

PIONEER

A YATES FAMILY BUSINESS

maize

for Silage

2022-2023

We wouldn't farm without it

Kirsty and Nic Verhoek on maize silage and more

25

hybrids to choose from



The making of Pioneer's next top hybrids

Seed treatment a vital part of the mix

Meet our Farm Systems Specialists



PIONEER
BRAND · PRODUCTS



It is our pleasure to share with you the Pioneer® Maize for Silage catalogue for 2022. In it we showcase three things we believe are important to the past and ongoing performance of maize for New Zealand growers and the wider industry. These are our focus on hybrid research; seed quality (including proven seed treatments); and our local in-field sales team including our Farm Systems Specialists.

Creating the potential for stable, high yields starts with planting the best maize genetics. We are fortunate to access Pioneer's industry-leading hybrids sourced from one of the largest global maize genetic libraries in the world. Our rigorous local hybrid evaluation programme allows us to evaluate and bring to market a comprehensive maize silage hybrid range to suit New Zealand's diverse growing environments. To learn more about the birth, testing and commercialisation of Pioneer® maize hybrids in New Zealand see pages 14-19.

Growing the best possible maize silage crop requires planting high quality seed together with proven seed treatments. Last year's catalogue showcased our Gisborne-based seed production facility and the steps involved in producing quality seed. This year we look further into quality, in particular the importance of using a tested and proven seed treatment (see pages 36-41 for more details).

Getting the most milk from every hectare of maize silage you grow and feed calls for best-practice crop management and/or maize silage feeding programmes. Your local Pioneer field team work closely with merchants and contractors to help growers get the most out of their investment in Pioneer seed. Pioneer Farm Systems Specialists provide helpful management information to assist dairy and other livestock farmers to maximise the production they get from feeding maize silage. In late 2021 this team was expanded with the appointment of former DairyNZ consultant Wade Bell (see pages 8-9 for more details).

As a New Zealand family-owned agribusiness we are committed to the industry for the long haul. This year marks my father Philip's 90th birthday. Dad joined his father Norman Yates in the New Zealand seed industry in 1949 as a shy 17-year-old junior. Today he remains as passionate about Pioneer® Seed as he was when he first started representing the brand in New Zealand more than 45 years ago.

We are proud to offer a locally produced product because, like you, we understand the importance of locally made products to the New Zealand economy. It's something we have always known, but which has been further reinforced by the pandemic and other recent global events.

As well as detailing our 2022-23 product line-up, this year's catalogue showcases some of our people and the passion they have for helping ensure your farming success.

With warmest regards,

William Yates
Managing Director



A detassling crew work their way through a crop of Pioneer® hybrid seed maize on a Judd Co lease block at Kaiteratahi near Gisborne.

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PIONEER LONG LOOK

We strive to produce the best products on the market.

We deal honestly and fairly with customers, employees and business associates.

We vigorously market our products, but without misrepresentation.

We provide helpful management information to assist customers in making optimum profits from our products.



HERE'S WHY YOU MIGHT GROW A BIT EXTRA MAIZE IN 2022-2023.

Maize silage is the preferred supplement for many leading farmers and there are many reasons why.

Kiwi feed for Kiwi cows

Pioneer® brand maize seed is grown right here on Gisborne farms - it's processed and distributed by a Kiwi family business. Every Pioneer maize silage crop is supported by local merchants and cultivated, planted, sprayed, and harvested by local contractors.

Take advantage of premiums

An increasing number of dairy processors are offering financial rewards to farmers who have best practice systems which meet the expectations of customers, communities, and regulators.

Maize silage (either home-grown or bought-in) is classed as "farm grown feed" under Fonterra's Co-operative Difference programme. Unlike palm kernel, it is also an acceptable supplement for farmers who are in Synlait's Lead With Pride™ programme.

of overgrazing, stored maize silage can be fed out at any time to allow pasture recovery.

Keep a buffer on hand

Good feed budgeting is a fundamental of successful dairy farming. But even farmers who monitor pasture cover levels and run an up-to-date feed budget can run short of feed. A key reason is that feed budgets use average pasture growth rates and around 50% of the time actual pasture growth rate will be below average!

Growing a bit of extra maize (or buying it in), means you will have a stack on hand to feed when you need it. And the good thing about maize silage is that provided it is well compacted and sealed, it will hold its quality for several seasons. So if you don't need it, you don't have to feed it.

Great for your cows

Get more milk

While keeping control of costs is an important part of a profitable dairy farm system, keeping production up is also important because it dilutes fixed costs (e.g. labour and debt servicing). Maize silage can be used to increase milk production throughout the season by filling feed deficits and extending lactation.

Increase cow condition

Meeting cow condition score targets of 5.5 for first and second calvers or 5.0 for mature cows is a fundamental driver of production and profit.

NZ-grown maize silage not only provides Kiwi feed for Kiwi cows, it also makes an estimated contribution of \$487 million to the NZ economy each year¹.

Great for your farm system and profit

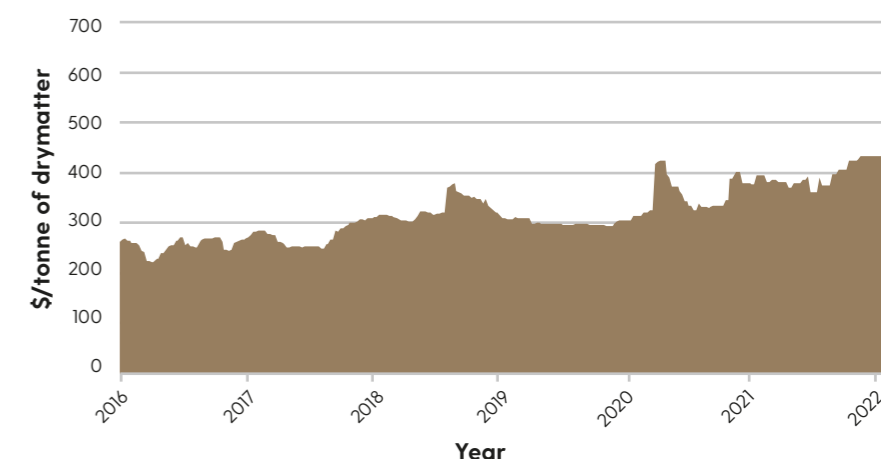
Reduce your feed costs

The price of imported supplements like palm kernel have always been volatile. In the past season they have risen above historic averages due to higher point-of-origin costs and skyrocketing freight charges. Locally produced feeds like maize silage are becoming increasingly attractive. Most dairy farmers can grow maize silage on-farm for 16-20 c/kgDM (see page 56 for more details). Bought-in maize silage is often more cost-effective than other supplementary feed alternatives.

Grow more grass

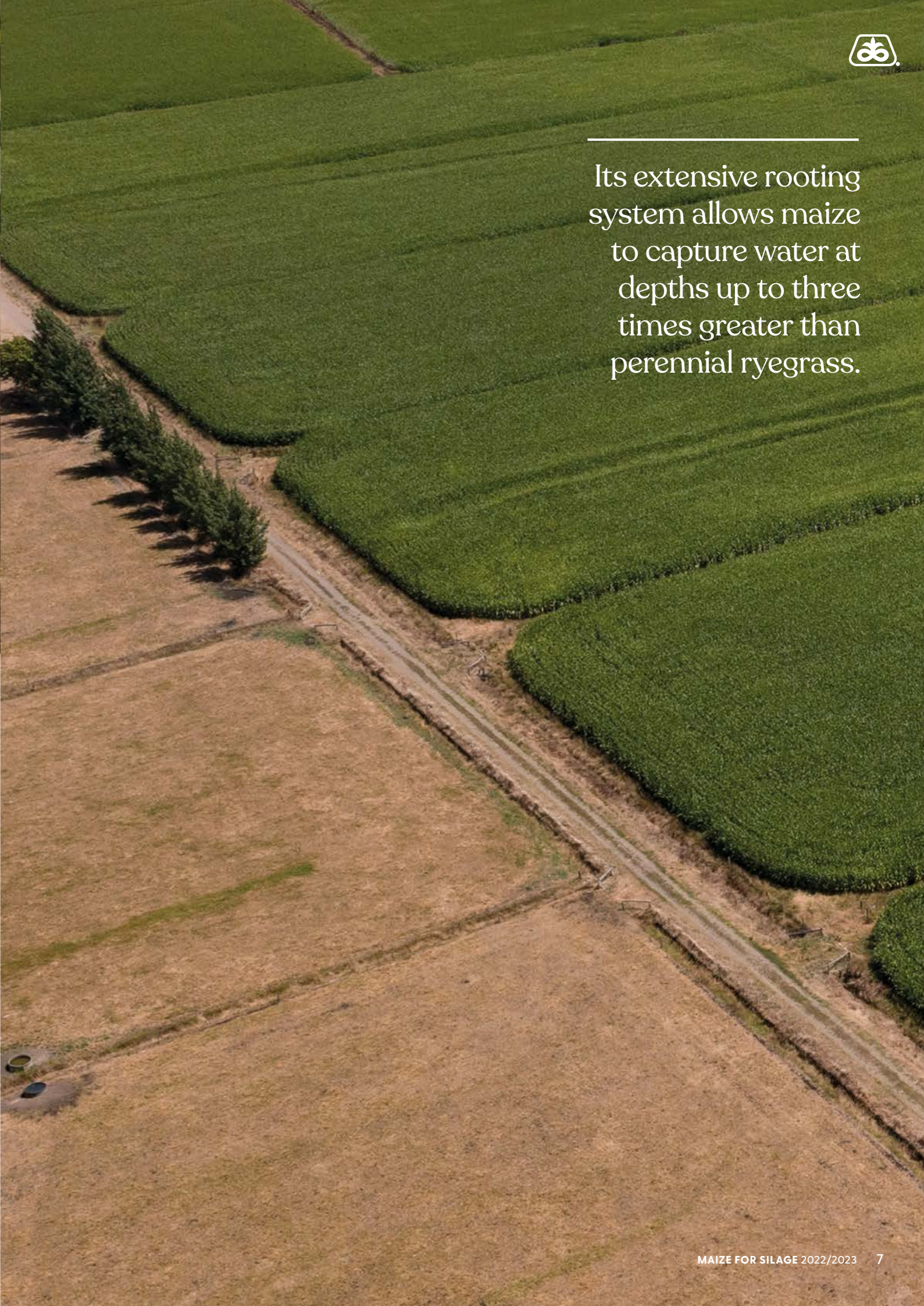
The key to maximising pasture yield is to keep the pasture sward in its most active growth phase by avoiding under or overgrazing. If pasture is in danger

Figure 1: Spot price for PKE during the past 6 seasons²



Ever paid spot market prices for palm kernel or other concentrates? Had an empty silo and waited for a feed delivery? Or run short of maize silage when you really needed more?

Would you like to move towards a farming system that relies less on imported feeds? If you've answered yes to any of these questions, maybe you should consider planting an extra paddock, or contracting a few more tonnes of maize silage this season.



Its extensive rooting system allows maize to capture water at depths up to three times greater than perennial ryegrass.

Cows that are in better condition at calving produce more milk and cycle faster, meaning improved reproductive performance and a tighter calving spread. The energy in maize silage is used 20% more efficiently than the energy in autumn pasture for gaining condition.

Consistent milk quality

Milk produced from maize silage is consistently high in quality unlike milk produced from PKE, which can have a negative impact on Fonterra's Fat Evaluation Index (FEI) and milk returns.

Great for the environment

Lower nitrogen leaching losses

The proven environmental benefits of maize silage make it the crop for the future. Recent published research showed the nitrogen leaching loss

from maize silage followed by annual ryegrass in a cut-and-carry system, was less than 10 kg/ha/year³. This is good news for dairy farmers wanting to decrease nutrient losses.

Mine excess soil nutrients

Dairy-shed effluent paddocks lose more nitrogen to groundwater than most other paddocks on your farm. Maize is the perfect solution. Because a maize silage crop grows a large amount of drymatter, it also requires a large amount of nutrients, especially nitrogen and potassium. Let your maize crop mine excess soil nutrients and reduce the risk of increasing soil potassium or nitrogen leaching.

Dilute urinary nitrogen

For most of the year the protein content of pasture is higher than cow

requirements. Surplus dietary protein is excreted in the urine and is a major source of nitrogen in our waterways. Feeding maize decreases the amount of nitrogen in cow urine by more than 70%.

More drymatter from every drop

The maize plant produces more drymatter from every drop of water it receives. Its extensive rooting system allows it to capture water at depths up to three times greater than perennial ryegrass.

For more information on the benefits of maize silage scan here.



¹BERL, 2019. Arable Production 2018. Economic Impact Assessment

²Data provided by NZX

³Tsimba et al. 2021. Quantification and mitigation of nitrogen leaching in a maize silage cropping system. Proceedings of the NZ Grassland Association. Volume 83:163-170.



“Maize silage (either home-grown or bought-in) has been a key component of many of the most successful businesses.”

Wade Bell



Wade Bell and Matt Dalley
Farm Systems Specialists

According to Wade & Matt

Pioneer Farm Systems Specialists Wade Bell (upper North Island) and Matt Dalley (lower North Island and South Island) are passionate about helping dairy farmers make the most out of their investment in Pioneer® brand maize silage.

Wade, who is well known to many Waikato farmers, was a Dexcel Consulting Officer in 2000-04 and worked in rural banking before re-joining DairyNZ as Regional Leader managing the Waikato Consulting Officer team from 2010-18. Matt, who grew up in a dairy and deer farming agribusiness near Palmerston North, joined the Pioneer team eight years ago after completing a commerce degree at Otago and a post-graduate agribusiness diploma at Massey University. Both Wade and Matt have seen the physical and financial performance benefits maize silage has to offer.

