PIONEER

A YATES FAMILY BUSINESS

maize for Silage

2024-2025

Cultivating the future

Jenna Smith on balancing tradition with innovation

The Perfect Partner for Pasture

Four ways to control your feed costs

Making the most of maize silage

PIONEER® BRAND · PRODUCTS


NEW
ZEALAND
GROWN
®

The past growing season was generally favourable for maize. Most silage crops yielded at or above long-term average levels delivering a valuable supply of high-quality, cost-effective feed. Over the past few decades more and more farmers have come to recognise maize silage as the Perfect Partner for Pasture, delivering a myriad of production, profit and farm system benefits (see pages 4 to 9).

During the past few seasons there has also been a growing awareness of the environmental benefits of maize including its ability to soak up excess soil nitrogen and dilute dietary crude protein levels. Recent information shows maize silage has significantly lower Scope 3 greenhouse gas emissions than palm kernel and some other imported supplements. For all these reasons, maize silage is playing an increasingly important role in ensuring the ongoing success and sustainability of dairy farm systems.

We are pleased to be introducing seven new silage hybrids – P7179 (71 CRM), P7364 (73 CRM), P7647 (76 CRM), P8086 (80 CRM), P8532 (85 CRM), P92575 (92 CRM) and P9650 (96 CRM). These exciting new products join P8240 (82 CRM), P8711 (87 CRM) and P1837 (115 CRM), which were launched last season, to deliver the most significant launch of new and improved genetics our company has ever seen.

Each new hybrid we bring to market has been extensively trialled across the regions where it will be grown and we only release those products which have demonstrated an agronomic, silage quality or yield advantage over existing commercial Pioneer® brand hybrids.

The release of seven new hybrids of lower than 100 CRM brings exciting opportunities to growers in cooler regions, particularly those in the South Island. They represent the outcome of an expanded trialling program which has seen us extend our IMPACT™ (Intensively Managed Product Advancement, Characterisation and Training) trials into the lower North Island and South Island. These replicated plot trials allow us to evaluate up to 100 hybrids at a single location so we can more rapidly and comprehensively identify hybrids that perform well under New Zealand's unique regional growing conditions.

The Pioneer® brand seed team joins me in wishing you all the very best for the 2024-25 season. We value your support for Pioneer® brand products and remain committed to helping you extract the maximum value from them. If we can help you in any way, please give us a call.

With warmest regards,

William Yates
Managing Director

A detasselling crew work their way through a crop of Pioneer® hybrid seed maize on a De Costa Enterprises lease block at Patutahi near Gisborne.

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MAIZE FOR SILAGE 2024-2025

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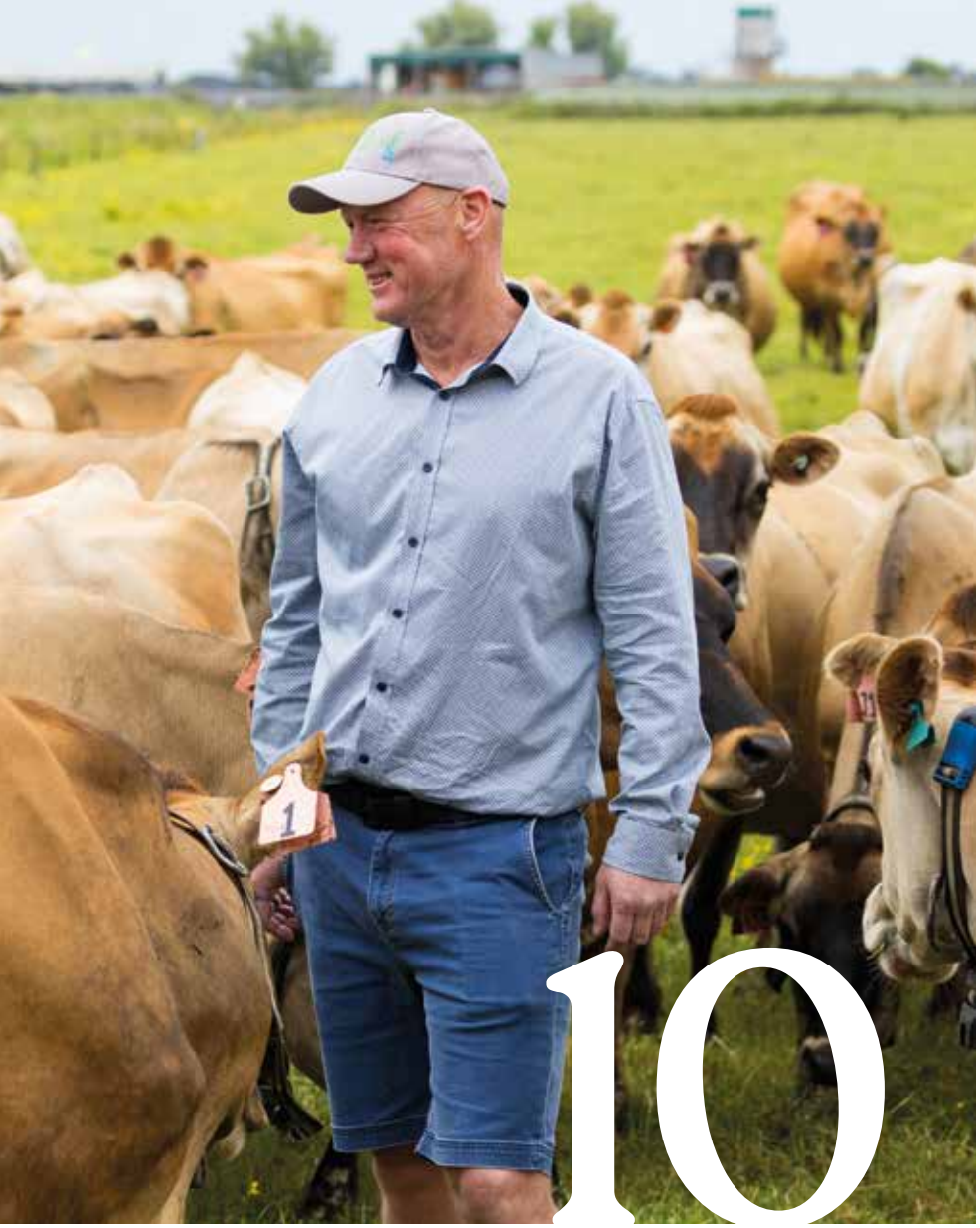


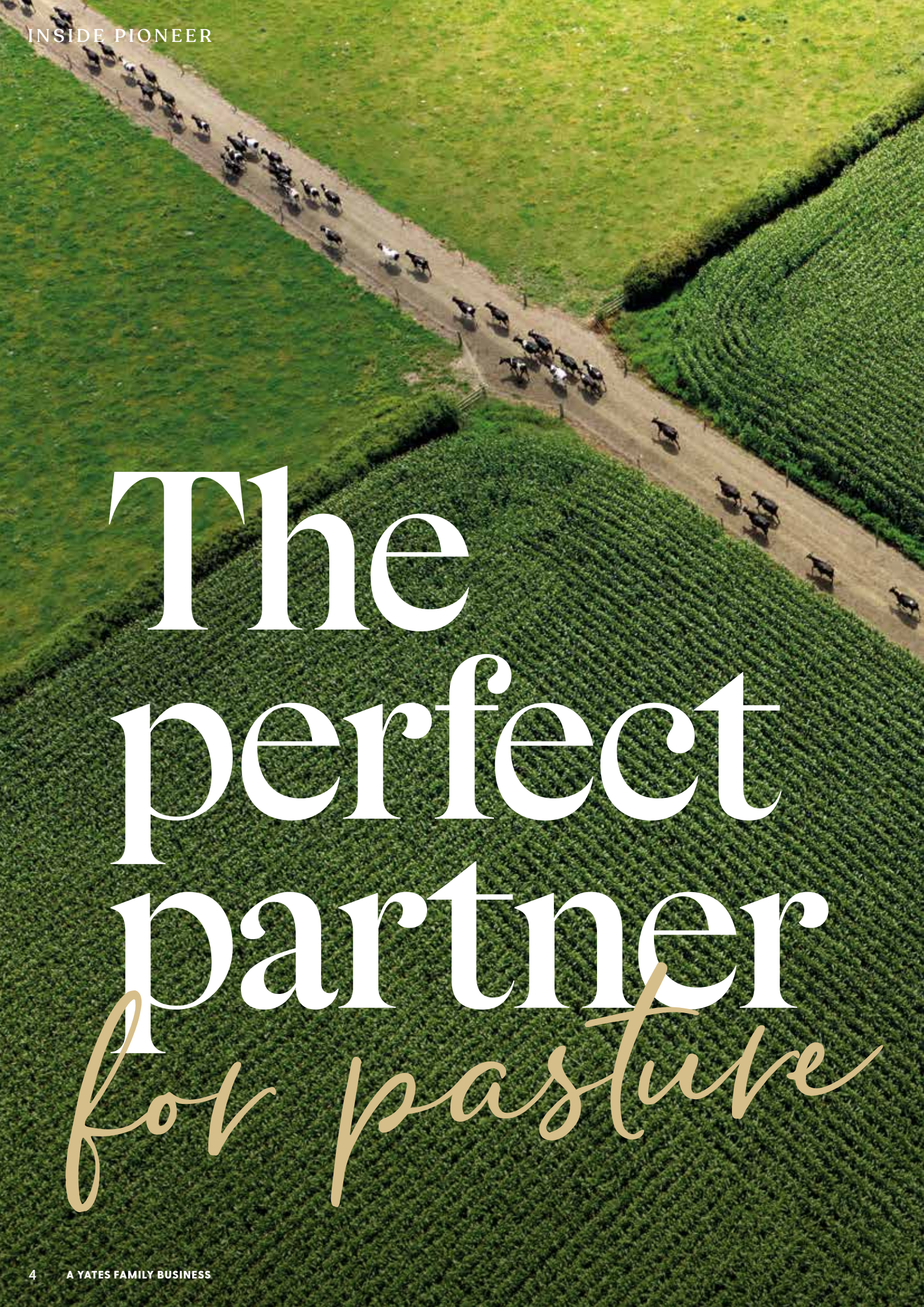
PIONEER LONG LOOK

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.



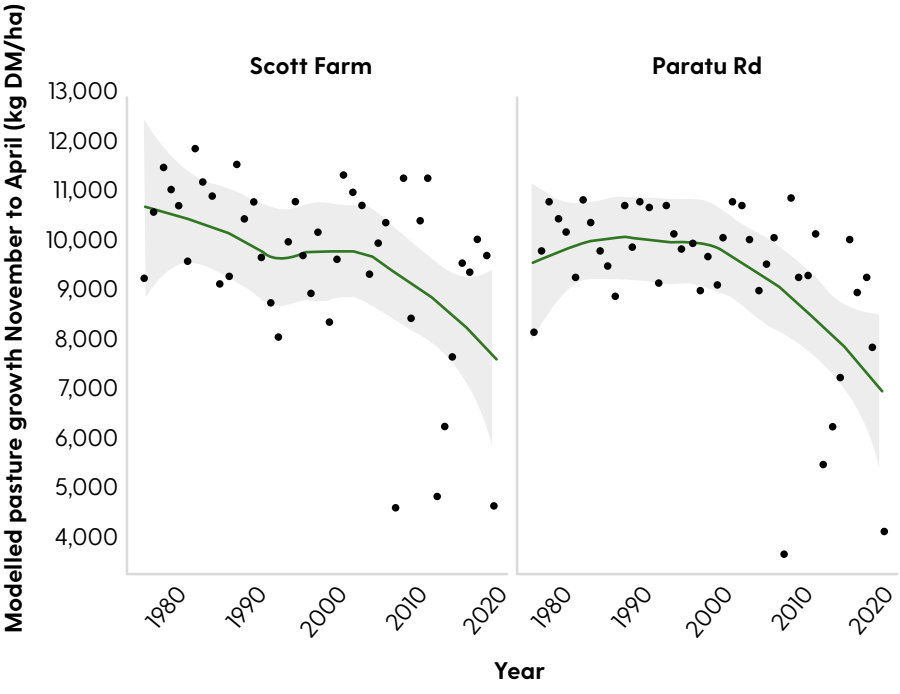
The perfect partner *for pasture*

The New Zealand dairy industry has built its competitive advantage on ryegrass-clover pasture which is grazed year-round. While well managed pasture can be a high-quality feed, there is growing recognition that high producing cows need more than just grass to produce reliably throughout the season.

