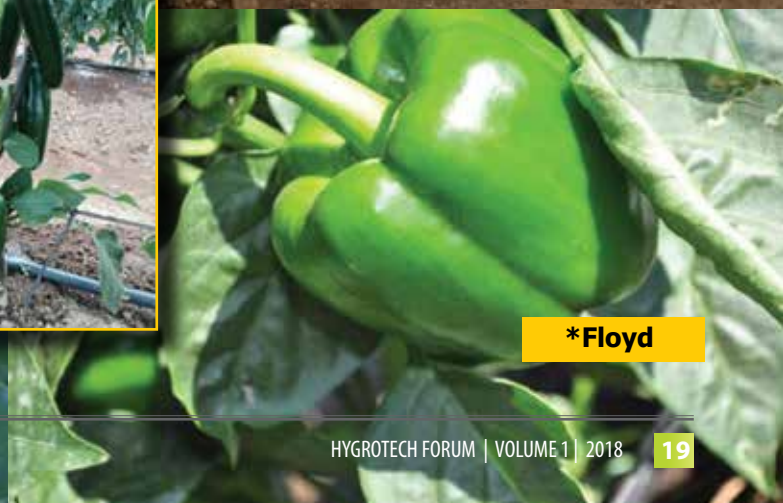
Hygrotech showed-off our new hot & sweet peppers, also including other stalwards like indeterminate tomato Boudica, determinate saladette F350 and processing tomato HTX 14.

Pilgrim

*Avenger

*Hunter

*Tyson



*Floyd

Open field sweet pepper cultivar options for the season ahead

Introducing two brand new cultivars to our list of options

Written by Michael Luttig: Area Marketing Manager, Mpumalanga, Mbombela

Following sweet pepper trials conducted at different open field sites in South Africa since 2017, pepper **Floyd** and pepper **Rocky,** two green/red sweet pepper cultivars for the sleeve and box market, were recently introduced to our list of commercially available options for the 2019 season. Just as exciting is the large fruited, high yielding performer **Sidi;** the large box pepper, **Rubistar** and the sleeve and box market pepper namely **Jawbone** that came through our three year cycle sweet pepper development programme. Well known peppers **Galba** and **Nero** for the box market, complete our list of options this coming season.

Based on our data, sweet peppers were divided into two categories, namely Table 1. Loose, box and sleeve market applications and Table 2. Loose and box market applications:

Table 1. Loose, box and sleeve market

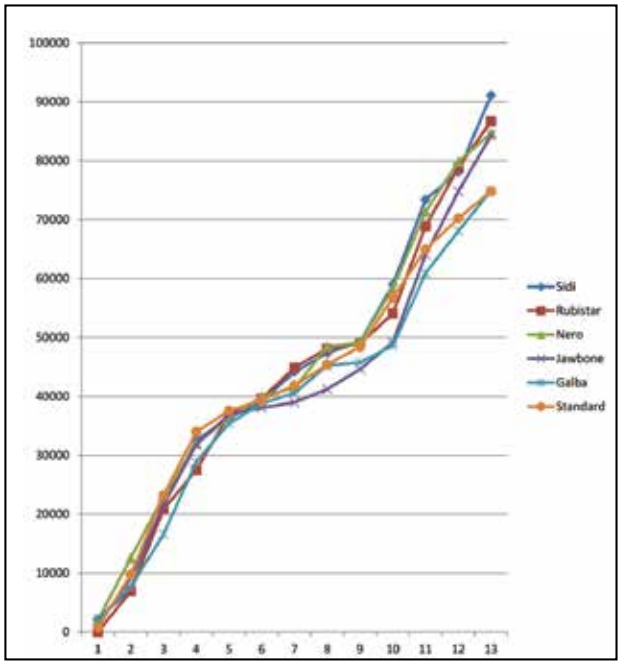
Cultivar	Description	Application	Disease package
Floyd*	Have a **high yield potential** Produce large blocky peppers with a dark green colour turning into red.	Loose, box and sleeve market	Xcv 1-3, Bs, TMV
Rocky*	Have a **high yield potential** Produce large blocky peppers with **an intense dark green colour** turning into red. Average fruit weight slightly heavier than Floyd Commercial seed available during 2019	Loose, box and sleeve market	Xcv 1-3, Bs, TMV
Jawbone*	Green to red blocky pepper **Very uniform blocky fruit with mostly 4 lobes** Very thick walls and excellent fruit quality Intense dark green colour Anthocyaninless Suitable for open field and shade-net production	Loose, box and sleeve market	TSWV, Xcv 1-3, TMV, PVY

Table 2. Loose and box market

Cultivar	Description	Application	Disease package
Sidi*	**Sidi gave the highest yield of all large fruited cultivars evaluated** Beautiful blocky green to red fruit Excellent fruit quality Excellent disease package Mainly for open field production	Loose and box market	TSWV, Xcv 1-3, TMV, Mj
Rubistar*	**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	Loose and box market	TSWV, Xcv 1-3, PVY
Nero*	Produces large blocky fruit. 80-85 days to maturity Thick fruit walls. **Good leaf cover and high yield potential.** Very good red quality fruit at full maturity.	Loose and box market	Xcv 1-5 (X5R), TMV, PVY
Galba	**Galba is an early maturing variety.** 75-80 days to maturity High yield potential. Thick fruit walls. Galba has a very sturdy upright plant. Very good quality blocky fruit. Very good deep red colour at full maturity.	Loose and box market	Xcv 1-5 (X5R), TMV, PVY

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

Open field **Hygrotech** and **Seedcor** sweet pepper cultivars not only performed well in keeping its size throughout the season in early and late plantings, but also gave higher cumulative yield data compared to the standard cultivar *(Graph 1.)*



Graph 1. Cumulative calculated yield (kg) in early winter box comparative pepper trail, JF Steyn, Komatipoort, 2015

Loose and box market applications

Loose, box and sleeve market

GAUTIER SEEDS

GAUTIER SEEDS was founded in 1952 by Jacques-Paul and Henry Gautier. The company has been owned by the Gautier family ever since and today the 3rd generation is at the helm in the person of Jacques Gautier, who is the president and head of Gautier Seeds.

The company is based in Eyragues, in the heart of the Provence region, South-East France. All their facilities are centralized in Eyragues i.e. processing plant, research labs, breeders and administrative offices.

Gautier Seeds constantly "aim to offer more flavour and diversity in order for everyone to benefit from vegetable consumption". Their main line of seed products are tomatoes, lettuce, melons, cauliflower, eggplant, zucchini squash and radish. The company supplies seed worldwide, but mainly to Europe, Mediterranean countries and North America.

Eric Barneron from Gautier recently visited Hygrotech, South Africa to introduce the Gautier seed cultivars to the technical people in Hygrotech, whilst also paying visits to prominent vegetable producers all over SA.