“In my previous roles I was exposed to a wide range of farm systems and have gained a great understanding of what drives good physical and financial performance. Maize silage (either home-grown or bought-in) is a key component of many of the most successful businesses” says Wade.

“It is a reliable and cost-effective feed that can be easily managed to fill feed deficits and optimise production and profit”.

Wade and Matt have seen the New Zealand dairy industry evolve beyond focusing just on production and profit to include increased emphasis on people, animal welfare and the environment.

“Part of what drew me to Pioneer was the significant investment in research on the environmental benefits of growing maize and how it can positively assist farmers to build sustainable systems” says Wade.

Matt, who has done his share of feeding out, loves the simplicity of maize silage systems.

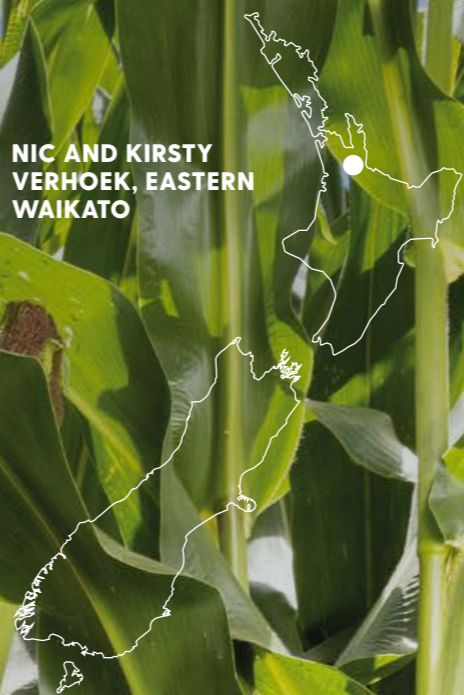
“It’s a great feed which is easy to incorporate into a farm system” says Matt. “...and there is great peace-of-mind in knowing you can always feed your cows no matter what the weather does”.



Leading farmers

focus on homegrown feed

NIC AND KIRSTY VERHOEK, EASTERN WAIKATO



Transitioning to 100% homegrown feed is a long-term goal for Waikato dairy farmers Nic and Kirsty Verhoek.

The couple, who have children Isabelle (4), Ferguson (2) and Lachie (5 months), sharemilk a Friesian cross herd on a 159 ha milking platform at Springdale, north of Morrinsville in the Eastern Waikato for farm owner Hans Geessink. The farm operation includes an adjoining 72 ha support block which is used to grow crops and winter cows. Nic and Kirsty also lease a 120 ha run-off which is used for youngstock and beef grazing.

In the 20/21 season Nic and Kirsty milked 738 cows to produce 396,000 kgMS (536 kgMS/cow or 2,490 kgMS/ha). In the 21/22 season they peak milked 720 cows and are on track to produce 350,000 kgMS.

The couple milk year-round with cows dried off in batches 45-60 days prior to calving. At the lowest point in the season there are around 150 cows going through the shed.

By-products including P8 (a lactose by-product of cheese manufacturing), corn steep liquor, kiwifruit, peas and carrots help to support the farm's high production. These are blended with home-grown maize and pasture silages and fed through a mixer wagon onto the feedpad.

Last season the couple fed 2.3 tDM/cow of maize silage with feeding rates varying between 1 and 10 kgDM/cow throughout the season. Heifers came home early and were fed maize silage at 8 kgDM/day for 2-3 months.



“The lease block can get really dry so it’s great to have the flexibility to bring the heifers home and put them on the feedpad if we need to”.

Nic, who has won several dairy farming awards including the 2019 Hawke’s Bay Wairarapa Dairy Manager of the Year, loves maize silage and says he wouldn’t farm without it.

“Maize silage is great for keeping the rumen stable so we can add and subtract other feeds depending on availability” says Nic. “It is really easy to feed and is an excellent carrier for minerals”.

The couple says the key to high milksolids per cow is a solid peak, a slow decline and a long lactation.

“Maize silage helps keep the cows at 1.6-1.8 kgMS/cow/day for a lot of weeks which really helps” says Nic.

In the 20-21 season the couple fed 700 t of palm kernel, but they haven’t contracted any in 21-22 as their focus



shifts towards growing more feed at home.

“Historically palm kernel had a place in dairy systems but at around \$400/tDM, it has become expensive relative to what it delivers” says Nic. “We are also conscious of the public perception of the milk products we are producing. Overseas consumers want milk produced sustainably from home-grown feed and palm kernel doesn’t fit that story”.

Kirsty, who completed a PhD in methane emissions from livestock fed fresh forages at Massey University and was a Senior Scientist in the Animal Nutrition and Physiology Team at AgResearch, is focused on improving on-farm productivity and environmental sustainability.

“One of the challenges we face is how to capture all the protein that’s in our modern grasses” says Kirsty.

Both Nic and Kirsty love the challenge of growing crops and are producing spectacular results. Last season the cropping area produced around 35 tDM/ha which included 22 tDM/ha of maize silage and 13 tDM/ha of winter crop. Kirsty has done the maths and their maize silage costs around 17.3c/kgDM in the stack.

The maize area is comprised of two blocks - the smaller, drier area (26 ha) is planted in a short maturity hybrid which is harvested early and direct drilled in oats or giant kale and rape. Dry cows graze the oats first which allows the kale and rape to accumulate yield. The oat regrowth is baled and fed to milkers during the next lactation. The larger block (42 ha) is planted in a longer maturity maize hybrid selected to maximise yields. After maize harvest this land is direct drilled in annual ryegrass or oats which is harvested as high-quality silage. The couple always plant Pioneer maize hybrids and this season they have Pioneer® brand P9127 on the drier ground and Pioneer® brand P1636 as their main crop.

Nic and Kirsty have had a long-term business relationship with Pioneer Farm Systems and Environmental Specialist Ian Williams and are also supported by local Area Manager Warren Coulson.

“Maize silage is a big part of our farm system, and it is really important we get it right” says Nic. “Pioneer is a reputable brand, and they provide an excellent level of support”.

“Maize silage is great for keeping the rumen stable so we can add and subtract other feeds depending on availability.”

Nic Verhoek



Farm walk

- Sharemilk 720 cow Friesian cross herd
- 22 tDM/ha maize yield (from 68 ha)
- On track to produce 350,000 kgMS in 21/22
- Focused on improving home-grown crop yield





Research *drives yields*

Small plot trials are
planted all around the country

Years of breeding, research, testing, and data analysis come together each season to bring growers a proven Pioneer® brand maize silage hybrid range that sets a new performance standard. The hybrid advancement process starts with Pioneer maize breeders around the world, progresses to our local Research Team and reaches completion with the commercial release of a limited number of new hybrids every season.

Pioneer's global breeding process

The best germplasm

Pioneer® brand seeds have built one of the largest global maize genetics libraries in the world. They can trace the genetics of each maize hybrid back 90 years to the beginning of the Pioneer brand. Impeccable pedigree records allow breeders to quickly select parent lines with the most potential to address agronomic challenges and increase yield.



THIS PAGE Pioneer Research Manager Tania Gunn and Pioneer Maize Product Manager Barry McCarter inspecting a crop of P0900.
OPPOSITE An IMPACT™ small plot planter.





Computer simulation

Scientists use advanced conventional breeding technologies, unique characterisation and predictive breeding tools to simulate and predict the best performing genetic combinations across hundreds of thousands of environments before they are field tested. Petabytes of data (1M GB each) feed into computers, running millions of simulations to predict performance of different genetic combinations.

Advanced breeding technologies

Over the last decade the application of advanced conventional breeding technologies has effectively increased Pioneer's breeding pipeline twenty-fold while reducing hybrid development time by 30%. They allow rigorous testing of far more hybrid options which creates increased opportunities to find the best hybrid for your paddock.

Field trials and hybrid advancement

Now, the testing gets exponentially tougher. At Pioneer's research plots, maize hybrids that have made it this far undergo rigorous stress tests including:

Wind: The Boreas mobile wind machine simulates high winds to test stalk and root strength at critical points in the growing season.

Drought: Pioneer tests in dedicated managed stress environments and water-limited environments to develop new hybrids that make the most of every drop of water.

Disease: They breed for disease tolerance, achieving greater resistance to threats like Northern Leaf Blight and Eyespot.



Is a bigger research programme always better?

With over 160 silage IMPACT™ and PAT trials around the country, growers don't have to go far to find a nearby trial. But why does Pioneer® brand seeds invest so much resource into its local hybrid trialling programme? According to Pioneer Maize Product Manager Barry McCarter, there are two main reasons:

"Firstly, even though the NZ maize market is very small on a global scale, we use a variety of crop management practices to grow a wide range of hybrid maturities across an array of latitudes, soil types, and climatic conditions. A hybrid which performs well on a high fertility dairy farm paddock on peat soil in Waikato may not be suitable for an irrigated paddock in Canterbury. We need a lot of trials to test hybrids under local growing conditions to be sure of relative hybrid performance".

"Secondly, our maize growing seasons are extremely variable. We can't predict what the weather conditions might be during the next growing season but by planting trials at many locations over several years, we can be sure our hybrids have been tested under a wide range of conditions".

THIS PAGE A Pioneer IMPACT™ trial at Gordonton, Waikato.



New Zealand hybrid selection

Hybrid identification and trial planning

New Zealand Maize Product Manager Barry McCarter works with Pioneer maize breeders around the world to identify the best experimental Pioneer® brand maize hybrids to include in the New Zealand testing programme. Identifying and sourcing hybrids to test and coordinating the research programme is a massive job which requires careful planning and attention to detail. All trials are planted according to strict ISO 9001:2015 protocols.

IMPACT™ trials

The first stage of local trialling is the IMPACT™ (Intensively Managed Product Advancement, Characterisation and Training) trial programme. These replicated small plot trials are planted at approximately 50 sites around the country using a precision research planter. Up to 100 hybrids are tested in a single location and every trial is monitored intensively through the growing season. IMPACT™ trials are harvested using a small plot forage harvester which has the capacity to measure hybrid feed value on-the-go using proprietary Near Infra-Red (NIR) spectroscopy technology.

THIS PAGE A small plot forage harvester.



Product Advancement (PAT) trials

The handful of hybrids which possess promising agronomic, yield and quality characteristics move to the Product Advancement Trials (PAT) stage of testing where they are planted in strips alongside commercially available hybrids in growers' paddocks. If you are keen to visit one near you, give your local Pioneer representative a call.

Data analysis and publication

After harvest each season, multi-year hybrid performance information collected from both IMPACT™ and PAT trials is collated and statistically analysed by the Research Team using customised statistical analysis software. The resultant analysis is presented in our Maize Silage Research publications. This information assists local Pioneer Area Managers, merchant representatives and contractors to help growers choose the hybrid which will maximise their returns. Thousands of new hybrids are developed and tested by Pioneer around the world each year but less than 0.01% of products survive to make it into a Pioneer bag.

What's the importance of statistical significance?

If you've read one of the Pioneer® brand seeds Hybrid Performance publications, you will note all hybrid comparisons include statistical significance ratings (or stars). This statistical analysis helps quantify whether the reported yield differences are due to genetic yield differences and not merely chance.

“When Hybrid A has a statistically significant yield advantage over Hybrid B, it simply means you can feel confident that the yield difference is real, not just luck or a one-off win” says Pioneer Research and Agronomy Manager Dr Rowland Tsimba.



“Hybrid choice is one of the most important decisions a grower will make each season. Our hybrid advancement processes all aim to deliver the Right Product in the Right Paddock.”

Barry McCarter, Maize Product Manager

Lifelong maize researcher Barry McCarter casts a discerning eye over an outstanding crop of P0900.



Maize hybrids

When we commercialise Pioneer® brand maize silage hybrids, we think local. Pioneer products are tested in around 160 maize silage trials across New Zealand.

Chances are there is a trial located somewhere near you. Our field team are also based in the main maize growing regions around the country. They understand how our hybrids perform and they know the best

products for your local climate, soil types, growing conditions and farm system requirements. Give one of them, your local merchant or contractor a call for advice on choosing the right product for your paddock.

For more information on the performance of Pioneer® brand maize silage hybrids see our Maize Silage Research Publication.



The drought performance leaders

Optimum AQUAmax® hybrids are developed to deliver yield stability, rain or shine.

Designed to make more out of every drop

Optimum AQUAmax® hybrids are highly resilient in challenging conditions and responsive to favourable ones. These hybrids are bred to include key traits that improve your crop's root system and silk emergence, among other agronomic characteristics, to manage drought stress.



Superior performance year after year

Optimum AQUAmax® hybrids minimise the risk of decreased yields in water-limited environments while also designed to take advantage of more favourable growing conditions.



NEW

Meet the latest from Pioneer

They're here: new products designed to deliver high yield potential and top performance in your local conditions. These hybrids have all demonstrated yield and agronomic advantages over current Pioneer hybrids in PAT and IMPACT™ trials – bringing more silage yield to your farm and putting more milk in your vat. It's a whole new level of profitability.