What are the limitations of pasture?

In many districts pasture yields are stable or even decreasing (Figure 1) and there are increasing challenges to pasture persistence. Climate change is expected to bring greater variations in rainfall and seasonal pasture growth rates. Under warm, dry summer conditions perennial ryegrass will become less reliable than lower quality C4 grasses including paspalum and kikuyu.

Figure 1: Predicted summer-autumn net herbage accumulation (November – April) for Scott Farm (Hamilton) and Paratu Rd (Matamata-Piako). Shaded areas are 95% confidence areas.[1]



Thirty years ago New Zealand dairy farms relied on pasture and homegrown crops to support their herds. Over the past three decades systems have evolved with higher stocking rates and greater milk production per cow. Of the total feed eaten per hectare in 2021-22, approximately 77 percent corresponded to pasture and crops eaten, 19 percent to imported (brought in) supplements and 4 percent to grazing off[2].

Imported supplements include locally grown crops such as maize and cereal, but also internationally produced feeds of which the highest volume is palm kernel extract (PKE). In 2022 New Zealand imported 1.97 million tonnes of PKE, enough to meet the total feed requirements of around 8% of the national herd[3].

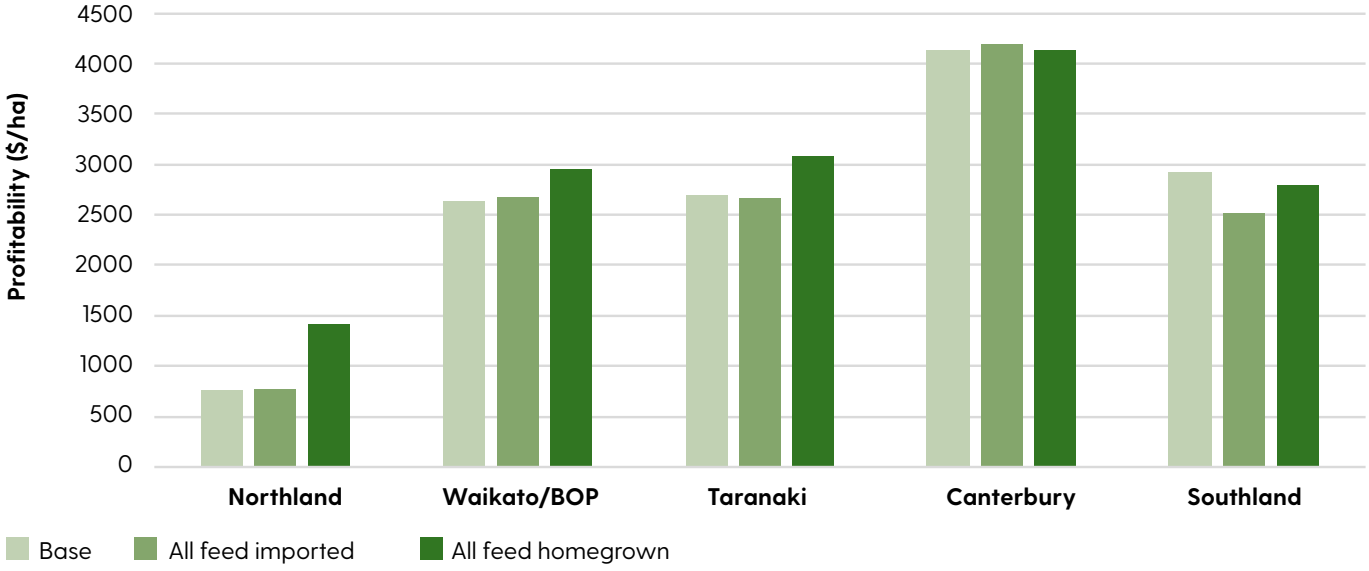
The need for supplementary feed is expected to increase as pasture yields become more variable. Farmers have two main options to ensure their cows are well fed. They can maintain or reduce stocking rate and grow a greater area of high yielding, homegrown crops or increase their use of imported (brought in) feeds.

A recent Our Land and Water report[3] highlighted the opportunity for farmers to destock and grow more feed at home. Typical farms in five regions (Northland, Waikato/Bay of Plenty, Taranaki, Canterbury and Southland) were modelled using Farmax and OverseerFM. The base systems all used a mix of homegrown crops and imported feeds. To examine the impact of bringing in all supplementary feeds or growing all feeds, the authors created two new scenarios:

- Scenario 1 – all feed imported – excluding home-made pasture silage.
- Scenario 2 – all feed grown on farm – cows still wintered off in Canterbury and Southland as the Intensive Winter Grazing (IWG) rules didn't allow on-farm wintering on crop.

When compared to the base farm, reducing stocking rate and using all homegrown feed increased profitability in all North Island regions. Profitability remained stable in Canterbury and decreased in Southland. Using all homegrown feed decreased on-farm biological greenhouse gas emissions (as modelled by OverseerFM) by 6-13% across all regions.

Figure 2: Modelled profitability of typical farm systems growing or importing supplementary feed[3]



It is important to note this modelling was for a "typical farm system". On farm cropping is not necessarily the best solution for all farms. Some have soils, contour or are at altitude which makes cropping not possible. Others, especially those which are highly stocked, may make more profit by buying in supplements.

Maize silage – an important role to play

Maize silage is a locally grown forage with a proven track record in NZ dairy farm systems and globally recognised environmental benefits. It is the perfect partner for pasture because it can help farmers to:

Grow and harvest more grass

In recent years, highly variable climatic conditions have made managing pasture very difficult. Periods of wet, dry, hot or cold weather mean farmers need management strategies to enable them to feed cows adequately while maintaining grazing rotations that maximise pasture growth. Maize silage, whether brought in or homegrown, is a tool that allows farmers to "feed the wedge". That is, when there is insufficient pasture, maize silage can be fed to prevent over grazing, create positive substitution and maintain or build pasture cover. Using maize silage this way assists with growing more homegrown pasture, maximises response to supplements and maintains consistent feed intakes throughout lactation.

Pasture renovation can help improve the quality and quantity of pasture. Growing maize before sowing new pasture provides an excellent opportunity to break weed and pest burdens, increasing the likelihood of successfully establishing a high producing, new pasture.

Harvest high yields of low cost drymatter

Each year the Pioneer® brand products' research team undertake maize silage trials throughout key dairy regions. This has generated a significant database which demonstrates the high yield potential and reliability of maize.

Most dairy farmers can grow a crop for 22-29 c/kgDM (see page 51) and where maize silage can be grown in an effluent paddock without the need for additional fertiliser, the cost reduces to 17-23 c/kgDM.

The relationship between homegrown feed and profit has been widely reported over the last two decades. Recent data presented at the 2023 Pasture Summit[4] shows that in the Waikato, an extra 1 tDM of homegrown pasture and crop is associated with an additional $350/ha profit. Removing 10% of the farm to grow maize silage can reliably increase your homegrown feed supply by 1.5 tDM/ha[5].

Table 1: Five year average Pioneer® brand maize silage trial yields (2019 – 2023)

Region	Average maize silage yield (tDM/ha)	No of data points*
Upper North Island	24.63	4,314
Lower North Island	25.12	2,505
South Island	24.62	1,114
National	24.70	7,933

*One data point is the average yield of a hybrid in a strip or replicated plot trial.

Reduce the cost of surplus management

Transferring a feed surplus from spring to summer/autumn is an essential part of optimising your farm system. Removing an area from the grazing rotation helps maintain optimum pasture management on the rest of the farm, improves the growth and quality of pasture for future grazing events and provides a source of stored feed to use later. However, harvesting a pasture surplus as silage comes at a cost, typically $400-$600/ha, and the process doesn't increase the total homegrown feed supply. Growing maize silage has the dual effect of mitigating some or all of the cost of harvesting a pasture surplus and increasing total homegrown feed supply.

Fill genuine feed deficits

While grazed crops including brassicas and fodder beet must be fed when they are mature, harvested crops like maize can be stored for later use. This is an important attribute as responses to supplements are greatest when they are used to fill a genuine feed deficit.

Put weight on cows more efficiently

The benefits of achieving body condition score targets of 5.0 (cows) and 5.5 (heifers) at calving are well known. Achieving these condition score targets coincides with when farmers are trying to reach pasture cover targets leading into winter. Maize silage is not only a more efficient feed to reach condition score targets, but any saved pasture will contribute to reaching critical cover targets for winter and spring.

Improve animal welfare

The combination of maize silage and a covered feedpad allows animals to be stood off wet pastures whilst still being fully fed. In the summer animals can be fed maize silage in the shade resulting in improved drymatter intakes and better animal welfare. In the wetter months reduced pugging or overgrazing results in better pasture persistence and higher drymatter yields.

Lift labour efficiency

Well-designed farm systems combining maize silage and a feedpad can help improve labour efficiency. Large amounts of maize silage can be fed out quickly and farmers often comment that feeding maize silage is easier and less risky than managing the intake of some grazed forage crops. The most efficient systems combine timed gate latches with well-designed feeding facilities located close to silage storage areas. Cows make their own way to the feedpad offering significant time savings especially early in the morning.

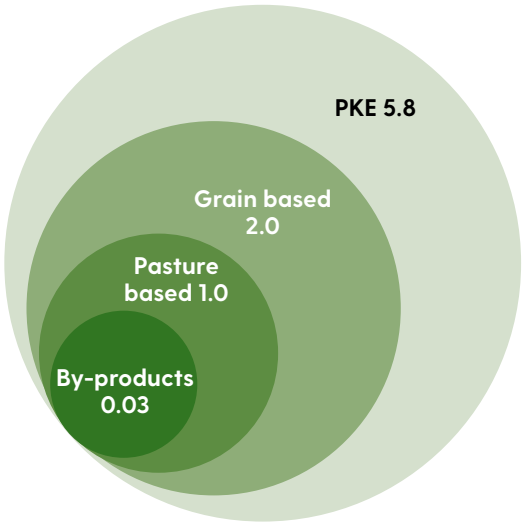
Improve farm environmental performance

The nitrogen leaching loss from maize silage followed by annual ryegrass in a cut-and-carry system, is less than 10 kg/ha/year[6]. This is good news for dairy farmers wanting to decrease nutrient losses on their farms.