Several existing Gautier cultivars are planted and produced in South Africa already and cultivars like tomato PICCOLO and tomato BATYLA are household names and have made huge inroads into the market.

Exciting new cultivars will be trialed and there are high expectations that a selection of these varieties will be launched commercially during 2019.

The following species and F1 hybrid cultivars are being commercialized for the coming planting seasons:

TOMATO: Natyssa and Tyfrane

CAULIFLOWER: Specture, Eiger, Denali, Glarus

BABY MARROWS: Ragnar, Gunnstein, Sigurd

EGGPLANT: Shakira

GARDEN RADISH: Circus

Eric Barneron from Gautier Seeds with Ivan Day, of Eldorado farms.

Tomato Batyla being packed in the automated line at the packing store of Winkelhaak Boerdery.

From left to right: Michael Luttig (Hygrotech, Nelspruit), David DuRandt (Seedcor) and Lodewyk van Staden (Hygrotech, Nelspruit) inspecting Gautier baby marrows.

From left to right: Dr Martin Maboko (Hygrotech, National Group Horticulturist), Eric Barneron (Gautier Seeds) Ivan Day (Eldorado Farms) and Christo le Grange (Hygrotech, National Product Development Manager).

Eric Barneron from Gautier Seeds with Dickson Moholele, from Dew Crisp.

Tomato Piccolo, in production at LA Visagie farm

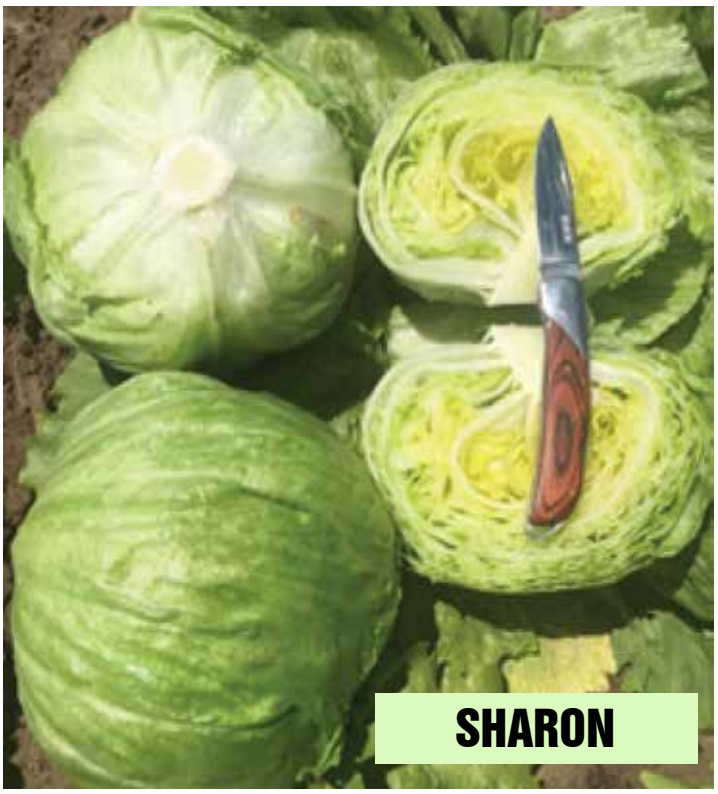
Gautier baby marrow Ragnar F1 (left) and Gunnstein F1 (right) compared favourably with the opposition variety (above) in trials at Pieter Vorster Boerdery, Komatipoort.

Aerial view of a tremendous planting of tomato Batyla on Simson rootstock at Winkelhaak Boerdery.

NEW CRISPHEAD LETTUCE CULTIVARS

Written by Dr Martin Maboko - Hygrotech National Group Horticulturist

Hygrotech has evaluated crisphead lettuce varieties in Gauteng, KwaZulu Natal, North West and Western Cape provinces at different growing seasons. Identified crisphead lettuce had good quality characteristics based on short internal stem height, compact head, field-uniformity, taste and tipburn tolerance, and tolerance to heat and cold in order for the farmer to maximise income from the quality produce. New introductions of crisphead lettuce will be planted on a commercial scale from now onwards. Table below, shows the planting season/slot of crisphead lettuce cultivars. Since regions differ with climatic conditions, lettuce growers are advised to contact their nearest Hygrotech branch for a specific plant slot for their area.



Good colour and head size for prepack market

Uniform in shape and good firmness

Uniform shape and size, large heads, good vigour and fresh market type

Uniform head shape and size, and good for prepack market

Good uniformity and head shape

HANNAH



Good uniformity and prepack market type

HELEN


Good head firmness, light green and suitable for prepack market

HAILEY


Good head shape, firmness and internal colour

HOLLY

Good head shape, colour and frame

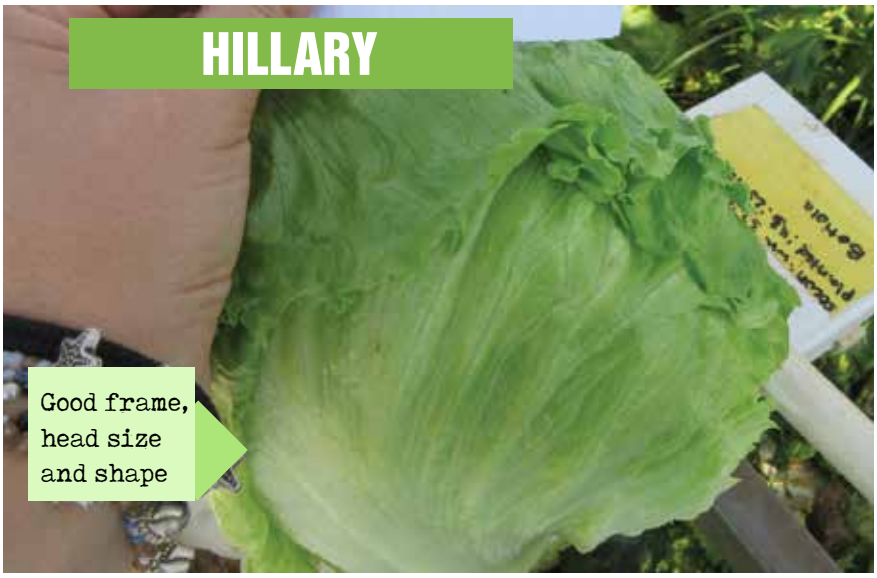
HELOISE

Good wrapper leaves and internal colour

HELGA

Suitable for prepack market and with good head firmness and shape

HILLARY



Good frame, head size and shape

HYGROTECH SUSTAINABLE SOLUTIONS

Type	Name	Head fresh mass (g)	Cultivation		
			Summer	Shoulder	Winter
Iceberg	ANNELINE	1200 g	✗	✗	✓
Iceberg	ANIKE	900-1100 g	✗	✓	✓
Iceberg	ALICIA	700 g	✗	✓	✓
Iceberg	SHARON	+- 800g	✗	✓	✓
Iceberg	HELGA	500-600 g	✓	✓	✗
Iceberg	HANNAH	450-600g	✓	✓	✗
Iceberg	HEATHER	500-600g	✓	✓	✗
Iceberg	HELEN	500-600g	✓	✗	✗
Iceberg	HOLLY	500-600g	✓	✗	✗
Iceberg	HELOISE	500-600g	✓	✗	✗
Iceberg	HAILEY	500-600g	✓	✗	✗
Iceberg	HILLARY	500-650g	✓	✗	✗