**PRODUCTIVE
HIGH ENERGY
OPTION.**

see page 24



**VERY PRODUCTIVE.
VERY STABLE.
VERY DEFENSIVE.**

see page 27



**NEXT LEVEL BMR
DIGESTIBILITY
FOR HIGH FEED
INTAKE COWS.**

see page 28-29



**HARD TO
FAULT, STABLE,
ALL-ROUND
HYBRID.**



see page 32

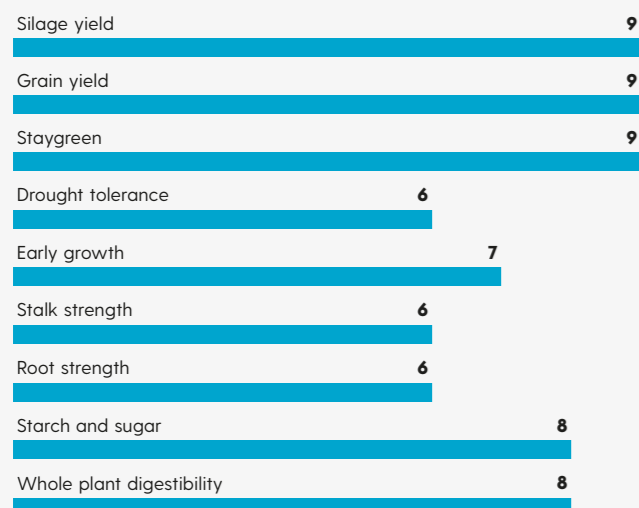


**DESIRABLE AND
DEFENSIVE FROM
KAITAIA TO
HAWKE'S BAY.**

see page 34



CRM 71



Max 9 |

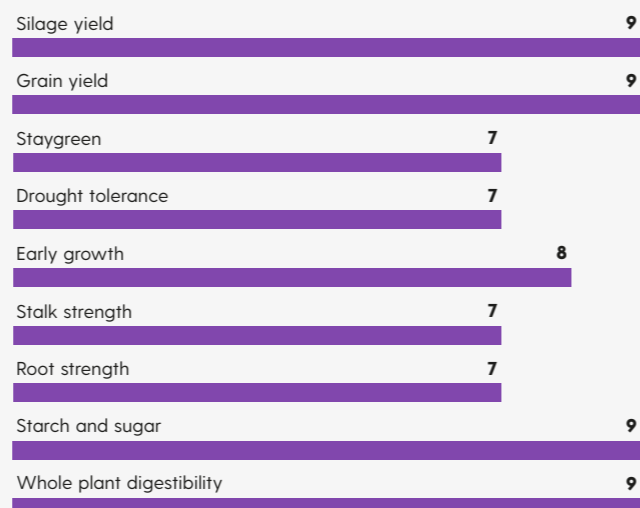
Raising the yield bar in cooler regions.

P7124 is the earliest maturing hybrid in the line-up providing opportunity for growing high quality silage in NZ's cooler maize growing regions.

- Tall for maturity, bulky plant with notable grain filled ears.
- Strong standability and drought tolerance with excellent staygreen for a wide harvest window.
- Impressive silage yields with great energy and digestibility ratings.
- Well adapted to high-altitude Central North Island, Taranaki, Lower North Island and higher latitude South Island growing regions.



CRM 75



Max 9 |

Stands and delivers tonnes of high energy feed.

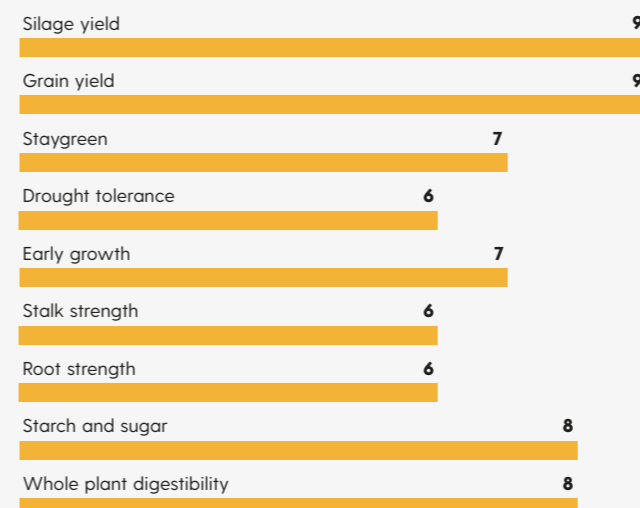
P7524 is recognised as a reliable hybrid producing impressive silage yields with outstanding energy and whole-plant digestibility.

- A very tall plant with superior stalks and roots which together with low ear placement deliver great standability.
- Combines strong drought tolerance and staygreen.

A very popular choice for growers who require a maturity option earlier than **P8000**.



CRM 80



Max 9 |

Versatile stalwart. Delivers high energy silage.

P8000 is tall, with low ear placement, strong roots, stalks, and foliar health for excellent eye appeal.

- Chunky cob with deep dent grain to produce top yields of high starch content silage with great feed value.
- Widely grown in the South Island, while providing an excellent balance of yield and earliness in the North Island.

Companion with **P7524** or **P8333** depending on maturity requirements.



CRM 85



Max 9 |

Yield leader with looks to match.

A silage yield leader with a solid agronomic package.

- Tall, impressive hybrid with great standability, drought tolerance and staygreen for a wide harvest window.
- Plant with **P8333** or **P8666** depending on maturity requirements.

Now popular in Taranaki, lower North Island and South Island growing regions as a high yielding mid-maturity option.



IMPORTANT NOTE: Hybrid comparisons are only valid within a range of + or - 4 CRM. These descriptions mainly feature product strengths. When choosing hybrids, also review carefully the trait ratings found in the table on page 62. Contact your local Pioneer Area Manager or merchant for further advice.

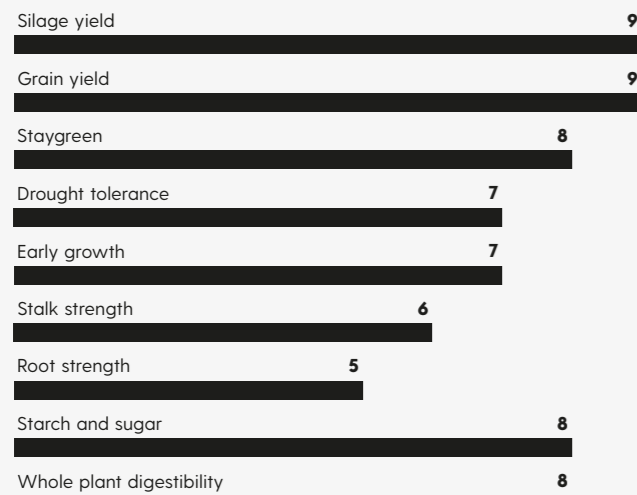
See pages 60-61 for days to harvest and growing regions.



CRM 83



Productive high energy option.



P8333 is a tall bulky plant with a long grain filled ear, supported by strong all-round agronomics, superior drought tolerance and staygreen.

- Delivers top silage yields for maturity, with impressive energy and digestibility.
- While earlier than **P8666** it has similar in-paddock appearance.
- An important mid-maturity option between **P8000** and **P8500** particularly in the South Island and cooler regions of the lower North Island.

¹Positive DM differences means the bolded hybrid was drier at harvest, negative DM differences mean it was wetter. ²A positive yield advantage means the bolded hybrid produced more yield, a negative yield advantage means it produced less. ³For information on statistical significance see the Pioneer Maize Silage Research Publication.

Key yield comparisons

Feature hybrid	Comparison hybrid	Number of trials	Drymatter difference (%) ¹	Yield advantage (kgDM/ha) ²	Statistical significance ³
South Island					
P8333	P8000	27	-1.80	2,262	★★★
P8333	P8500	26	0.95	713	CA
Lower North Island & Taranaki					
P8333	P8000	42	-3.21	2,010	★★★
P8333	P8500	53	-0.14	-778	★★

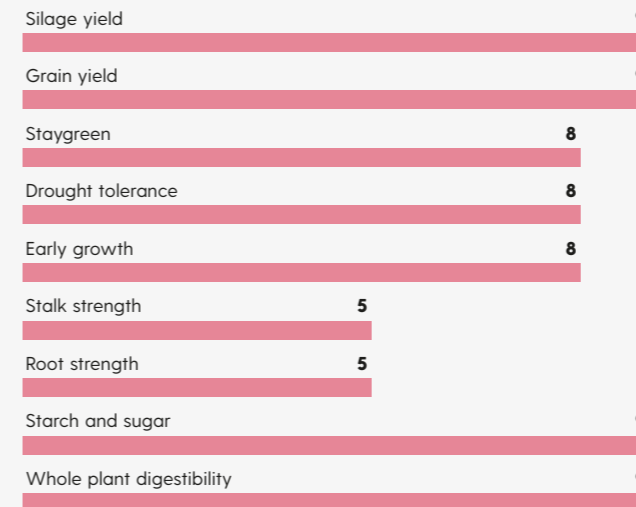
Established plant populations

Since **P8333** is a tall leafy plant, optimum populations should be approximately 5,000 per hectare less than applied for **P8000** and **P8500**.

Recommended established plant populations (000s/ha)		
Challenging yield environments	Medium yield environments	High yield environments
100	110	115



CRM 86



Grows well, yields very well and feeds even better.

- Delivers industry leading silage yields in this maturity.
- Tall bulky plant with impressive all-round agronomics, superior drought tolerance, Northern Leaf Blight resistance and eye catching staygreen.
- Produces silage with impressive grain content and with optimal digestibility that cows will thrive on.
- Established plant populations should be approximately 5,000 per hectare less than applied for **P8500** and **P8805**.

Widely adapted from Ashburton to Dargaville, while delivering industry leading yields for maturity in the South Island.



CRM 91



Bred to yield, destined to impress.

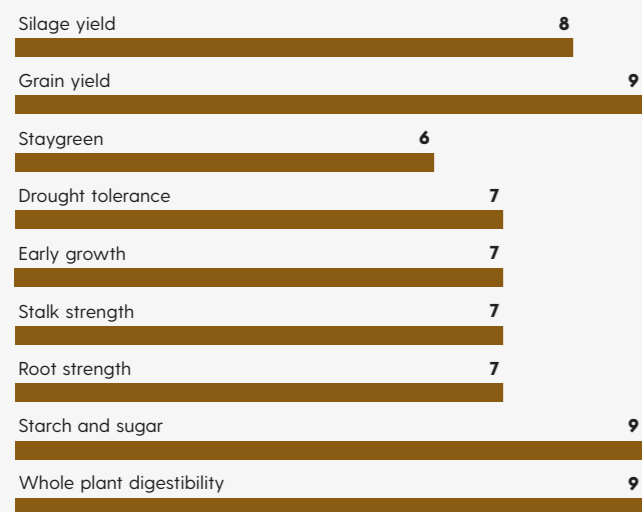
- Earliest of the Optimum AQUAmax® hybrids offering yield stability for silage and grain.
- Tall plant with strong roots, stalks, drought tolerance, foliar health and staygreen.
- Often produces a second cob resulting in deceptively high silage yields with exceptional grain content and whole plant digestibility.
- Good option for early planting into cool spring soils.
- Performs best in moderate to high yield environments, while delivering yield stability in hot, dry seasons.
- Companion with **P8500**, **P8666** or **P9400**.

Widely grown from Kaitaia to Ashburton where a hybrid of this maturity is required.





CRM 94



Max 9 |

Stands tall – delivers big time.

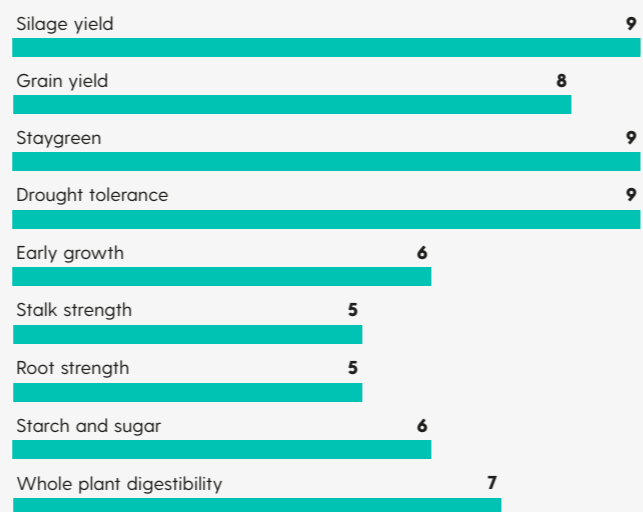
A tall, dense plant producing high grain content silage with superior digestibility.

- Strong agronomically with a sound all-round disease resistance offering.
- When planting in early spring into cold wet soils consider planting **P9127**.
- Intermediate in maturity between **P9127** and **P9721**.

High yielding early option in Northland and Waikato, while giving stable yields in Taranaki and lower North Island as a mid to full season hybrid.



CRM 99



Max 9 |

Top yielding, drought buster.

A key maturity option in the Optimum AQUAmax® range providing growers more yield per drop – rain or shine!

- Tall, showy hybrid delivering yield stability and hard to match silage yields in this maturity.
- A widely grown, imposing all-round hybrid.
- Top agronomics for reliable yields.

Where Northern Leaf Blight is a concern consider planting **P9978** or **P0362**.

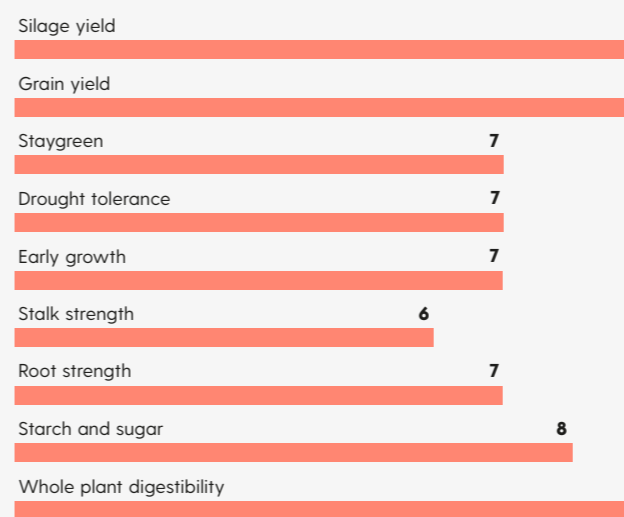


NEW

CRM 99



Very productive. Very stable. Very defensive.