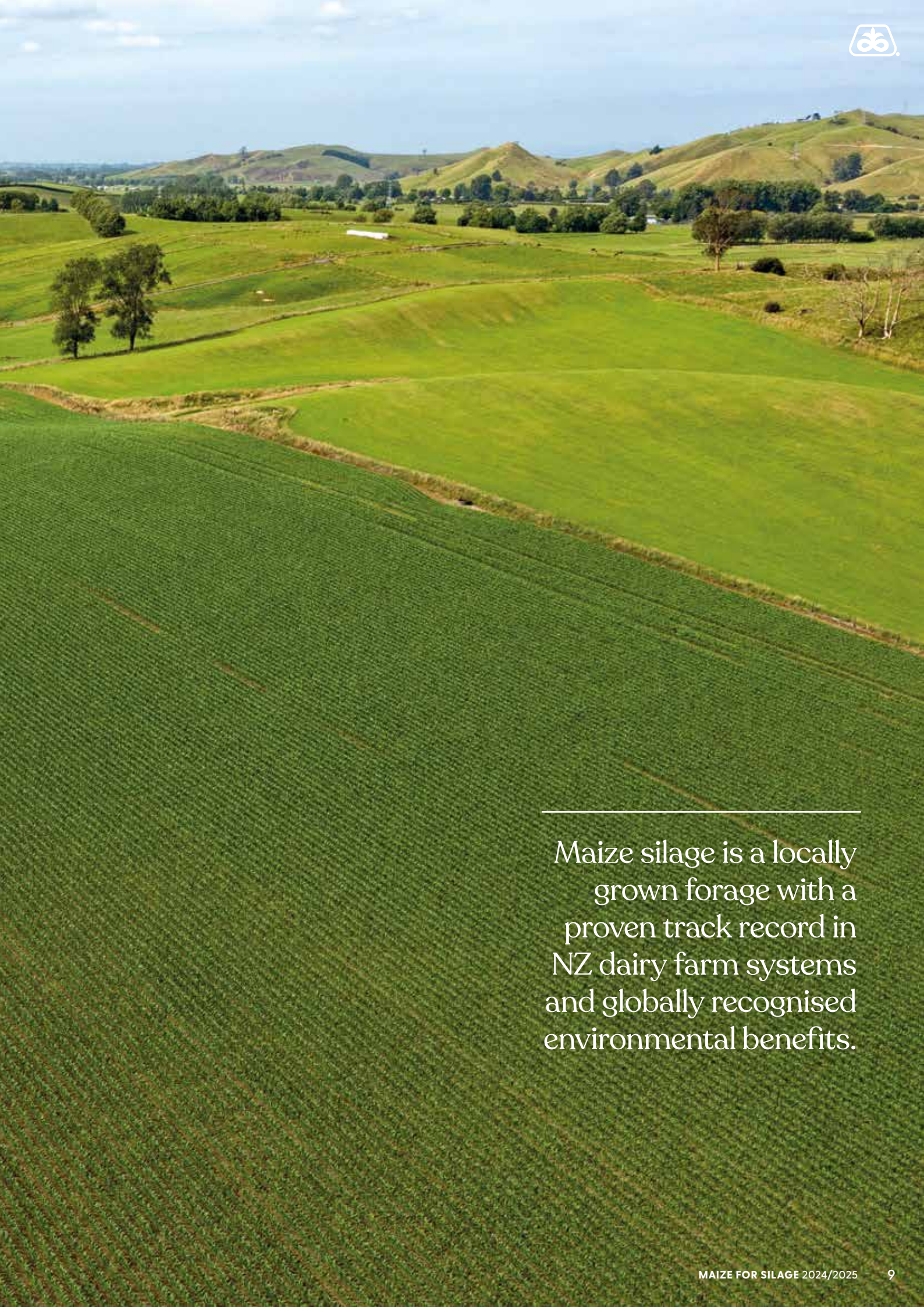
For most of the year the protein content of pasture is higher than cow requirements. Surplus dietary protein is excreted in the urine and is a major source of nitrogen in our waterways. Feeding maize, a low protein silage, decreases the amount of nitrogen in cow urine by more than 70%[7].

The Our Land and Water report[3] highlighted the opportunity for farmers to decrease on-farm biological greenhouse gas losses by reducing stocking rates and cropping on farm. Conscious consumers and the companies who purchase New Zealand's dairy products are also concerned about Scope 3 or "value chain" greenhouse gas emissions. This includes the embedded (e.g. from transport, cultivation, processing etc) emissions of supplementary feed. Maize silage has greenhouse gas emissions similar to pasture silage[8] while information published by Fonterra shows that palm kernel has an emission factor 5.8 times that of pasture silage[9].

Figure 3: Relative greenhouse gas emissions associated with supplementary feed[9]



[1]Glassey et al, 2021. Long-term Central Waikato summer-autumn rainfall and pasture growth trends. Are conditions for pasture growth changing over time? Resilient Pastures – Grassland Research and Practice Series 17:369-378
[2]DairyNZ Economic Survey 21-22. https://www.dairynz.co.nz/media/lexgdzll/economic-survey-2021-22-a4-booklet-web.pdf
[3]Densley et al. 2023. Implications of global price and supply of supplementary feeds on the New Zealand agricultural sector. Our Land and Water Report.
[4]Neal, M. and Roche, J. 2023. Waikato Dairybase data presented at the 2023 Pasture Summit.
[5]Assumes a farm growing 15 tDM pasture and with an expected maize yield of 22 tDM/ha.
[6]Tsimba et al. 2021. Quantification and mitigation of nitrogen leaching in a maize silage cropping system. Proceedings of the NZ Grassland Association. 83:163-170
[7]Ledgard. 2006. Nitrogen management – why is it important and what can we do about it? Pp 22-31. In Proceedings of the 2006 Dairy3 Conference
[8]Ledgard et al. 2016. Life cycle assessment of dairy production systems in New Zealand https://www.massey.ac.nz/~flrc/workshops/16/Manuscripts/Paper_Ledgard_2016.pdf
[9]Fonterra, 2023. Our approach to on-farm emissions.



Maize silage is a locally grown forage with a proven track record in NZ dairy farm systems and globally recognised environmental benefits.

Reaping the

JENNA SMITH,
NGATEA

benefits of maize

Maize silage is helping iwi owned Pouarua Farms manage climate variability and feed their cows well in early lactation.

Located just outside Ngatea in the eastern Waikato, the 2,200 ha property includes the Hauraki Plains largest dairy platform, a beef finishing unit, maize grain and a blueberry orchard. The land, which was taken by the Crown under the Public Works Act and Land Drainage Act in the 1800's and early 1900's, was purchased back by five iwi in 2013. The transaction was the largest on-account Treaty settlement ever made by the Crown.

Historically the farms were operated by Landcorp and from 2013-2019 were run in a sharemilking arrangement between iwi and the Crown state owned enterprise.

Chief Executive Jenna Smith has been at the helm of Pouarua Farms since 2019.

"The farms are a taonga asset for their iwi and will never be sold" says Jenna. "While the end goal is to produce food from the land, our focus is to build systems that look after it so that it will help support our people for generations to come".

In the 2022-23 season the farm milked 4,800 cows on 1,925 ha producing a massive 1.64 million kilograms of milksolids (370 kgMS/cow or 922 kgMS/ha). This season the dairy platform has been reduced to 1,775 ha and the farm is milking 4,400 cows.

"The owners do not wish to run a high input system - rather they are focused on building a system that this land can comfortably sustain" says Jenna. "We have retired some areas from dairying and reduced the farms' intensity from a System 3-4 to closer to a System 2. Overall, the changes have led to a 33% increase in production per dairy hectare".

LEFT Pouarua Farms Chief Executive Jenna Smith with Pioneer Area Manager Warren Coulson.

Farm walk

- Milked 4,800 cows on 1,925 ha in 2022-23 season
- 1,640,000 kg/MS in 2022-23 season
- Plants 70 ha of maize silage annually
- Average yields 24-28 tDM/ha

All the land is at or below sea level and the farms' soils are a mix of deep, raw peat and shallower peat with a marine clay base.

"We used to be able to bank on a wet winter and a dry summer but now the key challenge seems to be climate volatility" says Jenna. "It is hard to know what the seasons will deliver. Not all winters are wet, but we still can count on getting a dry summer most years".

Historically the dairy units have always grown maize silage and in the last few seasons the silage area has increased to 70 ha. The farm typically plants Pioneer® brand P9911, an AQUAmax® hybrid with excellent drought tolerance. Maize silage yields an average of 24 – 28 tDM/ha depending on the growing season.

"We are looking for a hybrid which can handle late planting if the spring is wet, and which will come off early in the autumn so we can get grass established" says Jenna. "It's not the easiest growing environment and once we find a product that works well, we tend to stick with it".

"Pioneer have always been involved with our business and we take advantage of the knowledge of our local Area Manager Warren Coulson as well as the Pioneer Farm Systems team" says Jenna. "They are focused on making sure we make the right decisions to drive farm profitability".

Three years ago, a couple of lower performing dairy units were disestablished, and the area has been switched to growing maize grain which is all sold for human food production.

"Maize grows well on our land and converting the lower producing, more marginal dairy units to maize grain production made sense from an economic and environmental standpoint" says Jenna.

While the bulk of the cows calve in spring, one farm operates a split calving system to fulfil a year-round supply contract. Cows are milked in multiple herds through eight sheds.

The farms are pasture-based with no bought in feed including palm kernel or other concentrates.

"We are focused on growing and harvesting as much pasture as we can, and we have undertaken a massive regrassing programme to try and improve pasture yields".

Maize silage is inoculated with Pioneer® brand inoculant at harvest time and Jenna views this as an important part of the farms' risk management.

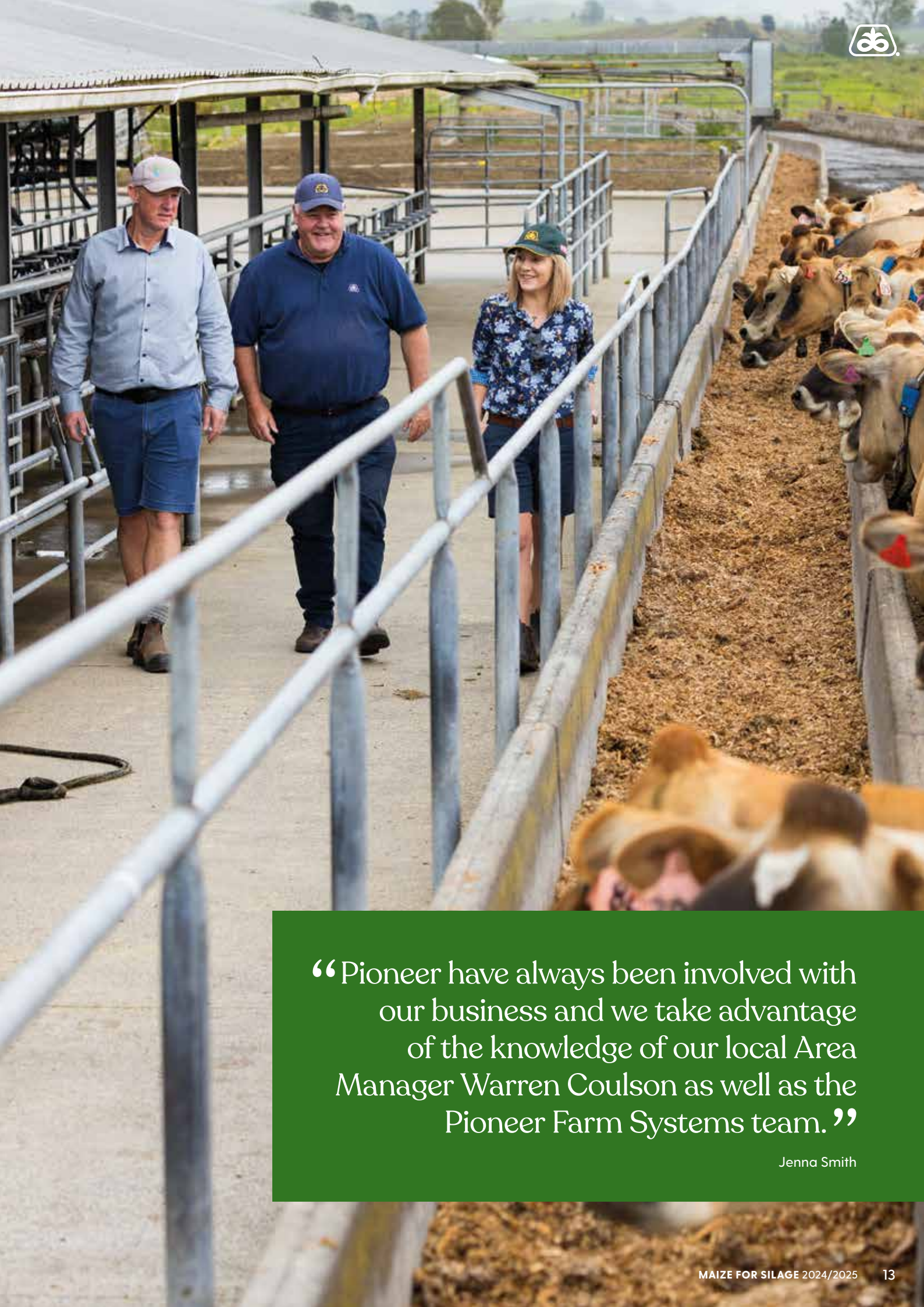
"We have a lot of people and a lot of moving parts in our farm system" says Jenna. "Inoculant is cheap insurance, and it gives our silage the best start".

While maize silage stacks can get opened if the summer dry extends too long, the plan is to feed it in the spring to ensure cows are well fed in the early lactation and to help reduce body condition loss. Some farms have feedpads and the ones that don't, feed their maize silage in the paddock along fence lines.

"If we are going to take land out of pasture to plant crops maize is the best choice for us" says Jenna. "We can grow high yields of maize silage and it has a positive impact on cow condition and milk production".