GREEN BEANS IN BRITS

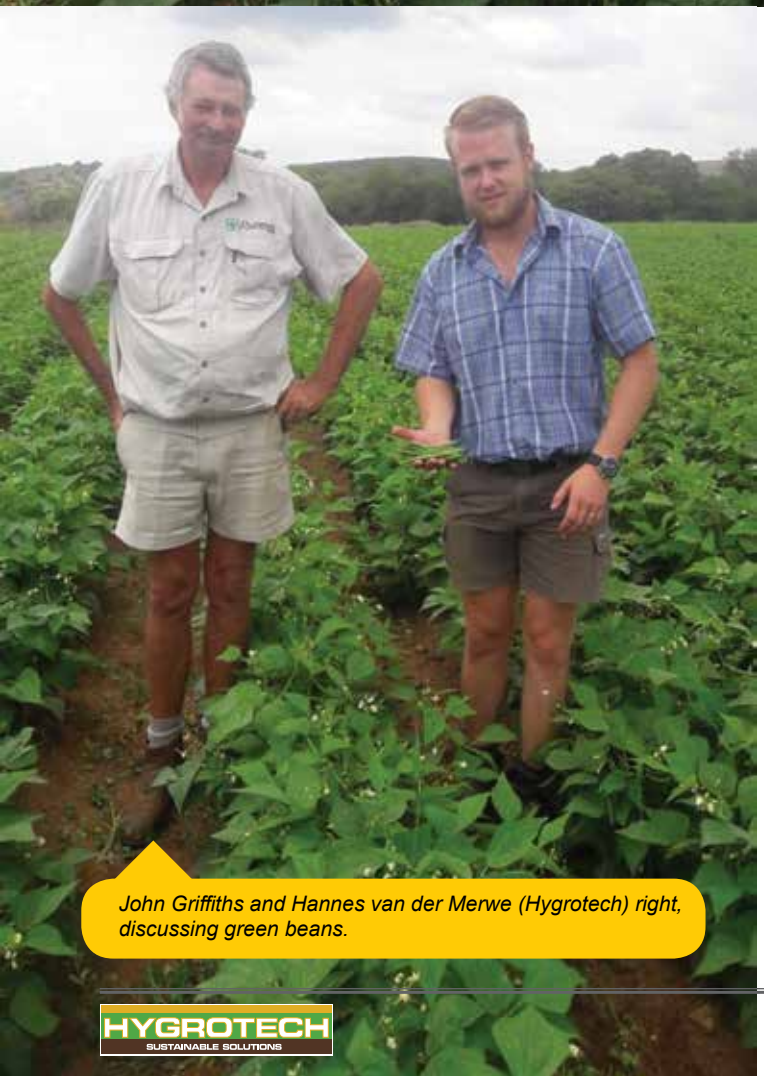
Written by Hannes vd Merwe: Technical Field Officer, Gauteng

It is difficult to find a farm in the Kleinfontein-area outside Brits, where green beans are not planted. Although Hygrotech and Seedcor have some of the best bean varieties around, they are not well represented in the Brits area. To rectify the situation, trials have been planted at various farmers with great success.

DOUGLAS, a bobby bean variety from Seedcor, stood out in December when the mercury rised to around 40° Celsius just about every day. This variety (with resistance against rust and Halo Blight) is exactly what's needed in very hot and humid conditions. Another excellent quality of Douglas is its size - and robust vegetative growth of the plants. As one farmer remarked: "This bean is a factory".

Feedback on yields and disease resistance were excellent and seed orders for next season have already been placed.

Martin Greyling of Pleroma Boerdery in amongst his Douglas beans



John Griffiths and Hannes van der Merwe (Hygrotech) right, discussing green beans.

An excellent field of Douglas beans in the Brits area.

Kindly contact Hannes vd Merwe on 082 903 0039 for more information.

ROOTSTOCKS

Written by Pieter Vorster - FertAgChem Technical Manager

Rootstocks in vegetable production were developed many years ago. The use of Rootstocks has exploded over the past ten years. Rootstocks are focused on high value crop production under protection especially in tomatoes, cucumbers and peppers where they are produced on a small intensive scale. The aim of rootstocks is to have a plant that has resistance to the most common soil-borne diseases, which do not have the characteristics of a variety that gives high yields and quality fruits and with a good disease resistance package.

Over the past ten years there has been more focus on rootstocks for open field crops. Due to the shortage of available land and rotation of fields, the cost of land and more soil-borne disease pressure, it became a necessity to look into rootstocks to ensure good resistance and quality produce with high yields. The most common soil-borne diseases are Bacterial wilt, Nematodes, Fusarium and Verticillium diseases. These diseases are common on tomato, cucumber, pepper, watermelons and melons.

The disadvantage of utilizing rootstocks is that it is expensive because you need to make seedlings and therefore double the amount of seed of the rootstock and the chosen variety. You also need an expert who makes the seedlings or grafting to ensure the best success.

In the end this might balance out the cost of virgin land or the effect of disease incidence. Hygrotech and Seedcor have a whole range of rootstocks available on tomatoes ,cucumbers and watermelons.

Resistant Roots

Vigorous Growth

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

Uniform Growth

High Quality Fruits

Uniform Fruit Set

HYGROTECH AND SEEDCOR ROOTSTOCK VARIETIES

TOMATOES

- **SIMSON F1***
  High Resistance: Verticilium Wilt Race:1 , Fusarium Wilt **Race:**1-3, Root Knot Nematode, Fusarium Crown Rot, Phytophtera Root Rot, Tomato Mosaic Virus
  Tolerance: Bacterial Wilt

CUCUMBERS

- **ISABELLA F1***
  High Resistance: Fusarium Wilt Race 1-3 , Root Knot Nematode

- **KICKSTART F1***
  High Resistance: Fusarium Wilt Race 0-2 , Root Knot Nematodes

WATERMELONS

- **KICKSTART F1***
  High Resistance: Fusarium Wilt Race 0-2 , Root Knot Nematodes

Advantages of rootstocks: they produce a stronger and vigorous plant with better fruit set and improved internal quality, earlier maturity and higher yields.

The Farmers Weapon Against Soil-borne Diseases

Compiled by MultiPlant / MultiGrow

MultiGrow is privileged to be part of an international nursery group. This partnership started in 2011 and there are currently 19 nurseries in this group.