Max 9 |

P9978 delivers a great all-round package with superior foliar health and silage eye-appeal.

- Tall plant with low ear placement, strong roots and stalks, superior drought tolerance and staygreen.
- Provides comparable silage yields to **P9911**, however, **P9978** is slightly quicker to harvest, has better standability, Northern Leaf Blight and Rust resistances.
- Delivers silage with higher energy and digestibility than **P9911**.

¹Positive DM differences means the bolded hybrid was drier at harvest, negative DM differences mean it was wetter. ²A positive yield advantage means the bolded hybrid produced more yield, a negative yield advantage means it produced less. ³For information on statistical significance see the Pioneer Maize Silage Research Publication.

Key yield comparisons

Feature hybrid	Comparison hybrid	Number of trials	Drymatter difference (%) ¹	Yield advantage (kgDM/ha) ²	Statistical significance ³
National					
P9978	P0021	27	-0.36	1,591	★★
P9978	P9721	30	0.02	1,886	★★★
P9978	P9911	46	1.47	300	NS

Established plant populations

To optimise yield performance established plant populations should be adjusted to match paddock yield expectation.

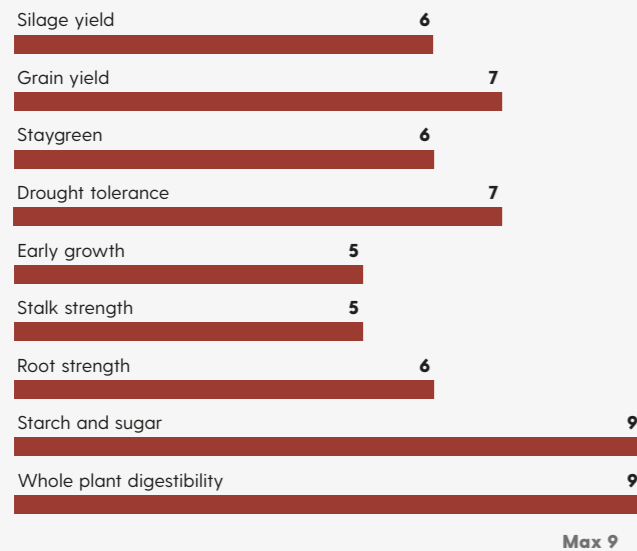
Recommended established plant populations (000s/ha)		
Challenging yield environments	Medium yield environments	High yield environments
95	110	120



CRM 102



Next level BMR digestibility for high feed intake cows.



New Zealand's first brown mid-rib (BMR) maize hybrid delivers enhanced digestibility benefits **but lower drymatter yields than non-BMR hybrids in this maturity.**

- Sound agronomic and foliar health package, with similar plant appearance to **P0021**.
- Moderate in height with low ear insertion, good standability, drought tolerance and staygreen.
- Northern Leaf Blight rating of 5 needs to be noted if you are growing in high-risk environments.

¹Positive DM differences means the bolded hybrid was drier at harvest, negative DM differences mean it was wetter. ²A positive yield advantage means the bolded hybrid produced more yield, a negative yield advantage means it produced less. ³For information on statistical significance see the Pioneer Maize Silage Research Publication.

Key yield comparisons

Feature hybrid	Comparison hybrid	Number of trials	Drymatter difference (%) ¹	Yield advantage (kgDM/ha) ²	Statistical significance ³
Waikato					
P0284	P0021	10	-2.42	-666	★
P0284	P0362	23	0.48	-2,183	★★★
P0284	P9911	13	-0.86	-2,691	★★

Established plant populations

Recommended plant populations are 5,000 to 10,000 plants / hectare lower than recommended for normal hybrids of similar maturity.

Recommended established plant populations (000s/ha)		
Challenging yield environments	Medium yield environments	High yield environments
90	100	110



New Zealand's first brown-mid-rib (BMR) maize.

For most dairy farmers, the highest yielding maize silage hybrid will be the most profitable. But if higher milk production per tonne of maize silage fed is what you're after, Pioneer brown mid-rib (BMR) maize silage could be the answer for you!

BMR is a naturally occurring variant in maize which results in silage with higher fibre digestibility which leads to higher feed consumption among high producing cows. It's high-quality silage for better cow performance.



Young plants showing the distinctive brown mid-rib.



Normal stalk (left), BMR stalk (right).

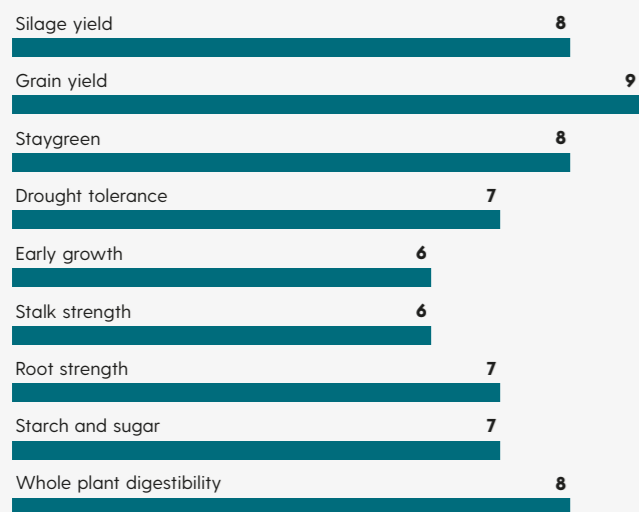
If you have high producing cows, feed large amounts of maize silage in early lactation and can store your BMR maize silage separately consider:

- Planting up to 20-30% of your silage area in **P0284**.
- Feeding it to transition cows 3-4 weeks pre-calving.
- BMR for 4-5 weeks in early lactation then transitioning to conventional maize silage.

To establish if **P0284** is the right option for your farm contact your local Pioneer Farm Systems Specialist.



CRM 103



Max 9 |

Robust hybrid delivering yield and energy.

Has an exceptionally robust all-round profile for silage and grain.

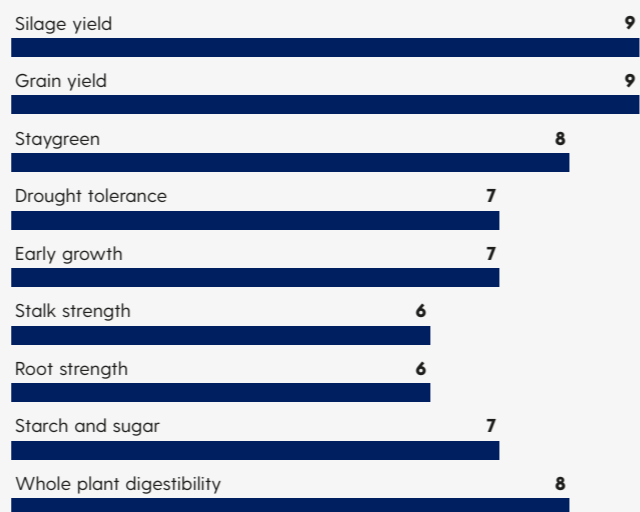
- Combines the best of yield and energy for maximum milk productivity.
- A top option where standability, Northern Leaf Blight, Rust and Eyespot are concerns.
- Superior drought tolerance, staygreen and yield stability.

Widely adapted to North Island growing regions where a hybrid of this maturity is required.

Companion with **P9978**, **P9911**, or **P0021**.



CRM 106



Max 9 |

Leaf disease champion delivering silage yield stability.

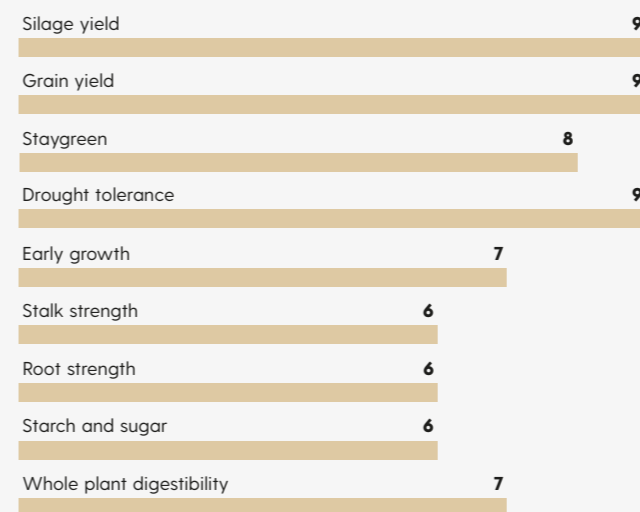
A balanced all-round hybrid with desirable leaf disease resistances.

- Tall plant with sound standability, staygreen and drought tolerance.
- Superior resistances to Northern Leaf Blight and Rust for notable mid to late-season plant appeal.
- Produces silage with superior digestibility and energy content.
- Provides yield stability in moderate to high yield environments from Northland to Waikato, Bay of Plenty and East Coast.

Plant with **P0362**, **P0900** and **P0937** depending on maturity requirements.



CRM 107



Max 9 |

Great performance with extraordinary consistency.

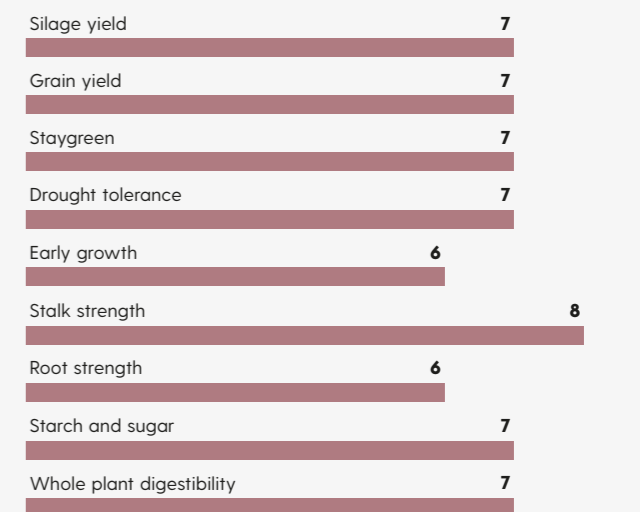
Delivers top-end silage yields in all warmer northern production regions.

- Optimum AQUAmax® drought tolerance provides resilience when it is dry and yield responsiveness with favorable growing conditions.
- Standability and notable staygreen provide a wide harvest window that contractors will appreciate.
- Produces high grain content silage with digestibility ratings that drive milk production.

Where Northern Leaf Blight is a concern consider **P0900**, the new AQUAmax® option, **P0891** or **P0937**.



CRM 107



Max 9 |

Reliable veteran.

A proven all-rounder.

- Very good drought tolerance, standability and staygreen combined with sound resistance to Northern Leaf Blight.
- Best suited to moderate to high yielding paddocks.
- Well adapted to high plant populations that should be adjusted to match yield expectations.

When planting early into cold wet soils consider planting **P0900** or **P0937**.

Delivers yield stability for silage, particularly in Northland.



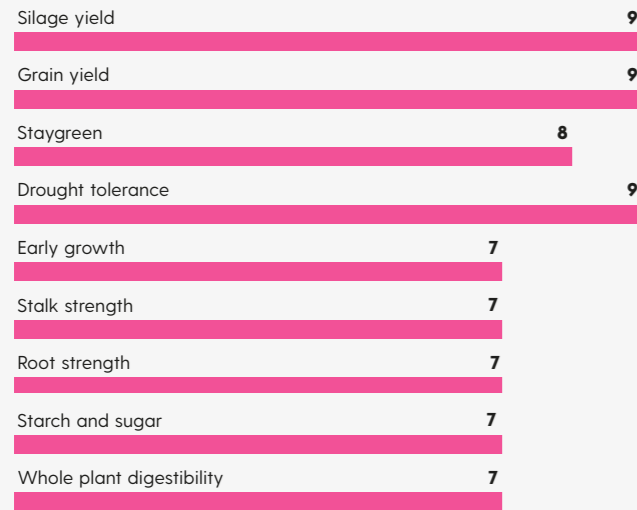
IMPORTANT NOTE: Hybrid comparisons are only valid within a range of + or - 4 CRM. These descriptions mainly feature product strengths. When choosing hybrids, also review carefully the trait ratings found in the table on page 62. Contact your local Pioneer Area Manager or merchant for further advice.

See pages 60-61 for days to harvest and growing regions.



CRM 109

Hard to fault, stable, all-round hybrid.



Max 9 |

P0900 is an exceptionally balanced hybrid that delivers yield stability and a wide harvest window.

- Excellent standability, low ear placement, AQUAmax® drought tolerance, great foliar health and staygreen.
- Has similar yield potential to **P0725** with stronger Northern Leaf Blight tolerance and delivers silage with higher energy content.
- East Coast growers will value strong Head Smut resistance.

Key yield comparisons

Feature hybrid	Comparison hybrid	Number of trials	Drymatter difference (%) ¹	Yield advantage (kgDM/ha) ²	Statistical significance ³
National					
P0900	P0725	27	0.94	-82	NS
P0900	P1253	28	-0.48	979	★

Established plant populations

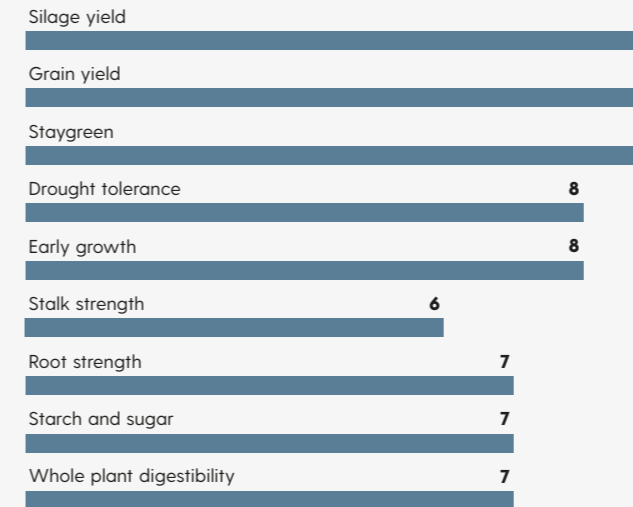
A management responsive hybrid that will benefit from adjusting established plant population to match yield expectation.