Listen to an extension of Jenna's testimonial on the Feed for Thought podcast by scanning here:

RIGHT Pouarua Farms Operations Manager Stuart Telfer and Jenna Smith with Pioneer Area Manager Warren Coulson.



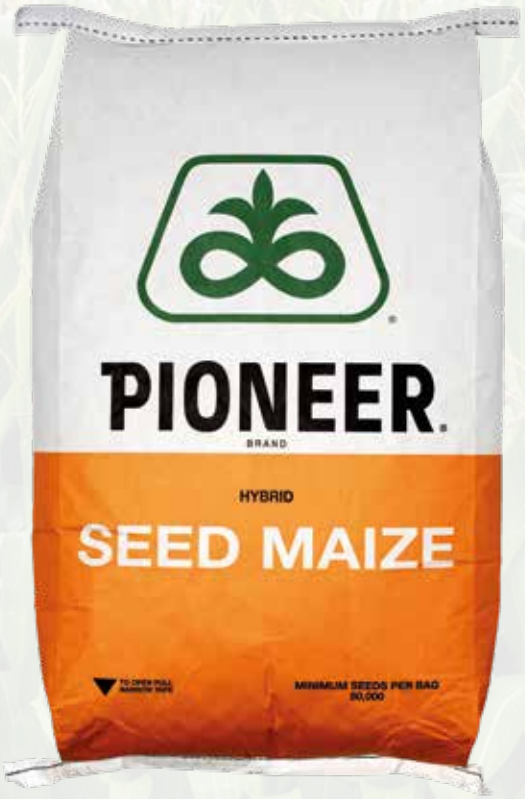
> “Pioneer have always been involved with our business and we take advantage of the knowledge of our local Area Manager Warren Coulson as well as the Pioneer Farm Systems team.”
>
> Jenna Smith

Maize *hybrids*

Pioneer has a long heritage as an industry leader – from close to 100 years of hybrid innovation to a world-class germplasm library. Pioneer® brand maize hybrids are for those farmers who refuse to settle for anything less than a great yield of high-quality silage.

Local testing and positioning products are cornerstone to Pioneer® brand maize hybrids delivering industry leading performance. Each year Pioneer's elite genetics are tested in around 160 maize silage trials across New Zealand. They are positioned and supported in grower's paddocks by our experienced field team who work alongside local merchants and contractors to ensure your success.

Whether you're farming in Northland, the lower South Island or anywhere in between, you will find the right product for your paddock amongst this season's outstanding Pioneer hybrid line-up.



Trusted and proven *reliable performance*

Pioneer hybrids continue to prove themselves in the one place that matters the most. Your paddocks. The 2024 edition of our maize silage research publication provides comprehensive data to help growers make informed decisions on which hybrid to plant. It's packed with hybrid performance comparisons plus the results of recent agronomic and farm systems research projects.

Scan here for more info on hybrid performance:

Less than 0.01% make it

These hybrids are the best of the best. They have survived discerning breeders, laboratory tests, field tests and a comprehensive local trialling programme to make it into a Pioneer bag.

The cream of the crop *from Pioneer*

QUICKEST OPTION FOR THE COOLEST GROWING REGIONS.

see page 18

THE NEW STANDARD FOR YIELD & EARLINESS.

see page 18

DELIVERS SUPERIOR YIELDS OF TOP-QUALITY SILAGE.

see page 18

RELIABLE EARLY HYBRID WITH EXCELLENT FEED VALUE.

see page 19

They're here, an exceptional class of exciting new hybrids with strong yield potential and excellent agronomics for consistent high-level performance. This season's new maize offerings build on one of Pioneer's strongest maize silage portfolios ever. With maturities ranging from 71 to 96 CRM, our new release offers hybrids for discerning growers from the bottom of the South Island to the top of the North.

PIONEER® BRAND P8532

BALANCED ALL-ROUND PLANT DESTINED TO "TIP THE SCALES".

see page 20

PIONEER® BRAND P92575

SOLID, BALANCED HYBRID, WITH TOP-OF-THE-LINE FOLIAR HEALTH.

see page 21

PIONEER® BRAND P9650

SECURITY WITH PERFORMANCE.

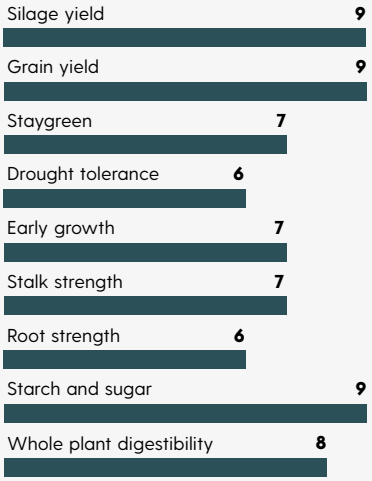
see page 21

NEW

PIONEER® BRAND

P7179

CRM 71



Quickest option for the coolest growing regions.

Similar in type but much quicker to harvest than **P7364**.

- Combines superior early growth, drought tolerance and staygreen.
- Tall with low ear placement and strong standability.
- Delivers high yields, of quality silage in the coolest maize growing regions.
- Plant at similar plant populations used for **P7364**.

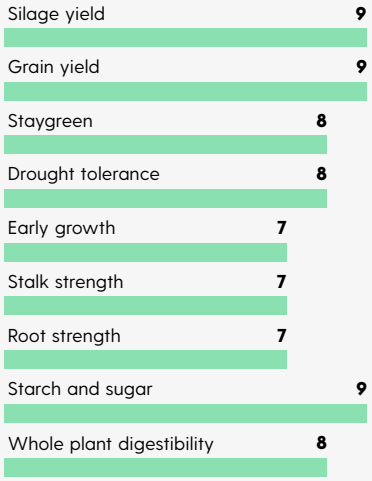
An important earlier companion hybrid to **P7364** for Central Plateau, high altitude Taranaki and high-altitude and latitude South Island growing regions.

NEW

PIONEER® BRAND

P7364

CRM 73

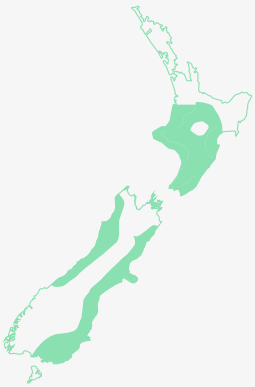


The new standard for yield & earliness.

Is like **P7524** but has better husk cover and is quicker to harvest.

- Dependable agronomic package with high ratings for early growth, drought tolerance and staygreen.
- Moderate in plant height with low ear placement and superior standability.
- Delivers high silage yields, for maturity, with top-of-the-line energy and digestibility ratings.
- In medium to high potential situations plant 5,000 plants/ hectare more than applied for **P7524**.

Replaces **P7524** for growers requiring a hybrid earlier than **P8000** or **P8086**.

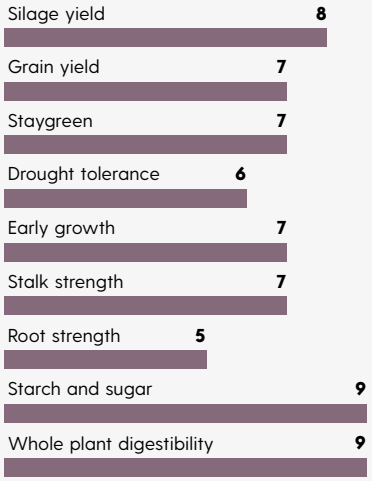


NEW

PIONEER® BRAND

P7647

CRM 76



Delivers superior yields of top-quality silage.

Expands the options for cooler maize growing regions.

- Combines strong early growth and staygreen to deliver silage with excellent energy and digestibility ratings.
- Trials show **P7647** is slightly quicker to reach harvest drymatter and is higher yielding than **P7524**.
- Tall for maturity so should be planted to achieve plant populations between 105,000 and 115,000 plants per hectare depending on paddock yield expectation.

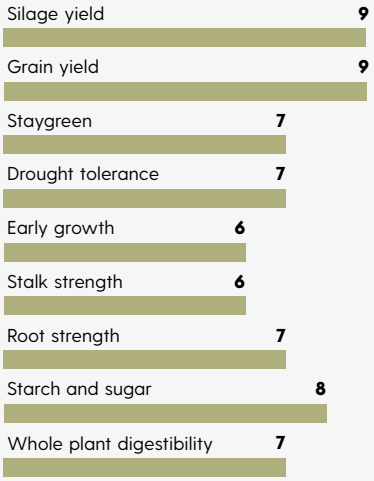
Important option for South Island growers looking for a hybrid maturity between **P7364** and **P8086**.

Pioneer hybrid trait comparison ratings 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 56. Contact your local Pioneer Area Manager or merchant for further advice.

NEW

PIONEER® BRAND P8086

CRM 80



Max 9

Reliable early hybrid with excellent feed value.

P8086 is similar in type, maturity, and management requirements to **P8000** which it replaces.

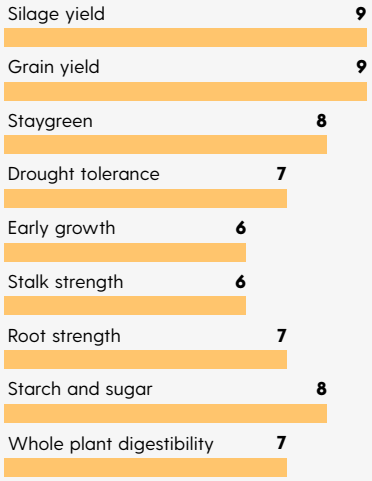
- Has a long cob packed with deep dent grain to produce silage with high digestibility and energy.
- Moderate in height with low ears, strong standability, drought tolerance, staygreen and Northern Leaf Blight ratings.
- South Island, Lower North Island and Taranaki trials show **P8086** delivers higher silage yields than **P8000**.

Grow alongside **P7647** or **P8240** depending on maturity requirements.

NEW

PIONEER® BRAND P8240

CRM 82



Max 9

Bulk and energy to fill the vat.

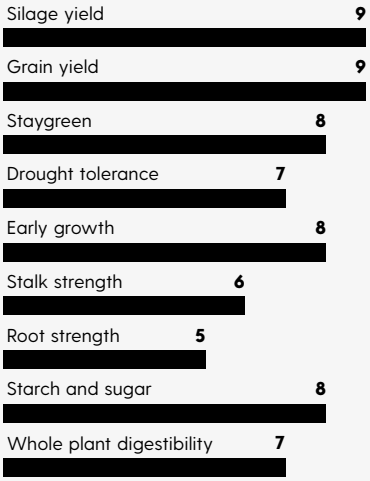
P8240 is a tall, high-yielding silage and grain hybrid backed by strong drought tolerance, staygreen and standability.

- Delivers top silage yields, with superior feed quality for optimal milk production.
- **P8240** has a balanced agronomic package while noting superior roots are a real asset in this maturity.
- Established plant populations should be matched to assessed paddock yield potential.
- Where Northern Leaf Blight is a seasonal concern consider **P8086** or **P8532** depending on maturity requirements.

Widely adapted to Central Plateau, Taranaki, Lower North Island and South Island growing regions.

PIONEER® BRAND P8333

CRM 83



Max 9

Highly productive mid-maturity 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 **P8086** and **P8666**.
- **P8333** is a tall leafy plant, so optimum established populations should be approximately 5,000 per hectare less than applied for **P8086.**

Yields particularly well in the South Island and in the cooler regions of the Lower North Island where this maturity is required.

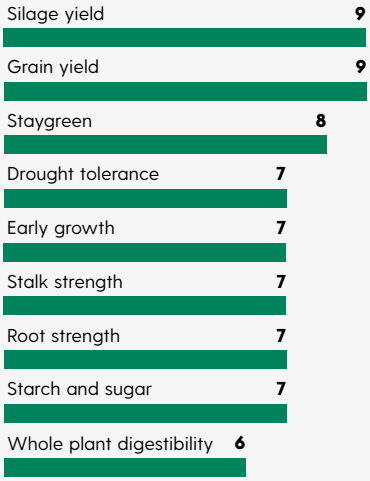
See pages 54-55 for days to harvest and growing regions.