To ensure quality, we work with our partners in Holland on systems which are tested on an international platform prior to being implemented. The nursery group has an annual workshop where the different nurseries get together to share information on developments in the nursery industry.

GRAFTING ON CUCUMBERS

For the cucumber producer, grafting is of paramount importance because of the aggressive nature of Fusaruim. Without grafting, it is virtually impossible to have a profitable and sustainable operation.

Benefits of cucumber grafting / root stocks :

- Soil pathogen tolerance
- Better plant balance
- Longer growth period
- Better yield potential

GRAFTING ON WATERMELONS

In the past Fusarium ('Slap rank') could only be avoided by establishing a new clean production field. Now however, there is a solution...a 'Cucurbita maxima x moschata cross' root stock.

Benefits of watermelon grafting :

- Fusarium tolerance
- Better internal quality
- Quicker production

GRAFTING ON TOMATOES

F3 is the latest enemy that tomato farmers have to guard against. We can help with root stocks which will give 100 % resistance against F3 and in so doing, will increase yields.

Benefits of tomato grafting:

- Fusarium 1,2,3 resistance
- Bacterial wilt (Rolstonia) resistance
- Plant balance
- Longer growth period
- Better quality fruit
- Better yields
- Nematode tolerance

GRAFTING ON SWEET PEPPERS

Sweet pepper's biggest enemy is phytophthora and only grafting can help with this disease. Some sweet peppers varieties might be tolerant against phytophthora, but good farming practices should still be applied.

Benefits of sweet pepper grafting:

- Phytophthora tolerance
- Better quality fruit
- Nematode tolerance
- Will grow in brackish conditions

In conclusion, for all our farmers the most important feature of any plant is its ability to resist specific soil-borne diseases and parasites, as well as brackish water and extreme temperature fluctuations.

Our root stocks offer you this…. and more benefits like better yields, the best possible fruit and excellent vigour.

GRAFTING ON BRINJALS

Main reason for grafting on brinjal is evident in the production with yields of up to 30% higher.

Benefits of brinjal grafting:

- Higher yields
- Rolstonia / bacterial wilt resistance
- Nematode tolerance

Please place your orders today to avoid disappointment: zciraite@gmail.com
Contact us on +27 79 511 7289 for more information or to discuss your needs.

PROLONGING PRESENCE OF APPLIED AGRICULTURAL CHEMICAL ON PLANT SURFACE WITH Nu-Film®

By Johann van der Vyver, Director: Miller Chemical SA (Pty) Ltd

This is the final of the 3-part series where the "Objectives for using Nu-Film® within foliar sprays" are being discussed. As explained in Part 1:

- the addition of Nu-Film® micro-encapsulates the agricultural chemical already present in the spray-tank mix.
- After the foliar spray the Nu-Film® film (with micro-encapsulated agricultural chemical) sets on the plant surface and has the following advantages in prolonging the presence of the agricultural chemical:

RAIN FASTNESS

The set Nu-Film® film on the plant surface has no rewetting characteristics. As a result, foliar sprays containing Nu-Film® are much less affected by rain, dew and irrigation when compared to foliar sprays without Nu-Film® (see example in Figure 1).

UV PROTECTION

The set Nu-Film® film on the plant surface acts as a shield for the encapsulated agricultural chemicals. The result is less degradation of these chemicals by sunlight and UV radiation. These are especially relevant for products known to be UV sensitive (see example in Table 1).

HEAT PROTECTION

Closely related to UV protection is the ability of Nu-Film® to reduce degradation of agricultural chemicals by temperature because of excessive sun exposure. The combination of UV, heat and volatility (referred to in part 1) protection was well illustrated by a study conducted in an almond orchard (see Figure 2).

EVAPORATION PROTECTION

Micro-encapsulation reduces the loss of sudden moisture from the applied spray on the plant surface. This reduces crystallation of the agricultural chemical on the plant surface. The film that forms on the plant surface allows for favourable conditions, enabling systemic products to move into the plant by means of diffusion.

COMBINATION OF ATTRIBUTES

Despite the advantages described individually above, it is important to note that the advantages often combine to prolong the presence of the agricultural chemical on the plant surface over time. Since it includes such a wide range of attributes one can hardly argue that Nu-Film® cannot contribute to an agricultural spray. Hence the comment in part 1 that "you will seldom find a crop production spray in South Africa that does not include Nu-Film®.

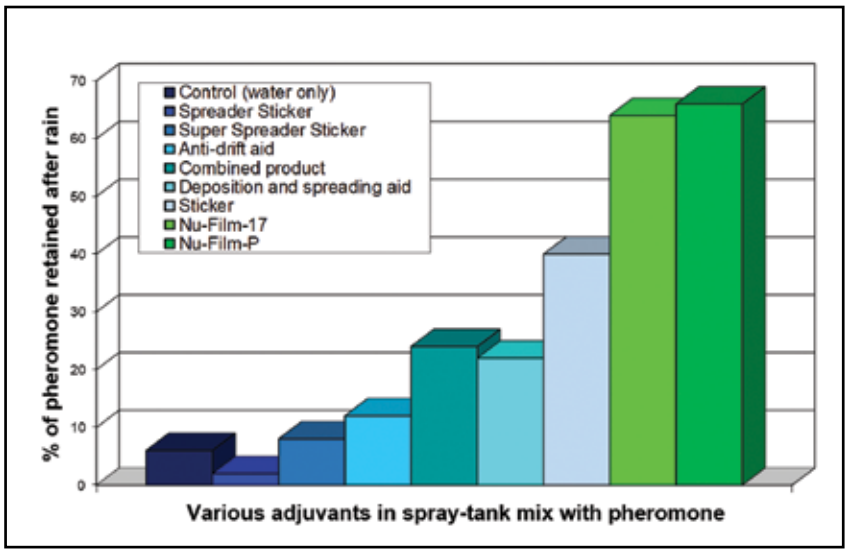


Figure 1: *Graphic summary of percentage sprayable pheromone by itself in water, as well as with various adjuvants in spray-tank mix, in an apple orchard after rain occurred. Evaluations were conducted by 3M Company 2 hours after initial application.*

Table 1: *Summary of the percentage of dead Sugar Cane Borer (Diatrea saccharallis) larvae that fed (for 48 hours) on a prepared commercial Bacillus thuringiensis (Bt) product with and without Nu-Film® P that was subjected to 2, 4, 6 and 8 hours of UV radiation respectively. The higher percentage mortality from the Bt + Nu-Film® P treatment in comparison to the Bt treatment only, clearly indicate the ability of Nu-Film® to reduce the degradation of the Bt product by UV radiation. Study conducted independently by Dr. M.O. Gómez, Costa Rica.*

TREATMENT	% DEAD LARVAE AFTER 24 HOURS OF FEEDING				% DEAD LARVAE AFTER 48 HOURS OF FEEDING			
Bt	40 %	40 %	30 %	30 %	60 %	50 %	60 %	70 %
	8 hours UV	6 hours UV	4 hours UV	2 hours UV	8 hours UV	6 hours UV	4 hours UV	2 hours UV
Bt + Nu-Film® P	80 %	60 %	60 %	70 %	100 %	100 %	90 %	90 %
	8 hours UV	6 hours UV	4 hours UV	2 hours UV	8 hours UV	6 hours UV	4 hours UV	2 hours UV

"Despite the advantages described individually above, it is important to note that the advantages often combine to prolong the presence of the agricultural chemical on the plant surface over time"

FAQ's

Two frequently asked questions in relation to Nu-Film® prolonging of agricultural products on the plant surface are:

How long does it take for Nu-Film® to degrade on the plant surface?