Recommended established plant populations (000s/ha)		
Challenging yield environments	Medium yield environments	High yield environments
85	95	115



¹Positive DM differences means the bolded hybrid was drier at harvest, negative DM differences mean it was wetter. ²A positive yield advantage means the bolded hybrid produced more yield, a negative yield advantage means it produced less. ³For information on statistical significance see the Pioneer Maize Silage Research Publication.

CRM 109



Max 9 |

Solid hybrid with great standability and foliar health.

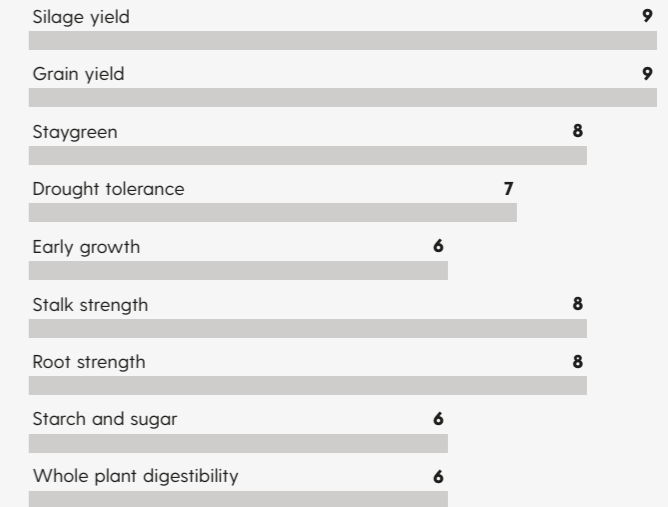
A modern plant type with erect leaves, notable foliar health, standability and exceptional staygreen.

- Widely adapted stable yet high yielding hybrid for silage and grain.
- Superior Northern Leaf Blight and Rust resistances will be attractive to growers in high-risk situations.
- Plant to achieve an established plant stand of 90,000 to 115,000 plants per hectare depending on paddock yield potential.
- Emerges strongly when planted early into cold wet soils.

P0937 is well adapted in moderate to high yielding situations in all regions where this maturity is required.



CRM 114



Max 9 |

A balanced all round full maturity hybrid!

A white-grained hybrid producing, attractive well-filled cobs for high starch content silage for maximum milk production.

- Tall, erect leaf, modern plant type with excellent roots, stalks, drought tolerance and staygreen.
- Superior Northern Leaf Blight, Common Rust and Eyespot resistances for season long leaf health.
- A great option where leaf diseases, lodging or yield stability are considerations.

• An outstanding companion for **P1636**.

Plant before 20th October into high yielding paddocks in Northland, Bay of Plenty, Poverty Bay and Hawke's Bay to deliver on the top-end yield potential of this hybrid.

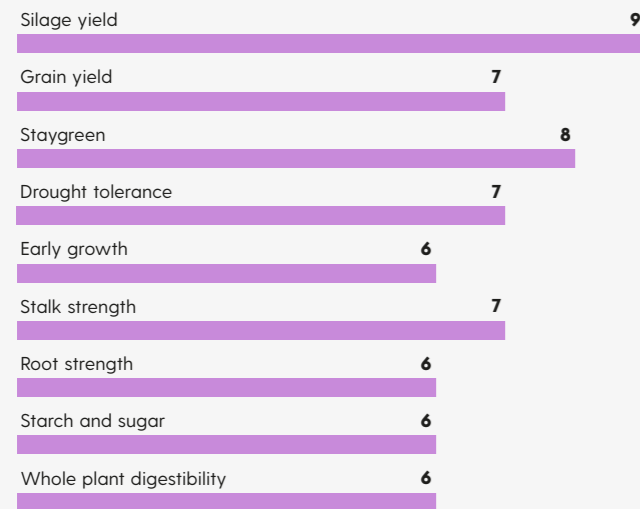




CRM 110



Desirable and defensive from Northland to Hawke's Bay.



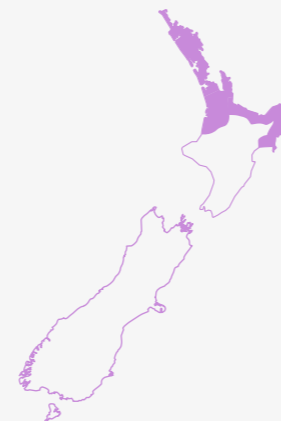
Max 9 |

P1315 is an imposing hybrid with real silage eye-appeal.

- Strong agronomic stability through superior stalk and root strength, and drought tolerance.
- Late season appeal is delivered by notable staygreen and superior Northern Leaf Blight and Rust resistances.
- Produces higher silage yields than **P1253** but with similar digestibility and energy content.
- Where Head Smut is a concern, plant **P0900**.

Companion with **P0900**, **P0937** or **P1636**.

¹Positive DM differences means the bolded hybrid was drier at harvest, negative DM differences mean it was wetter. ²A positive yield advantage means the bolded hybrid produced more yield, a negative yield advantage means it produced less. ³For information on statistical significance see the Pioneer Maize Silage Research Publication.



Key Yield Comparisons

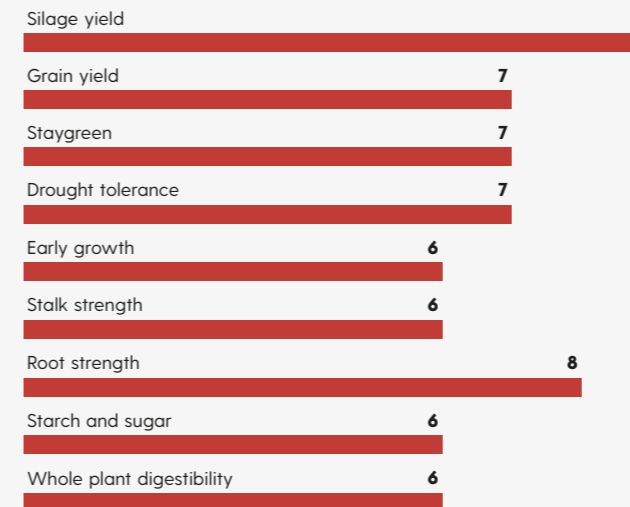
Feature hybrid	Comparison hybrid	Number of trials	Drymatter difference (%) ¹	Yield advantage (kgDM/ha) ²	Statistical significance ³
Waikato					
P1315	P0891	16	-3.08	2,293	★★
P1315	P1253	23	-0.21	1,369	★
P1315	P1636	24	2.11	213	NS

Established plant populations

Plant to establish 85,000 to 105,000 plants per hectare depending on paddock yield potential.

Recommended established plant populations (000s/ha)		
Challenging yield environments	Medium yield environments	High yield environments
85	95	105

CRM 112



Max 9 |

Enjoy the agronomics of this top yielding hybrid.

P1636 is a tall full maturity hybrid with top-end yield potential in this maturity.

- Long cob which produces high grain content, highly digestible silage.
- Combines impressive agronomics, drought tolerance and staygreen that together provide a wide harvest window.
- Plant early to maximise yields.
- In high-risk Northern Leaf Blight situations consider **P1315** or **P1477W**.

P1636 is well adapted to all warmer northern growing regions.



Also available in 2022:





LumiGEN™ Seed Treatment

GIVING YOUR MAIZE SEED A HEAD START

Maximise your crop's yield potential with Pioneer's exclusive LumiGEN™ seed treatment recipes which have been tested and proven for use on Pioneer® brand maize hybrids. You can plant with confidence knowing your seeds and seedlings have advanced protection against pests, disease, and uncertain soil conditions during the critical early growth period.



- Polymer
- Additives
- Bird Repellent
- Insecticide
- Fungicide



THIS PAGE Freshly treated seed for research.

LumiGEN™ seed treatments are available to:

1. Protect your maize from diseases

Our seed treatment recipe includes fungicides which provide robust protection against a range of seed and soil borne diseases in maize, such as Pythium, Rhizoctonia and Fusarium.

2. Protect seedlings from insect damage

We offer several insecticides options which provide protection against the most common NZ maize pests – Argentine stem weevil, greasy cutworm, black beetle, and nematodes.

3. Keep birds away from your seed

A scientifically formulated non-lethal bird repellent stops birds from eating newly planted maize seed. This unique formulation is based on an organic chemical found in a number of plants, including aloe vera and rhubarb. Each kernel is surrounded with a protective coating that causes birds immediate, yet temporary, digestive discomfort.

Talk to your local Pioneer representative, merchant or contractor to determine the best LumiGEN™ seed treatment option for your crop.

	Fungicide	Insecticide			Bird Repellent	
	Seed & Soil borne diseases	Black Beetle	Argentine Stem Weevil	Greasy Cutworm		Nematodes ¹
LumiGEN™						
L-200	✓					
L-200+	✓					✓
L-300	✓	✓	✓			
L-300+	✓	✓	✓			✓
L-400	✓	✓	✓*	✓	✓	
L-400+	✓	✓	✓*	✓	✓	✓

* Research data shows the insecticide in L400 and L400+ is more effective at reducing plant loss due to Argentine Stem Weevil damage than the insecticide in L300 and L300+

¹ L400 and L400+ contains Bacillus spp which suppresses nematode damage in maize



Quality seed treatment

You've invested in outstanding Pioneer genetics for your paddock. We've invested in protecting their performance potential. Seed is a living organism and anything which is applied to it has the potential to impact its ability to emerge evenly and grow into healthy, uniform crops. While the ability of seed treatment ingredients to control pests and diseases (also known as its efficacy) is important, seed safety is equally critical. Each hybrid has a unique genetic background which means the seed from each reacts differently to varying combinations of seed treatment ingredients. Join us on a journey which outlines the steps we take to ensure we maximise the quality and performance of every bag of LumiGEN™ treated maize seed you plant.

High quality ingredients

The Pioneer team in New Zealand works closely with the world's leading seed treatment suppliers to identify and source the most effective active ingredients for the unique combination of pests and diseases local growers encounter in their paddocks.

We are currently working with several seed treatment suppliers to

identify, trial and where applicable, register new maize seed treatments which will deliver improved pest or disease control, increased yield and/or environmental benefits for New Zealand maize growers.

Extensive seed treatment trials

Our seed batch treater allows us to treat small quantities of seed which can be used to assess the impact of seed treatment ingredient combinations on maize seed quality and in-field performance. All our LumiGEN™ seed treatment options have been tested across the range of Pioneer maize hybrids sold in New Zealand.

Our seed treatment trial programme includes both laboratory and field trials. Seed quality is tested before and after treatment, and then repeatedly over the next two years to monitor the longer-term impacts on seed quality. We monitor warm germination but also use a proprietary Pioneer Stress Test (PST) to evaluate how well the seed will germinate and grow in cool, wet soils.

Our replicated, multi-year stress emergence trials are designed to test the field performance of different seed

treatment formulations under local growing conditions. We plant seed ultra-early at twice the normal planting depth to replicate the toughest planting conditions seed will encounter in the field. Stress emergence trials are carefully monitored by the Research Team. Days to emergence and emergence percentage data is collected, collated, and statistically analysed.



THIS PAGE Pioneer Seed Treatment Manager Kyle Gardyne using the trial seed treater.



Rigorous commercial product testing

Once a seed treatment combination has passed laboratory and stress emergence trial testing, a larger quantity of seed is treated through our commercial seed treatment system and used in our IMPACT™ and PAT trial programmes (see pages 14-19 for more information).

You can purchase LumiGEN™ seed treatments with confidence knowing they have been rigorously tested on many farms across multiple growing regions over several seasons.

LumiGEN™ seed treatment process

We comply with Pioneer's global ISO 9001:2015 accredited standards for sizing, conditioning, and seed treating to ensure you receive the best quality seed every time.

Accurate chemical application

Our experienced seed treatment team use continuous batch treaters (CBT) and carefully calibrated "loss in weight" pump stations to apply exact quantities of each individual ingredient to measured amounts of seed. This process allows us to deliver a precise and even application of the desired LumiGEN™ treatment to each and every seed. All treatment runs are accurately calibrated based on seed counts per kilogram to ensure individual seeds receive the correct amount of active ingredient regardless of their size. This maximises protection and safeguards seed germination and seedling vigour. A high-quality polymer ensures all components of the

treatment ingredients adhere to every seed for superior plantability.

Careful and consistent moisture removal

The fluidised bed drying system removes excess moisture from the treatment process ensuring that seed is dry before it is bagged. This is important as small fluctuations in the moisture content of seed can have a big impact on its shelf-life and field performance.

Strict quality control

Throughout the entire process, electronic monitoring and strict quality controls ensure an accurate high quality treatment finish for every seed in every bag. Every bag of Pioneer® brand seed is mechanically stitched closed with green and white bi-colour tamper proof string. This 'locks-in' the Pioneer warranty, re-plant risk policy and guarantees the amount (80,000 kernels) and quality of seed in each and every bag. Treated seed is sampled for quality testing, before being carefully stacked onto pallets.

THIS PAGE (above right) Loss in weight chemical pump station.