NEW

PIONEER® BRAND

P8532

CRM 85

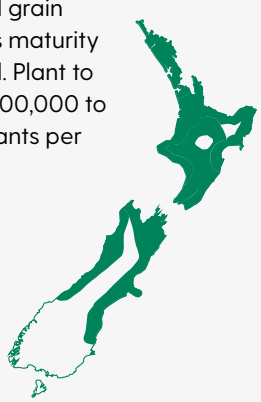


Balanced all-round plant destined to "tip the scales".

Combines a strong agronomic profile, disease resistance package with wide adaptability across growing regions.

- Large statured plant with excellent stalks and roots.
- Superior early growth, drought tolerance, staygreen and Northern Leaf Blight resistance.
- Often produces a second ear while raising the yield ceiling in this maturity.
- Silage trial yield performance was outstanding from Matamata to Timaru.

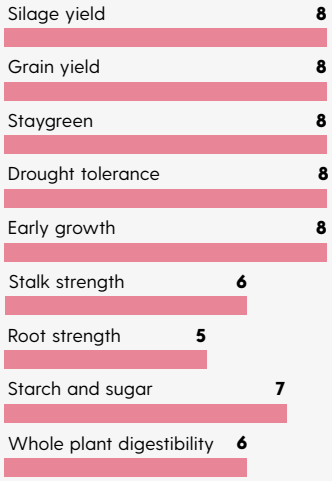
A stable hybrid that can be grown throughout New Zealand for silage and grain where this maturity is required. Plant to establish 100,000 to 115,000 plants per hectare.



PIONEER® BRAND

P8666

CRM 86



Grows well, yields very well and feeds even better.

A moderately tall bulky plant with strong all-round agronomics, early growth, superior drought tolerance, and eye catching staygreen.

- Produces silage with high grain content that cows will thrive on.
- Plant to establish 100,000 to 115,000 plants per hectare.

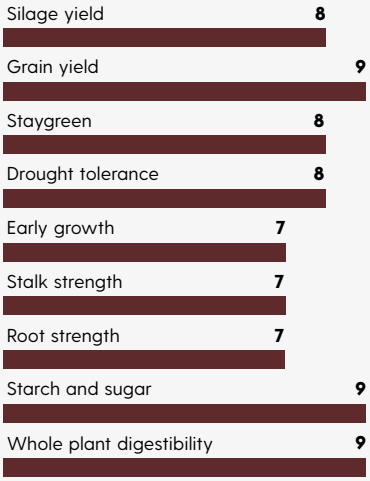
Widely adapted from Ashburton to Dargaville.

NEW

PIONEER® BRAND

P8711

CRM 87



New level of performance for northern regions.

A tall hybrid with superior roots and stalks.

- High ratings for drought, Northern Leaf Blight, Rust and staygreen deliver season long silage appeal, and yield stability. These all combine to support a wide harvest window.
- Produces silage with top-of-the-line energy and digestibility desired by high productivity herds.

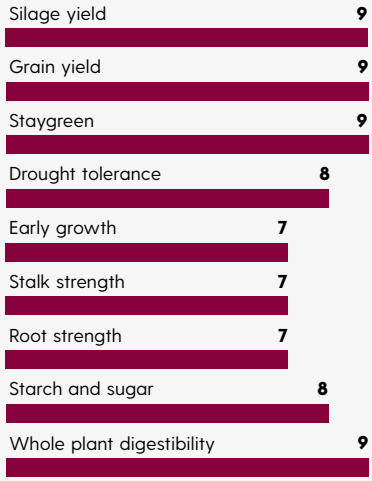
Research results show **P8711** is most productive in northern regions from Northland to Hawke's Bay, and particularly where Northern Leaf Blight is a significant concern.

Pioneer hybrid trait comparison ratings 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 56. Contact your local Pioneer Area Manager or merchant for further advice.

NEW

PIONEER® BRAND P92575

CRM 92



Solid, balanced hybrid, with top-of-the-line foliar health.

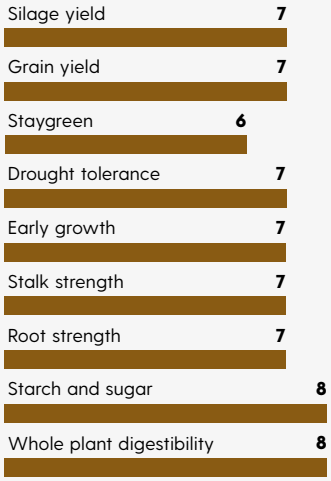
Plant where Northern Leaf Blight, standability and drought are seasonal concerns.

- Competitive silage yields compared to **P9127**, which it replaces, and **P9400**.
- Moderately tall with strong agronomics, superior roots and stalks.
- Combines excellent drought tolerance, staygreen, Northern Leaf Blight and Rust resistances that deliver high and stable silage yields.
- Late season staygreen and plant health delivers a wide harvest window and silage with superb digestibility and energy.

Widely adapted throughout the North Island where this maturity is required.

PIONEER® BRAND P9400

CRM 94



Stands tall – delivers big time.

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

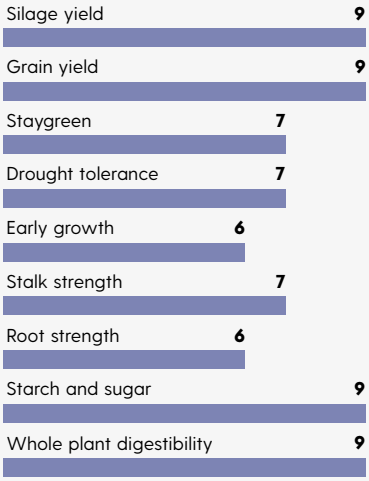
- Strong agronomically with a sound all-round disease resistance offering.
- When planting in early spring into cold wet soils consider planting **P92575** or **P9650**.

A popular high yielding early choice in Northland and Waikato, while giving stable yields in Taranaki and Lower North Island as a mid to full season hybrid.

NEW

PIONEER® BRAND P9650

CRM 96



Security with performance.

Offers yield stability for silage and grain.

- A moderately tall plant with an erect leaf habit, strong standability and drought tolerance.
- Agronomically balanced with a strong all-round disease resistance offering, including Northern Leaf Blight.
- Waikato research trials show **P9650** was 0.9% wetter at harvest than **P9400** but delivered 1,100 kgDM/ha more yield.

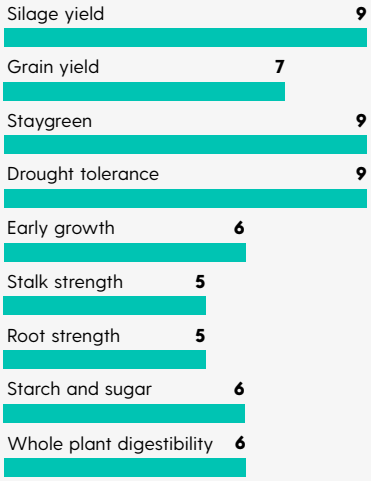
A useful mid maturity option between **P92575** and **P9978** which is widely adapted to North Island growing regions.

See pages 54-55 for days to harvest and growing regions.

PIONEER® BRAND

P9911

CRM 99



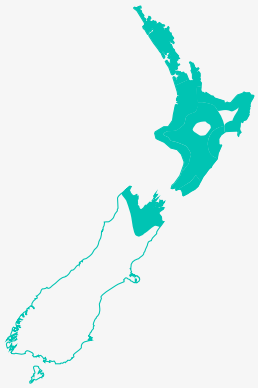
Top yielding, drought buster.

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

- Tall, showy hybrid delivering yield stability 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**.

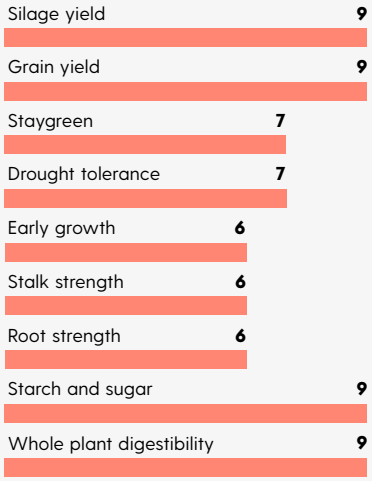
Optimum AQUAmax



PIONEER® BRAND

P9978

CRM 99



Very defensive. Very stable. Very productive.

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

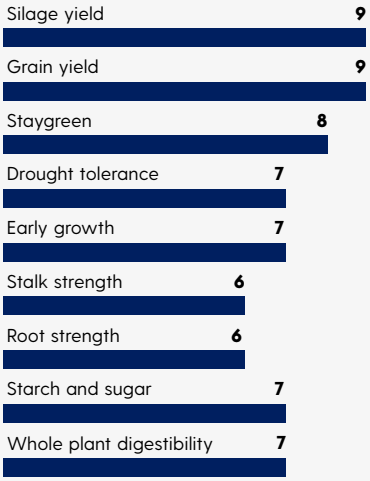
- Tall plant with low ear placement, strong roots and stalks, superior drought tolerance and staygreen.
- Provides comparable silage yields to **P9911**, however, **P9978** is slightly quicker to harvest, has better standability, Northern Leaf Blight and Rust resistances.
- Delivers silage with higher energy and digestibility than **P9911**.
- When planting early into cold wet soils consider planting **P9650** or **P9911**.

Widely adapted to all North Island growing regions where this maturity is required.

PIONEER® BRAND

P0640

CRM 106



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.
- Supplies yield stability in moderate to high yield environments from Northland to Waikato, Bay of Plenty and East Coast.

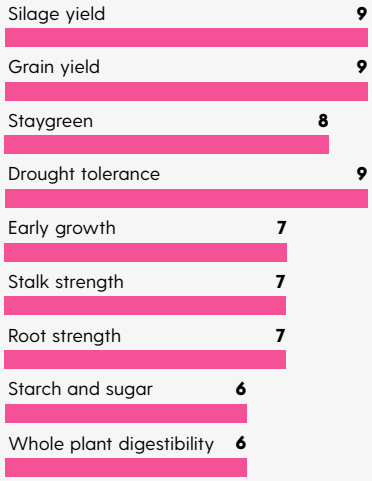
Plant with **P0362**, **P0900** and **P0937** depending on maturity requirements.

Pioneer hybrid trait comparison ratings 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 56. Contact your local Pioneer Area Manager or merchant for further advice.

PIONEER® BRAND

P0900

CRM 109



Max 9

Hard to fault, stable, all-round hybrid.

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

- Dependable standability, low ear placement, AQUAmax® drought tolerance, great foliar health and staygreen.
- Has strong resistance to Northern Leaf Blight and Rust.
- East Coast growers will value superior Head Smut resistance.
- A management responsive hybrid that will benefit from adjusting established plant population to match yield expectation.

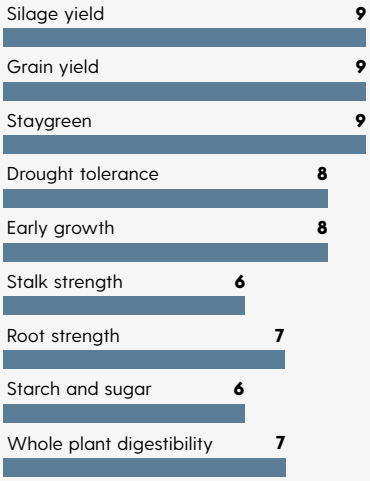
Extensively planted between Kaitaia and Napier alongside **P0937**.

Optimum AQUAmax

PIONEER® BRAND

P0937

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.

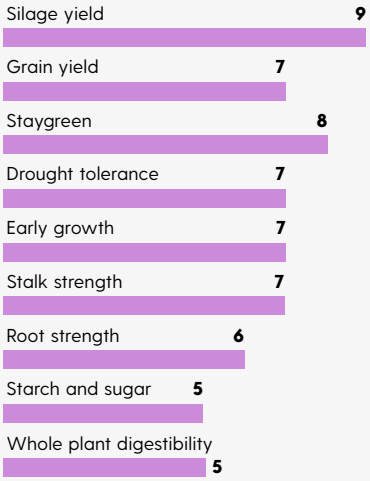
- Widely adapted, stable yet high yielding hybrid for silage and grain.
- Superior Northern Leaf Blight and Rust resistances will be attractive to growers in high-risk situations.
- Plant to achieve an established plant stand of 90,000 to 115,000 plants per hectare depending on paddock yield potential.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

PIONEER® BRAND

P1315

CRM 110



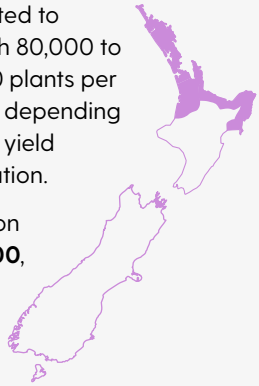
Max 9

Desirable and defensive from Northland to Hawke's Bay.