- As soon as the outer layer of the Nu-Film® film on the plant surface sets, degradation over time starts. UV light and oxygen are the two main factors that result in degradation. The shorter the chain of the molecule, the more stable the chemical structure and the longer it will take to degrade. Nu-Film® 17 (active ingredient: Di-1-p-Menthene) has a shorter chain than Nu-Film® P (active ingredient: Polu-1-p-Menthene) and will thus take longer to degrade. Under perfect conditions Nu-Film® P can take up to 10 days to completely degrade and Nu-Film® 17 up to 30 days.(basd on rate)

What about residues of agricultural chemicals that Nu-Film® is applied with in relation to MRL values?

- The optimum degradation period of Nu-Film® P and 17 on the plant surface is not necessarily an indication of what to expect from residue values of when applying Nu-Film® with agricultural chemicals. The only true indicator is product experience and actual residue studies. Miller® has 45 years of vast experience with the commercial use of both Nu-Film® P and 17 on more than 250 crops worldwide. The latter include crops deemed for export to countries known for sensitive MRL levels, as well as the use on crops within such countries. No cases are known where Nu-Film® contributed to the exceedance of any MRL values. This is backed-up by Miller®'s own array of residue studies. Crucial for any agricultural spray is the correct (label recommended) use of the agricultural chemical. This includes correct use of both the agricultural chemical and

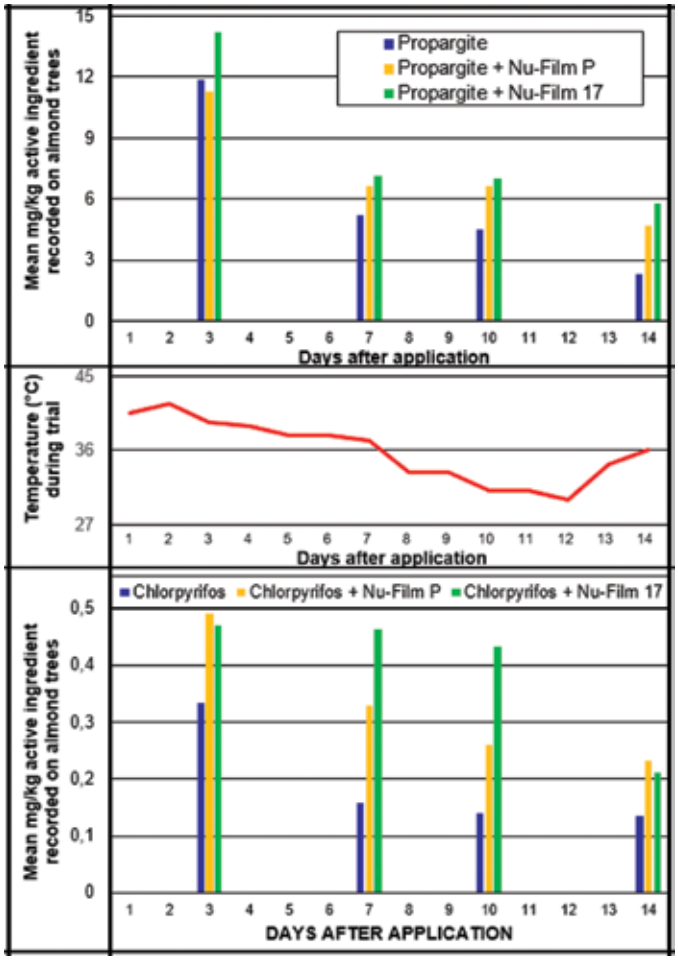


Figure 2: Graphic summary of the mg/kg propargite and chlorpyrifos containing insecticides remaining on almond trees after application. No rain occurred during the trial period. Weather was clear, dry and hot (see indicated by temperature values). Note how both Nu-Film® P and Nu-Film® 17 reduced the degradation of both insecticides in comparison when insecticides were applied alone.

Nu-Film® P or 17. Internationally, Nu-Film® P and 17 label recommendations are based on Miller®'s understanding and experience of the Nu-Film® Pinolene® film's polymerization and degradation process, as well as residue studies. In the case of non-inclusion with agricultural chemicals, the approved South African labels for Nu-Film® P and 17, indicate 7 days and 30 days respectively between application and harvest.

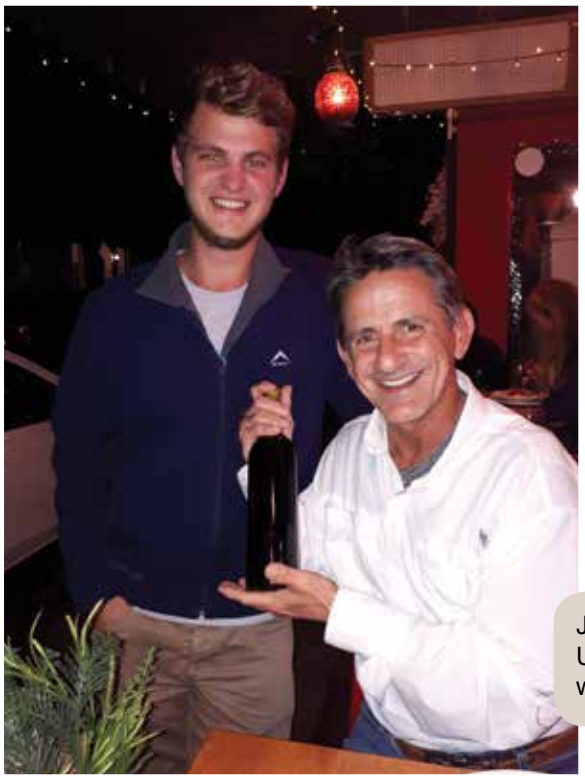
Should you wish to attain more information on the discussed advantages of Nu-Film® or those mentioned in parts 1 and 2, contact your nearest Hygrotech branch or johannvdv@millerchemical.com

3rd GENERATION "MILLER®-MAN" VISITS SOUTH AFRICA

Mike Fiery, Vice-President: Marketing and Product Development of Miller® Chemical and Fertilizer, LLC (supplier of products such as: Nu-Film® P and 17, Mist Control®, Sustain®, Entrée, Millerplex®, Asco-Gro, Grotonic, Colour-Up and Sugar Express®) in Hanover, Pennsylvania USA recently visited South Africa for two weeks. As a 3rd generation employee at Miller®, Mike is a true "Miller®-Man" in every sense of the word:

- In 1937 Mike's grandfather, Frisby T. Fiery, was co-founder of the then Miller® Chemical Corporation.
- Mike's father, Donald Fiery, was Miller® President from 1964 – 1995.
- Mike joined Miller® in 1980 after finishing his studies at the West Virginia University.