Kyle Gardyne
Seed Treatment Manager

According to Kyle

Kyle, who holds a Bachelor of Science majoring in agriculture from Massey University, has a specific interest in agronomy and seed technology. He worked in an agronomic research role evaluating new chemistry for the cereal market and had eight years as an agronomist in the Waikato before joining the Pioneer team. His job includes monitoring and maintaining the quality of existing seed treatments and working with suppliers and the Pioneer research team to develop new seed treatments which will protect and enhance the performance of Pioneer maize hybrids.

"There are two really important things to consider when choosing a seed treatment – does it adequately control the target pests and diseases (efficacy) and will it have any detrimental impact on seed quality (seed safety)" says Kyle.

"Seed treatment plays an important role in allowing a maize crop to reach its full genetic yield potential" says Kyle. "It is important that growers choose a high-quality seed treatment which has been tested and proven on the hybrid they plan to plant and has been carefully applied to the seed".



Southern Pastures

move to maize silage



**BRIAN VERGEEST
AND SHERYL HAMILTON,
MAMAKU**



The desire to build a credible, ethical dairy farming business producing the healthiest dairy products shapes decision making for Southern Pastures, a corporate farming venture funded by New Zealanders and European Pension Funds.

The company holds a portfolio of 19 dairy farms split between the rolling fertile hills of the South Waikato and the lush plains of Canterbury. In addition to the farming operations, the business also owns the iconic dairy brand Lewis Road Creamery, whose premium products are sold both locally and internationally.

Southern Pastures has created a unique, independently audited set of ten attributes known as their 10-star certified values. These include:

1. The cows being at least 99% grass-fed on wet-weight basis, (96% on a drymatter basis),
2. The farms being GMO-free,
3. The cows being free-range for 365 days a year,
4. The cows enjoying the benefit of exceptional animal welfare,
5. Environmental sustainability,
6. Proper stewardship in the use of antibiotics,
7. Careful consideration for the welfare of all involved in any way with Southern Pastures,
8. Mitigation of the impact of climate change,
9. No growth hormones used and,
10. No PKE usage.





Farm walk

- Carry buffer of maize silage on farm year-round
- 1,060 crossbred cow herd on 358 ha (eff.)
- 953 tDM maize silage bought-in each season
- 1,263 kgMS/ha (426 kgMS/cow) in 2020-21

“Our philosophy is that milk produced from grass and locally grown forage crops such as maize silage is healthier for our customers and that’s what an increasing number of them want to buy” says Mark Bridges, General Manager of Farming and Senior Associate Director.

Lewis Road’s award-winning ‘grass-fed and traditionally churned New Zealand butter’ retails for more than \$10 per 8oz (227g) pack in the USA providing a shining example of what is possible when your brand aligns with what consumers want.

Some of the 10-star values were easier to implement than others. Originally Southern Pastures relied on palm kernel extract (PKE) to support on-farm production across its farms. But a strategic decision was made to move away from the by-product. This was firstly a moral decision, says the company, to prevent rainforest destruction and play a part in protecting global biodiversity. Secondly, it believes milk without PKE produces higher quality and more healthful dairy products.

As a result, PKE has now been eliminated entirely from the production system.

The non-Southern Pastures farms that supply Lewis Road Creamery have also committed to not using PKE and so Lewis Road Creamery white milks are uniquely guaranteed PKE-free.

Due to its consistent quality and availability, maize silage was the logical replacement for PKE to ensure

sufficient animal feed during times of low seasonal pasture growth on Southern Pastures’ North Island farms.

“The move to maize silage from PKE was a step-wise process which started with the building of feedpads and silage bunkers, as well as establishing long-term relationships with contract growers and contractors who supply the farms’ maize silage” says Mark “We started the process in 2014, but because of the scale of our operation

it took us six years to complete the switch to maize silage”.

In the South Island, high quality pasture and lucerne silage were readily available and were initially used to help replace PKE. However, the increasing price competitiveness and availability of maize silage means now around 20% of bought-in forage for the South Island farms is maize silage. Overall, Southern Pastures’ farms now purchase around 6,000 tDM of maize silage each year.

The ten South Waikato farms, which were purchased from Carter Holt Harvey in 2012, include Manako Farm, a 358 effective hectare property located 20 km east of Tokoroa.

The farm has been managed by Brian Vergeest and Sheryl Hamilton for the past 15 years. The couple, who are passionate about farming, were originally sharemilking but sold their herd two seasons ago to free up some capital and now contract milk to Southern Pastures.

“We love working for Southern Pastures and decided we didn’t want

to move anywhere else - we would rather stay and reap the rewards from all the years we have invested in this farm” says Brian. “It’s a great place and every year it gets better”.

After the sale of their herd, a new 1,060 cow Jersey and crossbred A2 herd was formed through the amalgamation of several smaller herds. In the 2020-21 season it produced 452,000 kgMS (426 kgMS/cow and 1,263 kgMS/ha) which was a good result given the range of calving dates and cow sizes which were inherited. Target production for the farm is 470,000 kgMS which should be easily achievable once the new herd settles in.

The farm buys in around 953 tDM of maize silage each year. It is fed at 4-8 kgDM per cow per day throughout the spring and autumn.

“Because the farm is around 640 m above sea level, the grass is slow to come away, so we use maize silage to fill the late winter and early spring deficit” says Brian. “We feed more in the autumn to put weight on the cows and extend lactation”.

Historically the farm has been summer safe, but the last two seasons have been very dry and maize silage has been fed in January to help support production.

Brian, a prior fan of PKE, feels the move to maize silage has been a very positive one from more than just a product marketing standpoint.

“Maize silage is a better-quality feed, it’s a great carrier for minerals, and the cows milk well and hold condition on it” he says. “We always aim to carry a buffer on farm, so we never run out”.

“Our philosophy is that milk produced from grass and locally grown forage crops such as maize silage is healthier for our customers.”





Delivering more higher-quality silage



THIS PAGE Pioneer Field Technician Russ McDonald servicing an Appli-Pro® inoculant applicator.

No matter what crop you plan to ensile, it always pays to use an inoculant which will deliver a difference. Only a proven inoculant will allow you to realise the benefits of higher quality silage, improved fermentation efficiency, reduced shrinkage, decreased heating at feed-out time and/or increased fibre digestibility. This results in more nutrients available to your livestock and More Milk™ or More Meat™ for every tonne of pasture or crop ensiled.

More than just a bottle

With a range of product options suitable for use on a number of crops, and a local Field Team to help ensure you get the desired outcome, Pioneer inoculants will deliver better silage for your farm this season. There are many reasons why you should always ask for Pioneer® brand inoculants:

- Patented bacterial strains
- Crop specific inoculant products
- Comprehensive, product specific research
- Quality assured with an ISO 9001:2015 accredited quality control system
- Guaranteed bacteria levels on the label of every bottle
- Exclusive Appli-Pro® inoculant applicator technology, meaning more consistent and precise application
- Extensive local technical back-up through-out New Zealand

Pioneer® brand inoculants are applied by our exclusive Appli-Pro® inoculant applicators. Developed and calibrated specifically for use with Pioneer® brand inoculants, they use air from a compressor and a small amount of water to deliver the inoculant solution accurately to fresh forage. Appli-Pro® inoculant applicators are regularly serviced and maintained by a team of local Field Technicians. They also provide a callout service to make sure the machines are running throughout the harvest season.

Silage making and nutritional advice

Our local technical back-up team includes Area Managers, Farm Systems Specialists and two ruminant nutritionists. Together they provide advice on silage harvest, storage and feed-out management. It's all part of our commitment to ensure farmers get the best return from their investment in Pioneer® brand products.



Russ McDonald
Field Technician

According to Russ

Lower North Island Field Technician, Russ McDonald has been working with local contractors for the past seven years and if they need him, he is only ever a phone call away.

“Inoculant is a significant investment, and it is important to make sure it has the best chance of delivering a beneficial outcome” says Russ “We service the Appli-Pro® applicators regularly and provide a call out service during harvest time to ensure our contractor partners can consistently apply Pioneer® brand inoculants at the correct rate”.

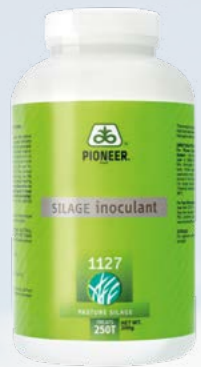
While Russ is available for callouts during the harvest season, in the winter he spends a significant amount of time stripping down applicators and replacing worn parts to make sure they run as efficiently and effectively as possible.

“A fair bit of time goes into maintenance of the Appli-Pro® machines - we replace all the consumables including tubing, filters and other perishable parts. This ensures the machines are fresh and ready to go for the next harvest season and it also minimises the risk of breakdowns”.





Spring inoculants



Pioneer® brand 1127

Produces top quality pasture silage with enhanced fermentation for high producing dairy cows and specialised beef production¹.



Pioneer® brand 11H50

Lucerne specific silage inoculant selected to best use plant available sugars, maximising fermentation quality, silage digestibility and animal performance.



Pioneer® brand 11G22

Pasture specific inoculant that delivers an improved fermentation and a fermentation acid profile that minimises heating and aerobic drymatter losses² to lock in the nutrients.



Pioneer® brand 1174

Improves drymatter recovery and silage quality of all forage crops.

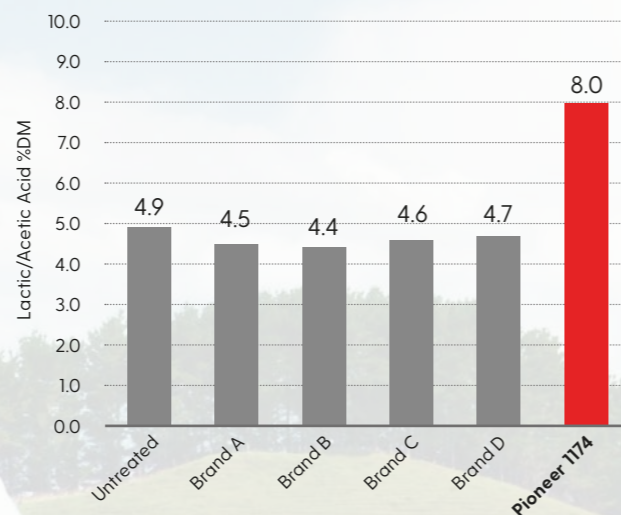
New Zealand inoculant trial shows remarkable product differences

A high buffering capacity, low sugar levels and potential soil contamination all make pasture more challenging to ferment. A paper presented at the New Zealand Grasslands Association conference³ compared the fermentation efficiency of five commercially available pasture silage inoculants.

A high lactic to acetic acid ratio is a sign of an efficient fermentation and is typically accompanied by reduced ensiling losses.

- Pioneer® brand 1174 had a better acid profile compared to the other products and the untreated control.
- There was no statistically significant difference between the untreated control and inoculants A, B, C or D.

Impact of five inoculants on pasture silage fermentation efficiency



Not all products deliver benefits – always ask for Pioneer® brand inoculants.

¹Trial results available on request

² While silage can be fed out immediately after harvest, maximum aerobic stability benefits will be made when it is fermented 30 days prior to feeding

³ Kleinmans et al, 2011. Using silage inoculants to improve the quality of pasture and maize silage in NZ. Proceedings of the NZ Grasslands Association 73: 75-80



Maize inoculants



Pioneer® brand 11CFT

Revolutionary maize specific inoculant for high producing herds. Reduces silage heating and improves fibre digestibility, meaning reduced losses and more milk per kgDM eaten².



Pioneer® brand 1132

Produces top quality maize silage with enhanced fermentation for high producing dairy cows and specialised beef production.



Pioneer® brand 11C33

Maize specific inoculant that helps keep silage cooler for longer, reducing energy losses and enabling it to be fed out up to a day in advance².



Pioneer® brand 1174

Improves drymatter recovery and silage quality of all forage crops.



Pioneer® brand Lucerne

Pioneer® brand lucerne varieties are designed with top-quality forage in mind. Built to stand up against yield limiting pests and diseases, they deliver excellent seed quality coupled with exclusive LumiGEN™ seed treatment.

Get your copy

The recently updated Pioneer® brand Lucerne Manual covers all aspects of growing, grazing, harvesting and feeding lucerne in New Zealand. It also contains up-to-date costings for growing and harvesting lucerne.

Scan or visit pioneer.nz to receive your complimentary copy.



Forage yield	9
Field appearance	9
Relative forage quality	7

Max 9 |

Proven performer.

Back by popular demand 54V09 combines excellent yield potential with proven stand life.

Key features:

- Industry-leading disease resistance profile delivers high resistance to Phytophthora Root Rot, Verticillium Wilt, Bacterial Wilt and Stem Nematode.
- Superior relative feed value for improved animal performance.



	Phytophthora Root Rot	Verticillium Wilt	Bacterial Wilt	Fusarium Wilt	Stem Nematode	Spotted Alfalfa Aphid	Pea Aphid	Blue Green Aphid
54V09	HR	HR	HR	R	HR	R	HR	-
Kaituna¹	R	MR	-	-	R	R	-	R
Torlesse¹	R	MR	-	-	R	R	-	R
Stamina 5²	R	-	HR	-	HR	HR	-	R
Force 4³	HR	HR	R	HR	R	-	-	MR

LR = Low resistant (6% to 15% resistant plants)
S = Susceptible (up to 5% resistant plants)

Disease resistance profiles

HR = Highly resistant (more than 50% resistant plants)
R = Resistant (31% to 50% resistant plants)
MR = Moderately resistant (16% to 30% resistant plants)
- = Denotes rating is not available or not published.