An imposing hybrid similar in stature to **P1636** while being quicker to harvest and with better foliar health.

- Season long appeal is delivered by notable drought tolerance, staygreen and superior Northern Leaf Blight and Rust resistances.
- Trials show **P1315** delivers the same silage yield as **P1636** while behaving about 3 CRM earlier.
- Where Head Smut is a concern, plant **P0900**.
- **P1315** is tall with superior stalk and root strength and should be planted to establish 80,000 to 100,000 plants per hectare depending on crop yield expectation.

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



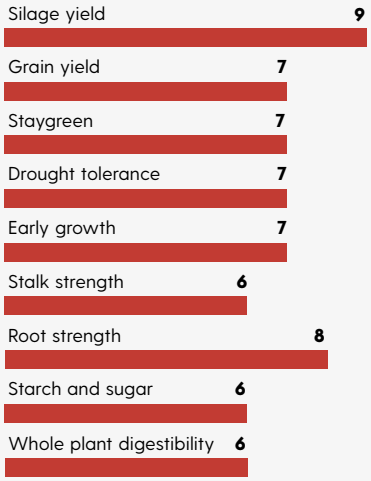
See pages 54-55 for days to harvest and growing regions.

NEW

PIONEER® BRAND

P1636

CRM 112



Enjoy the agronomics of this top yielding hybrid.

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

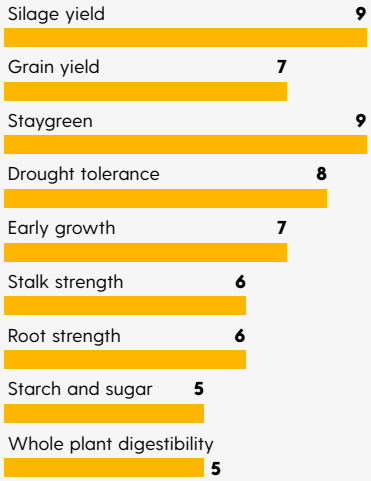
- Long cob to produce high grain content silage.
- Combines impressive agronomics, drought tolerance and staygreen that together provide a wide harvest window.
- Plant early to maximise yields.
- In high-risk Northern Leaf Blight situations consider **P1315** or **P1837**.

P1636 is well adapted to all warmer northern growing regions.

PIONEER® BRAND

P1837

CRM 115



Defensive full-season giant.

Very tall, with superior standability, resistance to Northern Leaf Blight and Rust.

- Excellent drought tolerance and staygreen which support season long “silage eye appeal”.
- Has similar maturity and silage yield potential to **P1636**.
- This huge plant only requires established plant populations of 70,000 to 90,000 plants per hectare to optimise yield performance.

A widely adapted, stable, full-season hybrid. Plant early in high potential paddocks in warm northern production areas.

Companion with **P1315** or **P1636**.

Pioneer hybrid trait comparison ratings 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 56. Contact your local Pioneer Area Manager or merchant for further advice.

Also available in 2024:

PIONEER® BRAND **P7124**
CRM 71

PIONEER® BRAND **P7524**
CRM 75

PIONEER® BRAND **P8000**
CRM 80

PIONEER® BRAND **P8500**
CRM 85

PIONEER® BRAND **P0362**
CRM 103

PIONEER® BRAND **P0891**
CRM 107

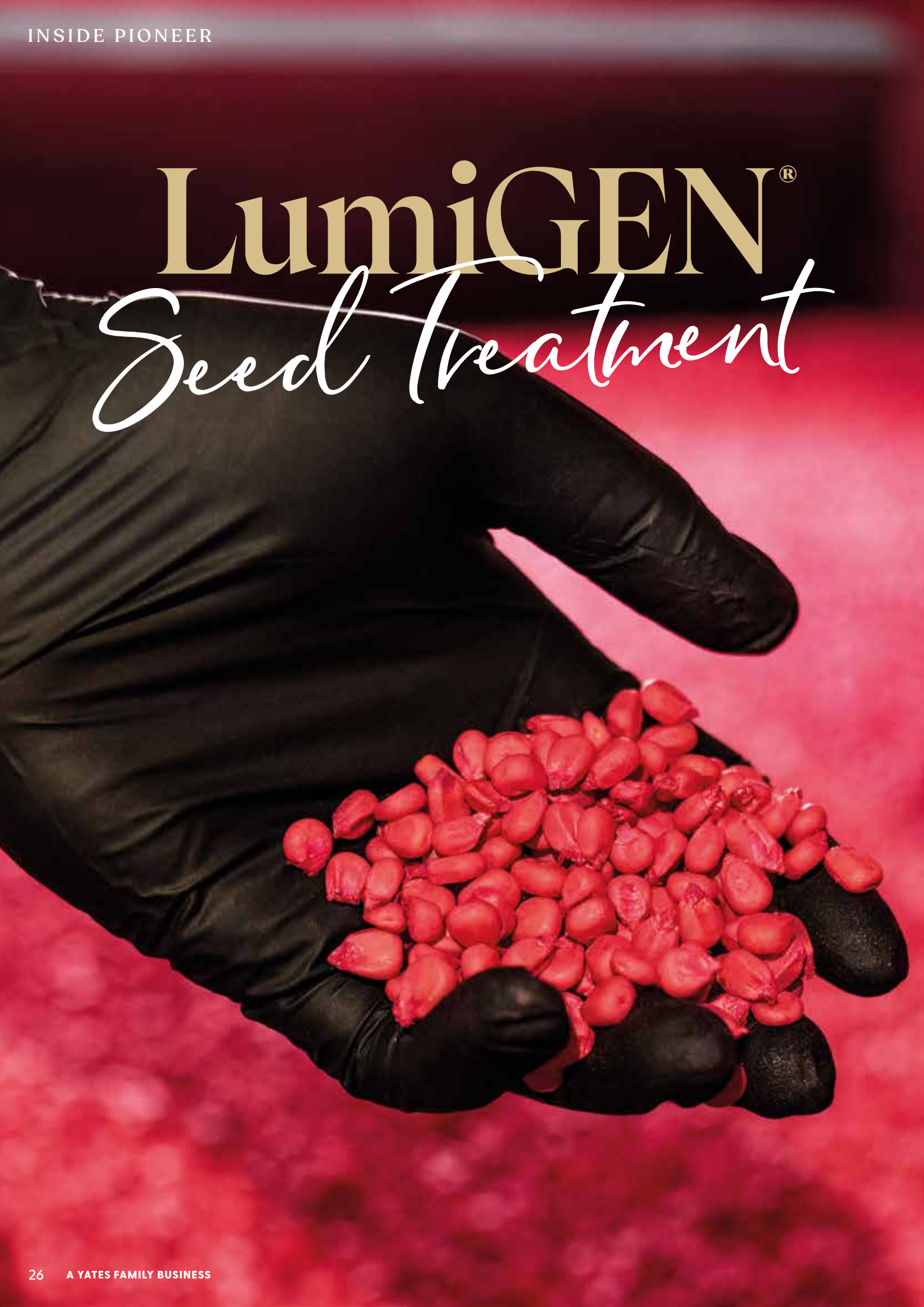
PIONEER® BRAND **P1096**
CRM 110

PIONEER® BRAND **P1613**
CRM 111

PIONEER® BRAND **P1477W**
CRM 114

See pages 54-55 for days to harvest and growing regions.

LumiGEN® Seed Treatment



Giving your maize seed a head start

Establish healthy, uniform crops and maximise productivity with LumiGEN® seed treatments. This advanced seed treatment lineup from Pioneer offers industry-leading protection for your Pioneer® brand seed.

Selected for our genetics

Verified on our genetics

Proven in the field with our genetics

LumiGEN® seed treatments protect our elite genetics from early-season disease, insects and bird damage to help maximise yield potential.

Disease

LumiGEN® seed treatments include a robust fungicide that provides protection against a range of seed and soil-borne diseases in maize, such as Pythium, Rhizoctonia and Fusarium.

Insects

Protecting seedlings from insect damage is crucial for ensuring a healthy and productive maize crop. That's why we offer a range of highly effective insecticide options that provide reliable protection against common pests in New Zealand, such as Argentine stem weevil, greasy cutworm, and black beetle. The addition of a biological creates a living barrier which deters a range of nematode species and promotes healthy root development.

Birds

For a reliable and safe way to keep birds away from your newly planted maize seed, consider trying a scientifically formulated non-lethal bird repellent. This unique formulation is based on an organic chemical that is naturally found in a number of plants including aloe vera and rhubarb, and has been proven to be highly effective in stopping birds from eating the seed. Each kernel is surrounded with a protective coating which 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 growing environment.

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

* Research data shows the insecticide in L-400 and L-400+ is more effective at reducing plant loss due to Argentine Stem Weevil damage than the insecticide in L-300 and L-300+

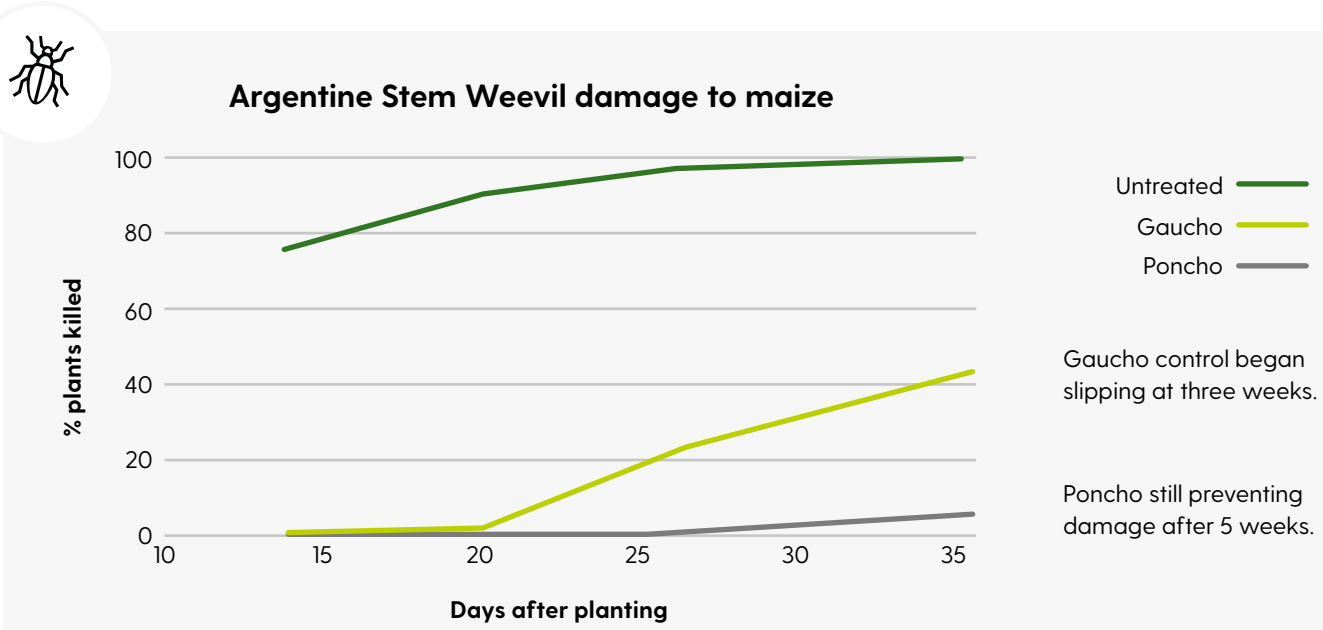
[1] L-400 and L-400+ contains Bacillus spp which suppresses nematode damage in maize

The impact of bird damage can be significant as shown by the poor establishment of a strip planted without bird repellent treatment.

Improved insect control with L-400

It is important to consider the range of insects controlled and the length of control required when deciding which is the right seed treatment for your crop.