The purpose of his visit was product technical support, key client visits, sharing information on international trends of Miller® products, visiting relevant SA industry role players, regulatory aspects and of-course a "VERY" short holiday break. Mike and his wife Lynn spent a few days in Cape Town and the Kruger National Park, but for the rest of the trip it was work, work and more work. Herewith a small pictorial and summary of Mike's first ever visit to South Africa.



Johan Calitz (final year Wine Maker student from the University of Stellenbosch) surprised Mike in Stellenbosch with one of his own produced red wines.

Mike and Lynn on top of Table Mountain (Cape Town).

Mike and Lynn on safari in the Kruger National Park with their guides.

Mike gets excited about the EPA's approval of Mist Control® to be used with the most recent high-tech pesticides.

A little bit of USA in Potchefstroom.

Donald (left) and Frisby T. Fiery.

Visits to key clients

Mike's comparison of Miller Express Technology® products (Millerplex®, Asco-Gro, Grotonic, Colour-Up and Sugar Express®) to a doughnut was very popular.

Another favourite topic was Nu-Film®'s expansive toxicology package which included absolute safeness towards bees.

Mike summarizing his whirlwind two weeks in South Africa. These included visits to the Western Cape, Kwazulu Natal, Mpumalanga, Limpopo, Gauteng, Free State and Northwest Provinces.

HIGH YIELD AND QUALITY FORAGE FROM GRASS LAND

Compiled by Robert Young: Area Marketing Manager, Southern Cape, George

Dairy cows are able to consume huge amounts of grass or grass/clover mixtures. A daily intake per cow of 19 kg dry matter in fresh grass and 16 kg silage dry matter is possible, but the amount of milk produced depends mainly on the quality of the feed. As the rumen of the cow can only contain a certain amount of forage, the concentration of energy in the available diet must be high and the content of non-digestible fibers must be low. When the forage quality is improved, the daily milk production increases because the fermentation of carbohydrates in the cow speeds up and the flow of forage through the rumen accelerates. As a consequence, forage intake increases. Clover in combination with grass increases feed intake because clover has a lower content of fiber than grass. Inclusion of up to 50% white clover in the diet increases forage intake by 10-20%. This is a healthy cycle. The high forage intake also affects the health of the cow in a positive way.

What is good quality?

The content inside the plant cells is close to 100% digestible, whereas the cell walls degrade slowly or are even totally indigestible to the ruminant. The digestibility of organic matter, including cell walls, decreases as the grass or clover plant gets older - at the same time yield of dry matter increases. The challenge is to determine the optimal time of harvest with the best compromise between yield and quality.

Intake depends on quality

A high level of energy intake depends on high energy level in dry matter and making the best use of filling capacity of the cow. Cows react immediately to the taste of the grass and silage and they prefer short and young pasture grass, rich in leaves with no stems. They also favour high quality silage with good smell and taste in the trough 24 hours a day (more time feeding per day). The response from the animals to good forage will be more milk, better health and better profitability for the farmer. *(Info DLF TRIFOLIUM SEEDS & SCIENCE)*

New Perennial Ryegrass (new release)

Perennial Ryegrass is a high yielding, high quality grass and varieties are very persistent under grazing management, provided they are well fertilized.

The following cultivars were released after successful trials in George:

Telstar (Diploid)
Persistency 8/10
Rust resistance 5/10
Spring Growth 7/10
Winter Hardiness 7.5/10
Yield 8/10

Dexter (Tetraploid)
Persistency 8/10
Rust resistance 6/10
Spring Growth5/10
Winter Hardiness 7.5/10
Yield 7/10

PERENNIAL GRASS MIXTURE

As more farmers opt for Perennial Ryegrass mixtures, Hygrotech has formulated a new and exciting mixture which is currently being tested on our trial grounds in George.

In the mixture the following key factors were taken into account: persistence, rust resistance, spring growth, winter hardiness, ground cover and yield.

With this in mind and with previous years trial results on individual varieties, we decided on the following cultivars to be included in the mix. We have had very good results to date.

THE MIX IS COMPOSED AS FOLLOWS:
Perennial Telstar = 30% - excellent rust resistance and spring growth
Perennial F1 Storm = 30% - excellent persistence and yield and improved drought tolerance
White Clover Klondike = 10% - high yields, increased palatability
Red Clover Oregan Red = 10%- deep root system makes it drought tolerant
Fescue Kora = 10% -drought resistance, good winter hardiness and yield
Cocksfoot Athos 10 % - excellent rust resistance, rapid growth, high yield, drought resistant

We suggest that 2 kg **Chicory Sixpoint** is included in this mix. **Six point** is a perennial, deep rooted plant, with the most prolific growth exhibited in the warmer summer months and a slight decline in the winter months.

SA SALES TEAM

KwaZulu Natal
Sales: Rajan Rajcoomber
083 625 1893
rajen.seeds@ymail.com

Sales: Quinton Tarr
082 892 8298
quinton@hygrotech.co.za

Free State and Northern Cape
Sales: Fanie Verwey
082 857 1839
fanie@hygro-kinetic.co.za

Southern Cape
Manager: Robert Young
082 458 7461
robert@hygrotech.co.za

Sales: Deon Crouse
082 903 0056 (Uitenhage)
uitadmin@hygrotech.co.za

Sales: Renier van Rooyen
082 975 8309 (George)
suidkaapweiding@hygrotech.co.za

Western Cape
Manager: Anneline Meech Noyes
082 378 0987 (Stellenbosch)
anneline@hygrotech.co.za

Sales: Ig Terblanche
082 309 0030 (Ceres)
ig.terblanche@hygrotech.co.za

Sales: Theo Scholtz
082 576 3822 (Stellenbosch)
theo.scholtz@hygrotech.co.za

Sales: Phillip Mans
084 620 9668 (Vredendal, Upington)
phillip.mans@hygrotech.co.za

Gauteng / North West
Manager: Henry Coetzer
082 692 8499 (Pretoria)
henry.coetzer@hygrotech.co.za