References:

- Torlesse Agrinote (<https://www.agricom.co.nz/Files/Files/Public/Agricom/Agrinote/Torlesse-agrinote.pdf>)
- <https://www.pggwrightsonseeds.com.au/seeds/legume/lucerne/stamina-gt5>
- SF Force 4 product brochure (<https://www.seedforce.co.nz/product/sf-force-4/>)

Important:

Ratings based on both Pioneer Agronomists and Research Scientists field observations.

Key
1 = Poor, 9 = Excellent.
Ratings based on Pioneer research comparisons with other Pioneer® brand lucerne hybrids.

Pioneer® brand Summer feed

If you're in a warm part of the country, Pioneer® brand SSS and Bettagraze are drought tolerant summer feed options. Planted in November or December, they deliver fast feed and can be grazed or harvested as silage or hay.



Fast feed	9
Silage making	9
Hay making	9
Sheep grazing	9
Beef grazing	9
Dairy grazing	9

Max 9 |

The next generation hybrid.

Super Sweet Sudan (SSS) hybrid is quick to graze and sustains multiple grazings. Fine leaves make SSS suitable for grazing with sheep or cattle or making high quality baled silage or hay.

Key features:

- Sudan x sudan grass.
- High quality small seed means you plant more hectares with less kilograms.
- Very fast growth and regrowth.
- Prolific tillering habit.
- Superfine stems.
- Super sweet and leafy.
- Highly palatable at all stages of maturity and growth.

Bag size: 15 kg

Recommended planting rate:

15-25 kg/ha

Planting depth: 2.5-3.5 cm



Fast feed	9
Silage making	9
Hay making	8
Sheep grazing	7
Beef grazing	8
Dairy grazing	9

Max 9 |

First to plant, first to feed.

Excellent recovery from grazing or cutting, Bettagraze is the first forage sorghum/sudan to plant and graze or cut.

Key features:

- Sorghum x sudan grass.
- Fine stems and disease-free leaves.
- High sugar content.
- Delayed heading.
- Larger seed size for better establishment in dry conditions.
- Suitable for grazing with dairy or beef cattle.

Bag size: 25 kg

Recommended planting rate:

25-45 kg/ha

Planting depth: 3-5 cm

Scan for more information regarding Pioneer summer forage hybrids:



Key
1 = Poor, 9 = Excellent.
Ratings based on Pioneer research comparisons with other Pioneer® brand sorghum/sudan hybrids.



Canterbury maize silage yields more than double

A chance to “give a new crop a go” has led to a 30-year relationship between Canterbury farmer Peter Kingsbury, Five Star Beef and Pioneer® brand seeds.

Peter farms 350 ha of mostly irrigated land at Pendarves east of Ashburton in mid-Canterbury. Their diversified mixed cropping and livestock operation grazes dairy heifers, winters dairy cows, sells standing grass silage and grows a number of crops including small seeds (clover, grass, hybrid carrots and Chinese kale), cereals, process peas, kale and greenfeed oats as well as maize for silage and grain.

Around 15 ha of Pioneer® brand lucerne is planted on the pivot corners and on one of the farm's few dryland paddocks and is baled as silage or hay for sale.

The farm's first maize crop was planted in 1992 when New Zealand's largest commercial beef feedlot, Five Star Beef, started sourcing feed.



PETER KINGSBURY,
PENDARVES



OPPOSITE Peter Kingsbury with Pioneer Area Manager Duncan Gillanders. ABOVE Josh Kingsbury with his Kverneland Kultistrip 6000F strip till machine.



Farm walk

- Farms on 350 ha, mostly irrigated land
- Average annual yield of 21-24 tDM/ha
- Planted a total of 70 ha of maize in 2021
- Maize established using strip till



“My father Alan was looking for different crops and when Five Star Beef approached him to grow maize silage, he was keen to give it a go” says Peter.

Each year for the past three decades maize silage crops have been grown under contract to Five Star Beef.

“Our first maize silage crops yielded around 10 tDM/ha but today better crop management and improved maize hybrids have lifted our average annual yield to 21-24 tDM/ha depending on the paddocks we choose to plant” says Peter.

The introduction of high yielding, shorter maturity Pioneer® brand maize hybrids has also meant maize silage harvest has been brought forward to March or April allowing timely establishment of a winter crop. It has also allowed the Kingsbury's to grow around 20 ha of maize for grain and last year's crops yielded around 12 t/ha. Peter looks for maize hybrids which

will deliver high and consistent yields. He has been a long-term Pioneer trial cooperator and works closely with local Pioneer Area Manager Duncan Gillanders when deciding what combination of hybrids to plant.

“Pioneer have plenty of local trial plots and provide consolidated hybrid performance results” says Peter. “What’s the point in me guessing what to plant when there is good trial data available?”

In spring 2021, Peter has planted a total of 70 ha of maize including a mix of Pioneer® brand P8666, P8000, P9127 for silage and P8666 and P8805 for grain.

In the past maize crops were established using conventional cultivation but in 2021 Josh purchased a Kverneland Kultistrip strip till machine. This is used to prepare the soil where the maize seed is planted in a single pass. The rest of the soil surface is not worked which helps protect the soil against erosion and drying.

“We can establish fantastic maize crops using strip till, the main challenge is keeping ahead of the slugs which has been a huge learning curve”.

Peter believes good nutrition is critical to achieving high maize yields. Solid manure from the feedlot (future fert) is spread onto maize paddocks prior to planting. Peter soil tests and uses the results to determine an appropriate base fertiliser dressing.

Crops are planted with a starter of Nitrophoska select (250kg/ha) and side dressed three to four times a season with a homemade liquid brew which contains 50 kg of nitrogen as well as a



number of other components including humates and micronutrients.

While on-farm yield increases have been spectacular, Peter believes there is still room for improvement.

“For the 2021 harvest, the top Five Star crop in mid-Canterbury yielded close to 30 tDM/ha” says Peter. “We think we can lift our yields even higher in the future”.

“ Our first maize silage crops yielded around 10 tDM/ha but today better crop management and improved maize hybrids have lifted our average annual yield to 21-24 tDM/ha depending on the paddocks we choose to plant. ”

ABOVE Pioneer Area Manager Duncan Gillanders with Peter Kingsbury and his son Josh Kingsbury.



Maize silage

Growing and Harvest Cost Guide

Enter your own growing & harvesting costs for the coming season in the 'My Costs' column. For help and notes on this table, refer to the assumptions on the next page.

Calculate growing & harvesting costs for your farm

2022-23 Average Estimated Cost

(exclusive of GST)

Growing Costs

		Average estimated costs* (\$/ha)		My Costs (\$/ha)
		Low fertility	High fertility	My farm (\$/ha)
Pre-planting	Cost of leased land	?	?	<input type="text"/>
	Soil test, other	10	10	<input type="text"/>
	Spraying out pasture including glyphosate	95	95	<input type="text"/>
	Lime @ 1.25 t/ha including cartage and application	125	0	<input type="text"/>
	Base fertiliser cost including application	445	0	<input type="text"/>
	Cultivation: to planting specifications ¹	415	415	<input type="text"/>
Planting	Pioneer® brand P9911 maize seed @1.30 ² or 1.35 ³ bags/ha	575	595	<input type="text"/>
	FAR maize seed levy (\$8.00/80,000 kernels @ 1.30 ² or 1.35 ³ bags/ha)	10	10	<input type="text"/>
	LumiGEN™ System L-400 seed treatment @ 1.30 ² or 1.35 ³ bags/ha	160	165	<input type="text"/>
	Starter fertiliser cost including application	295	0	<input type="text"/>
	Planting	195	195	<input type="text"/>
Post-planting	Pre emergence weed control (herbicide + application)	105	105	<input type="text"/>
	Post emergence weed control (herbicide + application)	125	125	<input type="text"/>
	Sidedress nitrogen cost including application	400	0	<input type="text"/>
	Interest on maize expenditure (7 months @ 5%)	85	50	<input type="text"/>
Total growing cost		\$3,040	\$1,765	<input type="text"/>

Harvest Costs

Harvesting	Harvesting and stacking	1185	1185	<input type="text"/>
	Covering	220	220	<input type="text"/>
	Pioneer® brand 11C33 maize specific inoculant	360	360	<input type="text"/>
Total harvest cost		\$1,765	\$1,765	<input type="text"/>

Total Growing & Harvest Costs

		\$4,805	\$3,530	<input type="text"/>
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*Rounded to nearest \$5

¹ Cultivation costs will vary depending on soil types, land class and cropping history

² Low fertility

³ High fertility

Maize silage drymatter cost

Research has shown that high fertility dairy farm paddocks including those with a history of effluent application may not require any additional fertiliser to be applied. Different yield environments also influence the recommended planting rate for Pioneer® brand maize silage hybrids (see page 62).

The table below gives indicative maize silage costings for both high and low fertility maize silage growing environments. High fertility environments include dairy paddocks coming out of long-term ryegrass-clover pasture, as well as paddocks with a history of effluent application. Low fertility environments include run-out pasture paddocks and repeat cropping blocks. Always soil test maize paddocks and apply nutrients according to the results.

Drymatter yield per hectare and cost per kg drymatter and per megajoule of metabolisable energy

		Maize silage drymatter costs			
		Low fertility paddock		High fertility paddock	
		Maize silage cost per kgDM in the stack (c/kgDM)	Maize silage cost per MJME (c/MJME)	Maize silage cost per kgDM in the stack (c/kgDM)	Maize silage cost per MJME (c/MJME)
Maize silage yield (tDM) in the stack	tDM/ha				
	16	30.0	2.78	-	-
	18	26.7	2.47	19.6	1.82
	20	24.0	2.22	17.7	1.63
	22	21.8	2.02	16.0	1.49
	24	20.0	1.85	14.7	1.36
	26	18.5	1.71	13.6	1.26
	28	17.2	1.59	12.6	1.17
	30	-	-	11.8	1.09

Assumptions

1. Costs to grow, harvest and store maize silage are estimates based on a sample of contractor rates, other typical industry charges and product costs. All costs exclude GST and are indicative as at 28 February 2022. Given the volatility of farm input prices over the last few months, we would encourage you to complete your own budget prior to the start of the growing season.
2. Average land rentals have not been included because of large regional variations (provision has been made for you to consider land rental in your own costing column).
3. The cost and benefits of regressing have not been included.
4. Cost for Pioneer® brand 11C33 is based on inoculating a 22 tDM/ha crop.
5. Farmers growing Pioneer® brand maize for silage for sale are usually responsible for costs up to and including the nitrogen sidedressing application.
6. Maize silage cost per MJME assumes a maize silage energy content of 10.8 MJME/kgDM.
7. The amount of pasture lost during the maize growing season will vary between paddocks, farms and districts. The value of pasture lost during the maize growing season has not been considered in the calculation of the maize silage drymatter cost.

Notes

The information in this cost guide is general in nature and is not intended to be a representation of actual costs. We do not accept any responsibility or liability (whether as a result of negligence or otherwise) for any loss of any kind that may arise from actions based on the contents of this cost guide or otherwise in connection with the use of this cost guide.



Trait characteristic notes (See page 62).

- 1 Silage comparative relative maturity (CRM):**
Pioneer silage CRM ratings provide a comparison between Pioneer hybrids indicating the relative rates at which hybrids reach harvestable whole plant drymatter. They do **not** represent actual calendar days from planting to harvest.
- 2 Yield for maturity:**
Hybrid comparisons should only be made within a range of + or - 4 CRM. Analysis of differences in harvest drymatter percentages between hybrids measured in our New Zealand silage research programme show products compared within + or - 4 CRM will reach ideal silage harvest maturity (defined as 30% - 38% DM) within about seven days of each other.
- 3 Adaptability to high population:**
A measure of the mix of genetic factors that permit a maize plant to withstand the stresses of high population and still give good standability and high yields.
- 4 Adaptability to low population:**
An indicator of a hybrid's ability to compensate (flex) cob size for stand loss from insect damage or poor emergence.
- 5 Stress emergence**
These ratings are based on data collected from local replicated small plot trials planted early and at depth into wet and cold conditions and vigour ratings on New Zealand commercial seed provided by Pioneer's regional seed laboratory. All seed supplied to the market is expected to establish excellent plant stands if planted well and under normal germination conditions. Ratings of 7-9 indicate very good potential to establish normal stands under stressful environmental conditions of cold, wet soils. A 5-6 rating indicates good potential to establish normal stands under moderate stress conditions; and ratings of 1-4 indicate the hybrid has below average potential to establish normal stands under stress and should not be used if severe wet and cold conditions are expected after planting. Hybrids with high ratings are best adapted to early planting but due care to apply best agronomic practices is still required.
- 6 Early growth:**
Ratings are taken when two leaf collars are visible.
- 7 Plant height:**
9 = Tall. 1 = Short.
- 8 Staygreen:**
A measure of late season plant health. A lower score means that the plant stover loses colour and dries down more rapidly at maturity.
- 9 Whole plant digestibility:**
Based on estimated 24 hour in vitro, whole plant digestibility percentage (DM basis) as predicted by Near Infrared Reflectance Spectroscopy (NIRS). A 1 rating point difference reflects one percent difference in digestibility.
- 10 Starch and sugar:**
Based on total starch and sugar content of hybrids harvested at silage maturity. Use this score as a relative comparison of the whole plant concentration of readily available energy (primarily grain) among individual hybrids. A 1 rating point difference reflects one percent difference in starch and sugar.
- 11 Northern Leaf Blight (NLB) and Eyespot:**
In conditions where NLB and Eyespot risks are high, growers should consider planting hybrids with resistance ratings of 6 or higher for these diseases.