AgResearch trials have demonstrated the advantage of Poncho (the insecticide in L-400) over Gaucho (the insecticide in L-300) in the long-term control of Argentine Stem Weevil. In addition, Poncho (L-400) has a label claim for the control of greasy cutworm while Gaucho (L-300) does not.



Seed safety trials have proven that L-400 is kinder to the seed and has lower impacts on both germination and vigour.

Control *your feed costs*

High interest rates and fluctuations in the milk solids payment have placed significant financial pressure on farmers. Since 2007-08 feed has been the largest expense category for dairy farmers, representing 28.9 percent of total expenditure in the 2021-22 season. In this article Pioneer Farm Systems Specialists Matt Dalley and Wade Bell look at four ways farmers can control their feed costs.

Some of the most profitable farmers we visit make the most of their supplementary feed spend by always having a stack of maize silage on hand.

THIS PAGE Farm Systems Specialists Wade Bell and Matt Dalley.

01.

Switch from internationally produced feeds to maize silage

Typically, the price of locally grown forages tends to be lower and less variable than the price of imported concentrates including molasses, dried distillers grain (DDG), tapioca and sometimes palm kernel extract (PKE). Concentrates have a place in lifting the energy and protein density of the diets of very high producing (> 500 kgMS) cows at some periods in the lactation. However most New Zealand cows are limited by the amount of feed offered, not nutrient density, and quality forages are a cost-effective way to fill feed deficits.

Some of the most profitable farmers we visit make the most of their supplementary feed spend by:

- Always having a stack of maize silage on hand. This feed buffer protects them from seasonal variations in feed prices particularly the large rise in supplement cost that normally occurs when we have a widescale adverse weather event which affects pasture growth rates.
- Maximising the amount of maize silage they grow at home (or on the run-off) and buying in the balance. Maintaining an ongoing relationship with a contract grower and contracting maize silage prior to planting time helps ensure reliable supply at a fair price.

02.

Maximise maize silage yield and control costs

Research has shown that maize silage can be grown in effluent paddocks without the need for any additional fertiliser. Maize can be grown on the dedicated effluent area or alternatively effluent can be spread onto maize paddocks prior to planting.

Using best practise crop management helps optimise yield whilst controlling costs. This further helps to reduce the cost of maize silage drymatter (see below).

Keys to achieving a high maize silage yield

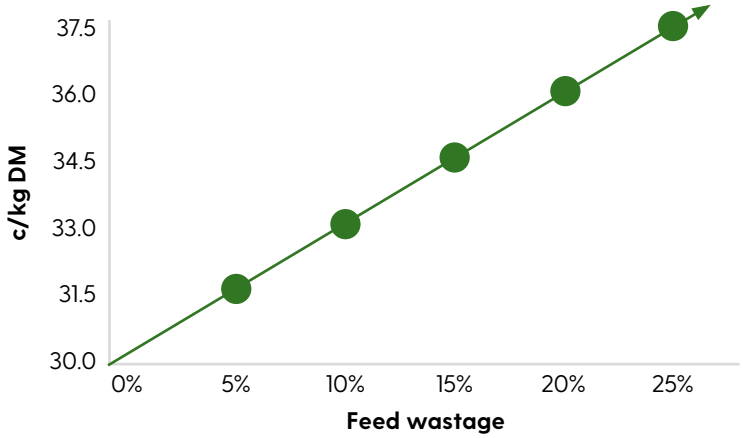
- Select a suitable paddock and address yield limiting issues prior to maize planting.
- Soil test, and use realistic yield targets to determine appropriate nutrient application rates on a paddock by paddock basis.
- Plant treated seed to reduce the risk of bird and insect damage.
- Choose a proven, high yielding silage hybrid supported by local trial data.
- Ensure all crop management practices (including planting and weed control) are completed on time.
- Harvest at 30-38% whole plant drymatter.

03.

Reduce wastage between harvest and feeding

Feed wastage can have a significant impact on the "eaten" cost of all supplementary feeds (Figure 1). For maize silage, losses can occur during the stacking and fermentation process or at feed-out time. Typical losses for well-managed maize silage range from 6-15% but poorly managed systems may have losses of 25% or more. Remember wasted feed is money lost.

Figure 1: Impact of feed wastage on the price of supplementary feed eaten



Reduce storage wastage

- Harvest at 30-38% drymatter.
- Use a proven Pioneer® brand silage inoculant to lower the pH rapidly and mimimise fermentation losses.
- Fill the stack quickly (ideally within a day) and compact well to get the air out.
- Cover with a good quality cover which is adequately weighted to prevent air billowing under the plastic.
- Seal the edges to keep air out.
- Clean the area where you will stack your maize silage and undertake a rodent control program prior to maize silage harvest.

Reduce feed out wastage

- Aim to remove at least 2 metres from the stack face every week.
- Keep the face tight by removing maize silage by shaving or chipping downwards.
- Don't hit the face with force (this may cause fractures which allow air to get in).
- Use the bucket to clean up any loose material left on the ground each day.
- If birds are a problem, cover the face with shade or wind cloth.
- Continue your rodent control program until all the maize silage has been fed out.

Reduce feeding wastage

- Use a proven aerobic stability inoculant (e.g Pioneer® brand 11C33RR) to decrease heating (and the associated energy and drymatter losses) at feed-out time.
- Start with a low feeding rate and increase it slowly.
- Don't feed out in advance unless you have used Pioneer® brand 11C33RR.
- Keep feed bins clean, don't feed on top of old silage and don't overfill feed bins.

04.

Feed maize silage strategically

Getting the best return from maize silage involves planning to determine when you will feed it, why you will feed it and how much you will feed. Supplements generate the best return when used to extend lactation (more days in milk), fill genuine pasture deficits or meet condition score targets. The best operators monitor pasture covers on a regular basis and feed known amounts of maize silage when it is really needed.

Typical densities for well compacted maize silage are normally in the approximate range of 225-250 kgDM per cubic metre for a stack (no sides) or 250-300 kgDM per cubic metre for a bunker (with sides). If you buy in maize silage, divide the total amount of maize silage drymatter purchased by the estimated cubic area of your stack and bunker to get a rough guide for the amount of drymatter in a cubic metre.

If you grow a crop yourself, your harvest contractor may be able to give you an estimated crop yield. If you don't have scales on your feed wagon or front end loader, establishing an average bucket load weight utilising a commercial weigh bridge and a laboratory drymatter test will assist with accurate feeding.

Finally, don't be afraid to close down a maize silage stack if you no longer need the feed. Remove all the loose material and ideally taper the face so that tyres won't slide off. Some farmers get good results by spreading salt (which is a mould inhibitor) across the face of the stack or spraying it with a concentrated salt solution. Pull the cover down tightly, weigh it down with tyres and seal the edges. When you open the stack discard any spoiled or mouldy material.

Hear more from our Farm Systems Specialists

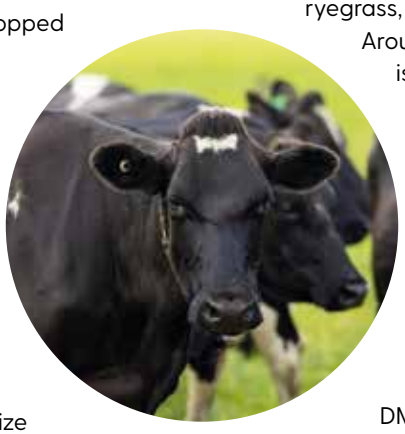
"Feed for Thought" is a regular podcast where Pioneer® Farm Systems Specialists Wade Bell and Matt Dalley share practical and relevant information on technical and farm systems topics. Our aim is to prompt thought, discussion and actions which improve the profitability and sustainability of farming. Tune in and listen to the team as well as our guests who include farmers, researchers, agronomists and nutritionists from New Zealand and abroad. **To listen and subscribe to Feed for Thought, scan here:**

EMLYN AND HILARY FRANCIS, CULVERDEN

Canterbury farmers *return to maize*

Returning to feeding maize silage has been a positive decision for Canterbury dairy farmers Emlyn and Hilary Francis.

The couple, who operate Kenmare Dairy near Culverden, stopped growing maize because they didn't like to see paddocks with nothing growing on them through the winter but returned to the crop four years ago when new, high yielding short maturity maize hybrids became commercially available.



"We wanted to feed maize silage to put condition on cows and help reduce the incidence of milk fever" says Emlyn. "The release of shorter maturity hybrids has meant we can successfully establish a winter active Italian ryegrass after maize silage harvest".

Kenmare Dairy consists of a 450 ha milking platform and 180 ha of support land which is used for wintering and silage growing. Located in the heart of the low rainfall Amuri Basin, the farm is irrigated by 13 centre pivots using water sourced from the Hurunui River.

Each year around 17 ha of maize is grown on the support land as part of a crop rotation which also includes annual ryegrass, cereal silage and kale. Around 30 ha of fodder beet is grown on the milking platform as part of the pasture renovation programme.

"It gets pretty cold here during the winter months and pasture growth rates in June and July are typically around 5 kg DM/ha/day which is why we need the winter crops" says Emlyn. "We get a lot of heat during the summer months which means we grow great maize crops".

While Emlyn is looking to grow a maize crop which is harvested early enough to enable grass to be established, he leaves the final maize hybrid decision to Pioneer Area Manager Paige Farrell.

"By feeding the springers a maize silage-based diet we have significantly reduced clinical milk fever cases and the associated cost and stress".

"Paige is in charge of that department" says Emlyn. "I try to concentrate on the things I can't get other experts to do".

For the past two seasons Emlyn has grown Pioneer® brand P7524, a short maturity hybrid with excellent grain and total yield potential and strong early growth.

Emlyn spreads effluent solids onto the maize area prior to planting which allows crops to be grown with less bagged fertiliser inputs. For two seasons crops have been established using strip till, however this year's paddock was cultivated as the ground was rough and uneven.

"Maize is water efficient and very easy to grow" says Emlyn. "Using effluent as the main source of nutrient reduces input costs and helps make maize silage a very cost-effective feed".

The maize silage crops typically yield 22-24 tDM/ha and are harvested in early April. Emlyn inoculates all the silage he makes on farm, applying Pioneer® brand 11C33 to the crop at harvest.

Farm walk

- Peak milked 1,480 cows in 2022-23 season
- 1,562 kgMS/ha (475 kgMS/cow)
- 22-24 tDM/ha average maize yield
- Applies Pioneer® brand IIC33 inoculant to crop

"We try to maximise the quality of all the silage we produce, and inoculant is proven to make a difference" says Emlyn. "We make a big investment in silage, so it makes sense to protect it".

The farm doesn't have a feedpad, so the maize is fed along fence lines at strategic times of the year. Two years ago, the farm installed a Halter virtual fencing system, and this helps staff manage cow access to the silage.

Emlyn is striving to build a herd of 500-550 kg F10 Friesian cross cows with strong feet and good fertility. The farm calves 1,450 cows in the spring and 80-100 in the autumn. Late calvers and empty cows are milked through the winter to help fulfil a small winter milk contract.

In the 2022-23 season the farm peak milked 1,480 cows and produced 703,000 kgMS which equates to around 475 kgMS/cow and 1,562 kgMS/ha.

Maize silage feeding typically starts in May with cows receiving around 4 kgDM to extend the round and put condition onto the spring calvers. Cows are wintered on a mix of fodder crops, grass silage and grassy straw.

Two weeks prior to calving they are drafted from the herd and put onto a transition cow diet which consists of around 3 kgDM pasture, 2 kgDM straw and 5-6 kgDM maize silage mixed with an anionic salt blend. The aim of the transition cow diet is to lower the dietary cation-anion difference (DCAD) of the diet to reduce the risk of milk fever. Maize silage is an ideal base since it contains much lower levels of potassium (a cation) than pasture, pasture silage or forage crops.

Trying to get a large herd in calf is always a challenge but the reduction in milk fever has resulted in improved premating oestrus activity which has also improved mating performance.