Sales: Hannes van der Merwe
083 641 5830 (Brits)
hannes@hygrotech.co.za

Bushveld
Manager: Herman de Beer
082 802 3827 (Tzaneen)
herman@hygrotech.co.za

Sales: Henno Breytenbach
082 729 0675 (Louis Trichardt)
hmlboerdery@gmail.com

Sales: Tank Hendriks
076 649 5220 (Tom Burke)
johanhendriks@hotmail.co.za

Nelspruit
Manager: Michael Luttig
082 800 8824
mluttig@hygrotech.co.za

Sales: Willie van Heerden
082 602 1954
hessievh@gmail.com

Sales: Lodewyk van Staden
082 926 3450
lodewyk.vstaden@hygrotech.co.za

Tzaneen
Manager: Fielies Nieuwoudt
082 579 1563
fielies@hygrotech.co.za

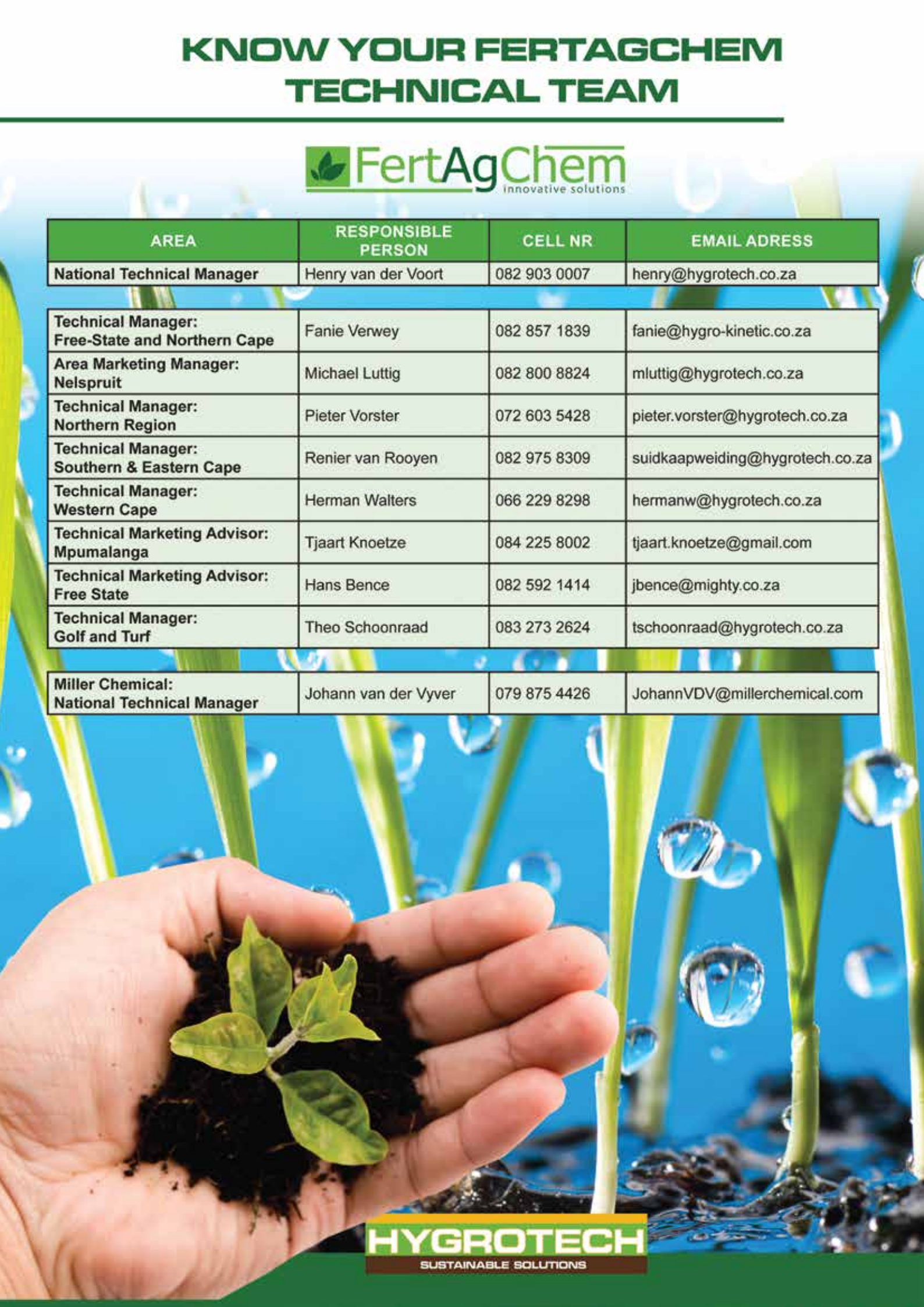
Sales: Dirk le Roux
083 459 0596
hendrikcleroux@gmail.com

SOUTH AFRICA

KNOW YOUR FERTAGCHEM TECHNICAL TEAM

FertAgChem
innovative solutions

AREA	RESPONSIBLE PERSON	CELL NR	EMAIL ADRESS
National Technical Manager	Henry van der Voort	082 903 0007	henry@hygrotech.co.za
Technical Manager: Free-State and Northern Cape	Fanie Verwey	082 857 1839	fanie@hygro-kinetic.co.za
Area Marketing Manager: Nelspruit	Michael Luttig	082 800 8824	mluttig@hygrotech.co.za
Technical Manager: Northern Region	Pieter Vorster	072 603 5428	pieter.vorster@hygrotech.co.za
Technical Manager: Southern & Eastern Cape	Renier van Rooyen	082 975 8309	suidkaapweiding@hygrotech.co.za
Technical Manager: Western Cape	Herman Walters	066 229 8298	hermanw@hygrotech.co.za
Technical Marketing Advisor: Mpumalanga	Tjaart Knoetze	084 225 8002	tjaart.knoetze@gmail.com
Technical Marketing Advisor: Free State	Hans Bence	082 592 1414	jbence@mighty.co.za
Technical Manager: Golf and Turf	Theo Schoonraad	083 273 2624	tschoonraad@hygrotech.co.za
Miller Chemical: National Technical Manager	Johann van der Vyver	079 875 4426	JohannVDV@millerchemical.com



HYGROTECH
SUSTAINABLE SOLUTIONS

KNOW YOUR FORAGE & PASTURE TECHNICAL TEAM

Forage & Pasture

AREA	RESPONSIBLE PERSON	CELL NR	EMAIL ADRESS
National Technical Manager	JJ de Klerk	072 376 9706	voerenweiding@hygrotech.co.za
Technical Manager: Free-State and Northern Cape	Fanie Verwey	082 857 1839	fanie@hygro-kinetic.co.za
Technical Manager: Southern & Eastern Cape	Robert Young	082 458 7461	robert@hygrotech.co.za
Technical Manager: KwaZulu-Natal	JJ de Klerk (Temporary)	072 376 9706	voerenweiding@hygrotech.co.za
Technical Manager: Golf and Turf	Theo Schoonraad	083 273 2624	tschoonraad@hygrotech.co.za

HYGROTECH
SUSTAINABLE SOLUTIONS

LAWN GRASS DEFICIENCY SYMPTOMS

Compiled by Theo Schoonraad
National Manager: Turf grass products.