- 12 Hybrid disease resistance ratings:**
8 to 9 = Highly resistant. 6 to 7 = Resistant.
4 to 5 = Moderately resistant. 1 to 3 = Susceptible.
- = Insufficient data. Common Rust, Eyespot and NLB ratings are based on overseas data together with New Zealand observations. Scores are based on visual assessment only and not on yield reduction data.
- 13 Cool environments:**
In cool environments, including high altitude sites greater than approximately 150 m / 500 ft above sea level, select your yield environment using the descriptions in note 16, then increase established plant populations to the next level i.e. for P9911 in a medium yield environment at high altitude, plant to achieve 115,000 established plants per hectare.
- 14 Established plant populations:**
These assume good seed establishment conditions. If you are planting very early or into a less than ideal seedbed or where insect pressure may be high (e.g. a shorter than optimum fallow period), seeding rates may need to be increased to compensate for reduced establishment due to field losses.
- 15 Plant populations:**
The tabulated established populations are recommendations only. Work with your local Pioneer or merchant seed representative to determine the appropriate plant populations for your specific growing environment.
- 16 Growing environment definitions:**
May include some or all of the following characteristics:

Challenging yield environments (CYE)

Typically light, sandy or shallow soils of low fertility, low moisture retention, and predictably low summer rainfall (drought-prone environments).
High cob or leaf disease pressure.

Medium yield environments (MYE)

Average fertility soils with predictably adequate summer rainfall and good moisture retention.
Continuously cropped soils.
Medium to low cob or leaf disease pressure.

High yield environments (HYE)

Typically deeper, highly fertile and well structured soils with good moisture retention.
Predictably good summer rainfall, shelter from high wind run.
Good soils straight out of long term pasture.
Low or no cob or leaf disease pressure.

Publication abbreviations

- DM = drymatter
- bags/ha = bags per hectare
- kgDM = kilograms of drymatter
- kgDM/ha = kilograms of drymatter per hectare
- kgMS = kilograms of milksolids
- kgMS/cow = kilograms of milksolids per cow
- \$/ha = NZ dollars per hectare
- MJME = megajoules of metabolisable energy
- MJME/kgDM = megajoules of metabolisable energy per kilogram of drymatter
- t/ha = tonnes per hectare
- tDM = tonnes of drymatter
- tDM/cow = tonnes of drymatter per cow
- tDM/ha = tonnes of drymatter per hectare
- c/kgDM = cents per kilogram of drymatter
- ai = active ingredient

Step by step guide

Choosing the right Pioneer hybrid for your farm

Complete the following four steps to determine the right hybrid for your paddock.



Calculate your days from planting to harvest

Use the chart below to calculate

▶ / 2022
planting date

▶ / 2023
harvest date

▶ days
Days from planting to harvest

GO TO STEP 2 →

Line up your planned planting date **column** with your target harvest date **row** to find the actual number of days.

		Planned planting date 2022															
		September			October						November						
		21	26	1	6	11	16	21	26	31	5	10	15	20	25	30	
Target harvest date 2023	February	5	137	132	127	122	117										
		10	142	137	132	127	122	117									
		15	147	142	137	132	127	122	117								
		20	152	147	142	137	132	127	122	117							
		25	157	152	147	142	137	132	127	122	117						
March	2	162	157	152	147	142	137	132	127	122	117						
	7	167	162	157	152	147	142	137	132	127	122	117					
	12	172	167	162	157	152	147	142	137	132	127	122	117				
	17	177	172	167	162	157	152	147	142	137	132	127	122	117			
	22		177	172	167	162	157	152	147	142	137	132	127	122	117		
27			177	172	167	162	157	152	147	142	137	132	127	122	117		
April	1				177	172	167	162	157	152	147	142	137	132	127	122	
	6					177	172	167	162	157	152	147	142	137	132	127	
	11						177	172	167	162	157	152	147	142	137	132	
	16							177	172	167	162	157	152	147	142	137	
	21								177	172	167	162	157	152	147	142	
26									177	172	167	162	157	152	147		

Notes

It is possible to plant from mid September through to mid December in most areas, however, remember to consider planting date needs of the following grass crop. Please contact your local Pioneer Area Manager or phone 0800 PIONEER (746 633) for advice on hybrid selections for earlier or later plantings.



2 Hybrid options for your region

Use tables below

Hybrid **1** Hybrid **2** Hybrid **3**

▶ ▶ ▶

Choose your region then identify hybrid options by matching your number of days from planting to harvest

Notes

Hybrid maturity is based on heat unit accumulation through the season. Hybrids will therefore be quicker to harvest in warmer regions or warmer seasons. For example, a hybrid planted in coastal Nelson will be ready for harvesting much earlier than the same hybrid planted on the same day in mid Canterbury due to the faster accumulation of heat units in the Nelson environment. This has important implications for hybrid selection. The table below is a guide as to the estimated days from planting to harvest for Pioneer® brand hybrids in the regions for which they are recommended for silage. This information is generated from silage hybrid trials carried out in these regions over several seasons.

Region 1

Northland / Auckland North / Coastal BOP / Gisborne / Northern Hawke's Bay



Hybrids	Estimated days from planting to harvest	Hybrids	Estimated days from planting to harvest
P8000	110-125	P0362	132-147
P8666	117-131	P0640	135-149
P8805	120-134	P0725	135-156
P9127	123-137	P0891	135-151
P9400	126-140	P0900	140-154
P9721	129-143	P0937	140-155
P9911	130-150	NEW P1315	140-155
NEW P9978	130-148	P1613	142-156
P0021	130-144	P1636	144-158
NEW P0284	131-146	P1477W	145-160

Region 2

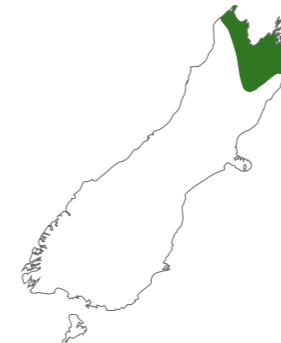
North & Central Waikato



Hybrids	Estimated days from planting to harvest	Hybrids	Estimated days from planting to harvest
P8000	115-129	P0362	136-151
P8666	121-134	P0640	140-156
P8805	124-137	P0725	144-161
P9127	128-142	P0891	139-156
P9400	131-145	NEW P0900	143-161
P9721	133-147	P0937	143-162
P9911	134-154	P1315	144-162
NEW P9978	134-151	P1636	147-165
P0021	134-148	P1477W	147-165
NEW P0284	135-150		

Region 5

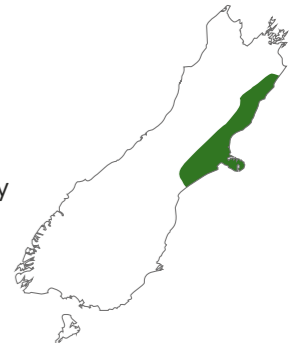
Nelson / Marlborough



Hybrids	Estimated days from planting to harvest	Hybrids	Estimated days from planting to harvest
P7524	130-145	P9127	146-161
P8000	132-146	P9400	150-164
NEW P8333	134-148	P9721	154-166
P8500	137-151	P9911	155-175
P8666	142-156	NEW P9978	155-170
P8805	142-156	P0021	155-169

Region 6

North & Mid Canterbury



Hybrids	Estimated days from planting to harvest	Hybrids	Estimated days from planting to harvest
P7124	140-155	P8666	153-168
P7524	144-157	P8805	153-168
P8000	146-160	38V12	158-173
NEW P8333	148-162	P9127	158-173
P8500	150-165		

Region 3

South Waikato / King Country / Coastal Taranaki / Rangitikei / Manawatu / Southern Wairarapa / Central Hawke's Bay



Hybrids	Estimated days from planting to harvest	Hybrids	Estimated days from planting to harvest
P7124	115-130	P9400	140-154
P7524	120-135	P9721	144-156
P8000	122-136	P9911	145-165
NEW P8333	125-139	NEW P9978	145-161
P8500	127-141	P0021	145-159
P8666	129-143	NEW P0284	146-161
P8805	132-146	P0362	147-162
P9127	136-151		

Region 4

Rotorua / Reporoa / Taupo / Central Taranaki / Southern Hawke's Bay / Northern Wairarapa / Horowhenua



Hybrids	Estimated days from planting to harvest	Hybrids	Estimated days from planting to harvest
P7124	125-140	P9127	145-160
P7524	128-143	P9400	149-163
P8000	130-145	P9721	150-165
NEW P8333	133-148	P9911	153-173
P8500	135-150	NEW P9978	153-169
P8666	137-152	P0021	153-168
P8805	140-155	NEW P0284	154-170

Region 7

South Canterbury / West Coast



Hybrids	Estimated days from planting to harvest	Hybrids	Estimated days from planting to harvest
P7124	145-159	P8500	155-170
P7524	148-162	P8666	157-172
P8000	152-166	P8805	157-172
NEW P8333	153-168		

Region 8

North Otago / Southland



Hybrids	Estimated days from planting to harvest	Hybrids	Estimated days from planting to harvest
P7124	150-165	P8000	156-170
P7524	153-168		



Pioneer® brand Maize Silage hybrid trait characteristics for 2022-2023

Hybrid	Yield and maturity					Plant traits						Silage quality traits			Hybrid disease ratings ¹²			Recommended established plant populations (000s/ha) ^{13, 14, 15, 16}		
	Silage CRM ¹	Grain yield for maturity ²	Silage yield for maturity ²	Adaptability to high population ³	Adaptability to low population ⁴ (ear flex)	Drought tolerance	Stalk strength	Root strength	Stress emergence ⁵	Early growth ⁶	Plant height ⁷	Staygreen ⁸	Whole plant digestibility ⁹	Starch and sugar ¹⁰	Northern Leaf Blight ¹¹	Common Rust	Eyespot ¹¹	Challenging yield environments	Medium yield environments	High yield environments
P7124	71	9	9	9	6	6	6	6	7	7	7	9	8	8	5	6	-	110	120	130
P7524	75	9	9	9	8	7	7	7	6	8	8	7	9	9	4	-	-	110	115	120
P8000	80	9	9	7	7	6	6	6	6	7	8	7	8	8	6	6	6	108	115	120
NEW P8333	83	9	9	5	9	7	6	5	6	7	8	8	8	8	5	6	-	100	110	115
P8500	85	9	9	6	8	7	6	6	6	6	8	9	7	7	5	5	-	105	115	120
P8666	86	9	9	5	9	8	5	5	6	8	8	8	9	9	6	6	-	100	110	115
P8805	88	9	5	9	5	8	6	5	6	6	5	7	9	9	6	7	6	108	115	120
38V12	91	6	5	8	6	7	6	8	7	7	7	7	6	7	6	6	-	104	108	115
P9127	91	9	9	7	9	9	6	6	6	6	7	7	9	9	5	6	7	95	108	115
P9400	94	9	8	6	9	7	7	7	4	7	8	6	9	9	7	6	6	100	108	115
P9721	97	9	6	8	6	8	6	5	7	6	7	7	8	7	6	7	7	104	108	115
P9911	99	8	9	7	9	9	5	5	7	6	8	9	7	6	5	5	6	100	108	115
NEW P9978	99	9	9	9	7	7	6	7	7	7	7	7	9	8	7	7	-	95	110	120
P0021	100	7	6	9	6	7	6	7	7	9	6	7	7	6	7	6	5	100	108	115
NEW P0284	102	7	6	7	6	7	5	6	5	5	6	6	9	9	5	6	-	90	100	110
P0362	103	9	8	9	6	7	6	7	6	6	7	8	8	7	6	7	7	95	105	115
P0640	106	9	9	7	9	7	6	6	6	7	8	8	8	7	7	7	6	95	105	110
P0725	107	9	9	7	8	9	6	6	6	7	7	8	7	6	5	7	7	95	104	108
P0891	107	7	7	9	6	7	8	6	4	6	7	7	7	7	6	6	6	95	105	110
NEW P0900	109	9	9	9	9	9	7	7	7	7	7	8	7	7	7	7	-	85	95	115
P0937	109	9	9	9	7	8	6	7	7	8	6	9	7	7	7	6	-	90	100	115
NEW P1315	110	7	9	5	9	7	7	6	6	6	8	8	6	6	7	7	-	85	95	105
P1613	111	7	7	8	6	7	7	6	5	6	8	8	6	6	6	7	-	90	105	110
P1636	112	7	9	8	7	7	6	8	6	6	8	7	6	6	5	6	-	95	105	110
P1477W	114	9	9	9	6	7	8	8	5	6	7	8	6	6	7	6	7	90	105	110

Ratings 9 = Outstanding 1 = Poor - = Insufficient data available **NEW** = New hybrid
 CRM = Comparative Relative Maturity For trait notes see page 58

3

Choose key traits that are important to you

Use trait table

Hybrid	1	Hybrid	2	Hybrid	3
▶	▶	▶	▶	▶	▶
▶	▶	▶	▶	▶	▶
▶	▶	▶	▶	▶	▶
▶	▶	▶	▶	▶	▶
▶	▶	▶	▶	▶	▶
▶	▶	▶	▶	▶	▶
▶	▶	▶	▶	▶	▶
▶	▶	▶	▶	▶	▶
▶	▶	▶	▶	▶	▶
▶	▶	▶	▶	▶	▶
▶	▶	▶	▶	▶	▶

- Silage yield rating²
- Grain yield rating²
- Drought tolerance rating
- Staygreen rating⁸
- Early growth rating⁶
- Leaf disease rating¹¹
- Whole plant digestibility⁹
- Starch and sugar¹⁰

Enter the hybrid trait ratings above for the hybrids you selected in Step 2

4

Bag calculator

Planting populations page **62**

Paddock name

Planting population (000's)

Hectares

Bags required

A			
B	X	X	X
	+ 80	+ 80	+ 80
C	=	=	=

Determine the number of bags required for each paddock on your farm

Notes:

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