A deficiency or lack of a nutrient in your soil will be evident by the appearance of the plants or grass growing there.

The secret to eliminating any one of these soil deficiency problems from occurring is in testing your soil before planting or even each season. Feeding the lawn on a regular maintenance schedule as prescribed by the product information, will probably result in not having any of these problems with your lawn.

Deficiency symptoms

Major Elements: NPK

Nitrogen (N) – Older leaves turn yellow green and little new growth is noticed.

Phosphorus (P) – Leaves turn purple, reddish-brown or very dark green (almost black)

Potassium (K) – Leaf tips and edges look burned. Yellowing of older leaves followed by die-back at the tips.

Minor (Trace) Elements :

Magnesium – Foliage will appear yellowish green with red tinted edges.

Calcium – New leaves will be small and grass will be rust coloured.

Sulfur – Fully grown leaves turn yellow.

Iron – New grass will turn yellow.

Manganese – New grass turns yellow.

Zinc – Grass leaves will appear shriveling, narrow bladed and smaller than usual.

Boron – Yellowed grassing and immature growth.

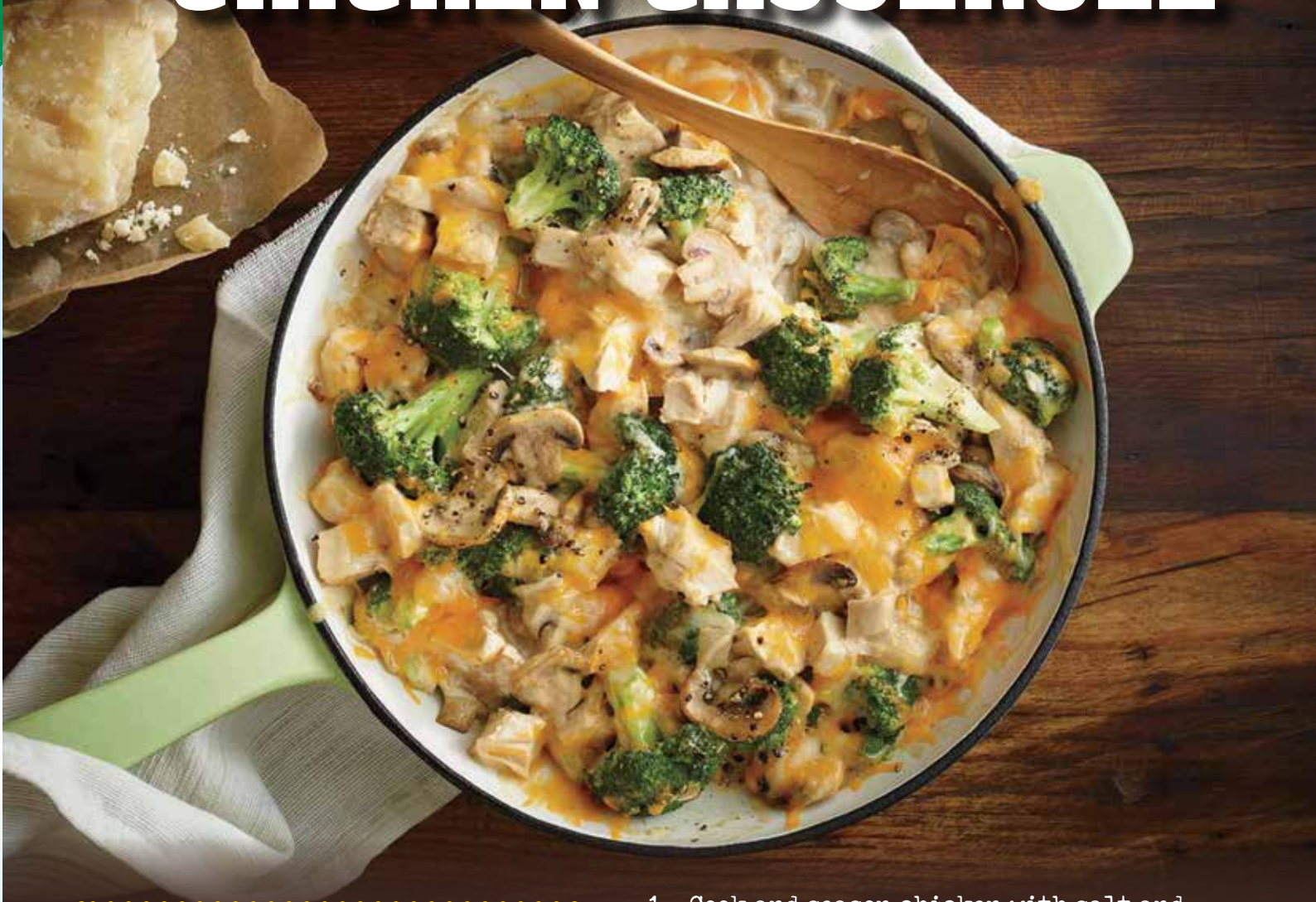
Molybdenum – Fully grown and mature grass appears gray-green.

Ref : Seedland.com / Lawnfertilizers.com

Take note: Colour changes are not always exclusively caused by deficiencies of the described elements above, but could also be caused by various lawn grass diseases like fungi, and others.

Kindly contact Theo Schoonraad (083 273 2624) for more information on the establishment and maintenance of a healthy lawn.

BROCCOLI AND CHICKEN CASSEROLE



Ingredients

- 3 large chicken breasts
- 2 cups broccoli
- 1 onion, chopped
- 2 cups fresh mushrooms (or 1 can)
- 250ml can, cream of chicken soup
- 250ml water
- 1 garlic clove, chopped
- 1 cup sharp cheddar cheese, shredded
- Salt and pepper

1. Cook and season chicken with salt and pepper. Boil, bake, steam, or fry.
2. Cook broccoli. Steam or boil - no need to season. Leave in spears or large florets.
3. Saute onion and garlic just until slightly soft. 3-5 minutes.
4. Mix can of cream of chicken soup with water.
5. In a bowl place the chopped chicken on the bottom, followed by broccoli, onion/garlic, mushrooms, soup mixture, salt and pepper, and cheddar cheese on top. Additionally you can add toasted breadcrumbs on top of the cheese if you wish.
6. Bake at 350 degrees for 30 minutes.

Start by building a sustainable environment with

FertAgChem
innovative solutions

HYGROTECH
SUSTAINABLE SOLUTIONS

1 Gerard Braak Street, Pyramid 0120 | P.O.Box 17220, Pretoria North 0116 | SOUTH AFRICA | Phone: +27 (0) 12 545 8000 | Fax: +27 (0) 12 545 0150