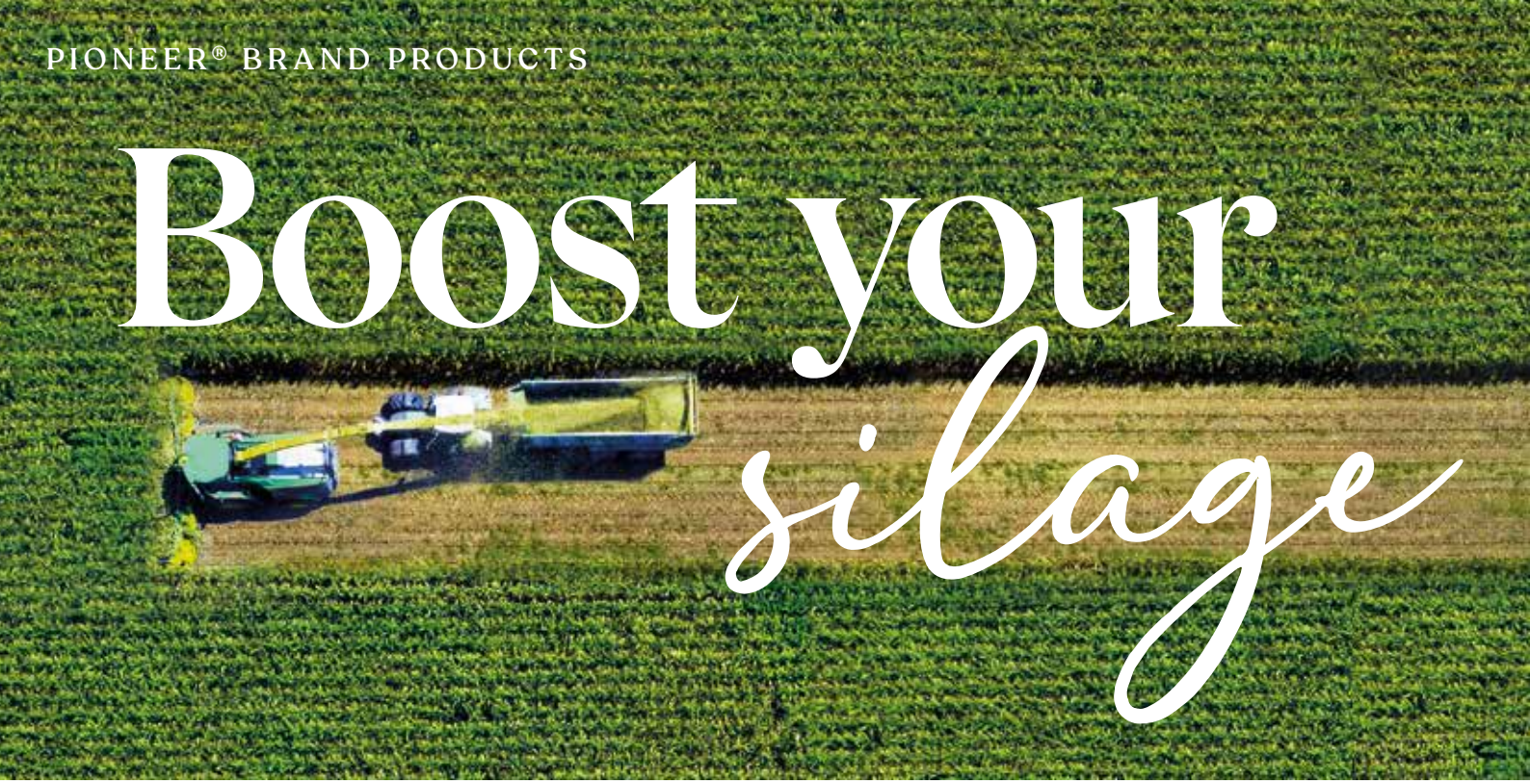
"The year before we returned to maize, we had a very high incidence of milk fever in the herd" says Emlyn. "By feeding the springers a maize silage-based diet we have significantly reduced clinical milk fever cases and the associated cost and stress".

When asked about the future for Kenmore Dairy, Emlyn believes they will stay close to the current track.

"We want to stick with a System 3 to 4 farm milking around 3.6 cows per hectare and producing around 500kgMS per cow" says Emlyn. "We aim to remain as self-contained as we can and use Halter to help us harvest more pasture and crops including maize to help drive production and profit".

ABOVE Emlyn Francis with Pioneer Area Manager Paige Farrell.

Boost your silage



Make the most of your forage crops with Pioneer® brand inoculants. These patented products are designed to meet your unique silage needs. Each product works with your crop to conserve nutrients, improve fermentation and reduce drymatter loss.

More than just an inoculant

With a range of product options suitable for use on a range of different forages, and a local field team to help maximise your silage-making success, Pioneer inoculants deliver better silage for your farm. There are many reasons why you should always ask for Pioneer® brand inoculants:

- Patented bacterial strains
- Crop specific inoculant products
- Comprehensive, New Zealand and overseas product research[1]
- Quality assured with an ISO 9001:2000 accredited quality control system
- Guaranteed bacteria levels on the label of every bottle
- Exclusive, patented Appli-Pro® inoculant applicator technology, meaning more consistent and precise application
- An experienced field team with silage making expertise located throughout New Zealand

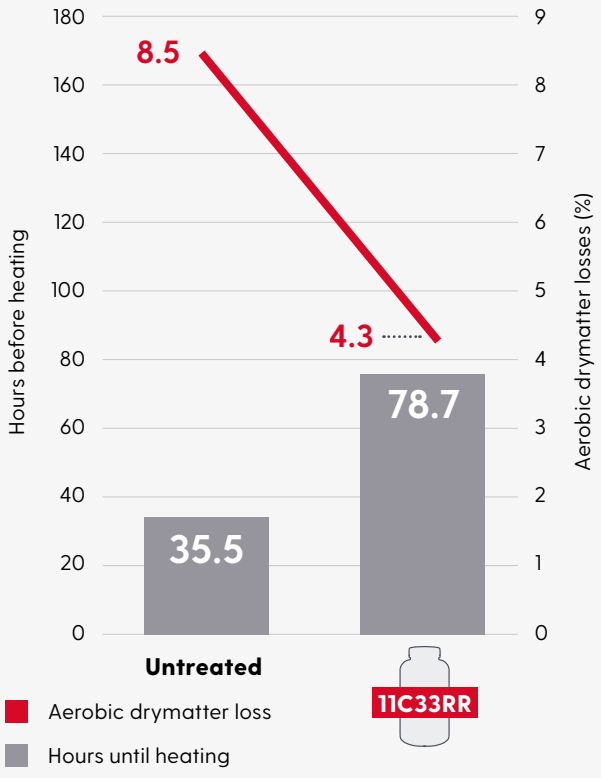
NEW 11C33 with Rapid React® aerobic stability technology

Pioneer® brand 11C33 maize silage has been proven to reduce heating and feed-out losses under New Zealand silage making conditions. It improves silage quality by providing a low terminal pH and a desirable volatile fatty acid profile. New Zealand trials show that Pioneer's new, advanced Rapid React® aerobic stability technology creates stable feed in as little as 7 days[2].

While 11C33RR is supported by overseas data, New Zealand's warm, humid growing and feed-out conditions can result in silage which is more prone to heating. For this reason, we tested four local maize silages which had been inoculated with 11C33RR. These were opened early (day 9-11) or late (day 60) and compared to an untreated control. The results showed the 11C33RR improved aerobic stability by 43.2 hours for early opening and 97.3 hours for late opening.

performance

Early opening (day 9-11)

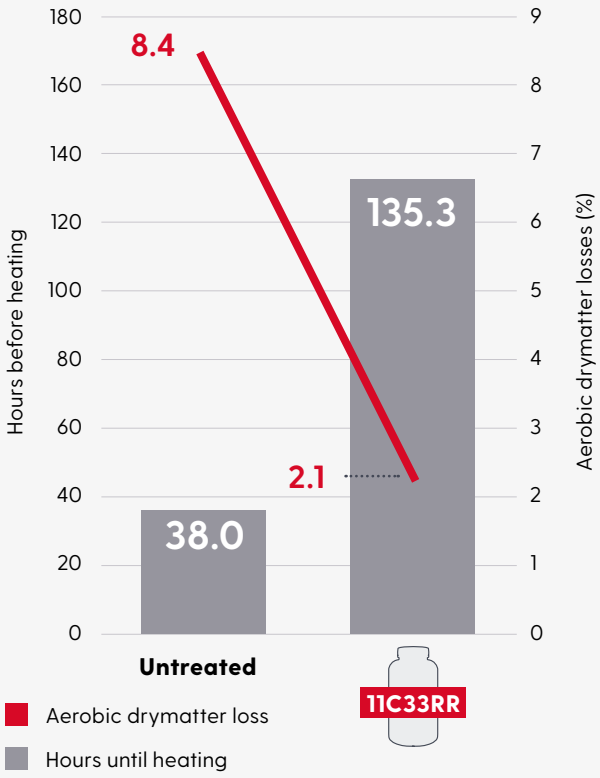


Source: 2022 NZ inoculant study. Significance level P<0.05.

+43.2 hours before heating

4.2% less DM loss

Late opening (day 60)



Source: 2022 NZ inoculant study. Significance level P<0.05.

+97.3 hours before heating

6.3% less DM loss

Maize inoculants

Pioneer® brand

11C33RR

Maize silage specific inoculant with next-generation L. buchneri designed to reduce heating and improve silage quality. Rapid React aerobic stability technology provides less heating and stable feed in 7 days[2].

Pioneer® brand

1132

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

Pioneer® brand

1174

Improves drymatter recovery and silage quality of all forage crops.

Pasture and other crop inoculants

Pioneer® brand

1127

Produces top quality pasture silage with enhanced fermentation for high producing dairy cows and specialised beef production[1].

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 losses[4] to lock in the nutrients.

Pioneer® brand

1174

Improves drymatter recovery and silage quality of all forage crops.

[1] Trial results available on request.
[2] Improved aerobic stability and reduced heating is relative to untreated silage. Actual results may vary. The effect of any silage inoculant is dependent upon management at harvest, storage and feedout. Factors such as moisture, maturity, chop length and compaction will determine inoculant efficacy.
[3] 2022 NZ inoculant study; using the Honig method to determine heating and DM losses.
[4] While silage can be fed out imnmediately after harvest. maximum aerobic stability benefits will be made when it is fermented 30 days prior to feeding.

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 for silage or hay.

PIONEER® BRAND SSS

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:

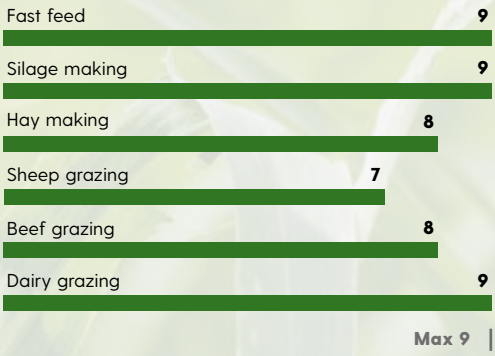
- Sudan x sudan grass
- Quick regrowth allows multiple cuts or grazings
- Prolific tillering habit and superfine stems
- Sweet and leafy for enhanced palatability

Bag size: 15 kg

Recommended planting rate: 15-25 kg/ha

Planting depth: 2.5-3.5 cm

PIONEER® BRAND BETTAGRAZE



First to plant, first to feed.

Excellent recovery from grazing or cutting, along with delayed flowering makes Bettagraze a versatile, easy to manage summer feed option. Excellent palatability and a high leaf-to-stem ratio.

Key features:

- Sorghum x sudan grass
- Fine stems and disease-free leaves
- 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.

Pioneer® brand *lucerne*

Pioneer® 54V09 lucerne offers outstanding yield potential, high quality and improved pest and disease resistance. Pioneer's improved genetics, exclusive LumiGEN® seed treatment and excellent seed quality combine to deliver improved stand establishment.

PIONEER® BRAND 54V09

Characteristic ratings

Forage yield	9
Field appearance	9
Relative forage quality	7
Phytophthora Root Rot	HR
Verticillium Wilt	HR
Bacterial Wilt	HR
Fusarium Wilt	R
Stem Nematode	HR
Spotted Alfalfa Aphid	R
Pea Aphid	HR

Characteristics

9 = Excellent, 1 = Poor. Based on Pioneer research comparisons with other Pioneer® brand lucernce cultivars.

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

Important:

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

Scan for more information regarding Pioneer 54V09:

Maize


canterbury
Holleshot Farms Ltd
canterbury
Hollie
Holeshot Farms Ltd

silage provides *feed security*

Increasingly challenging pasture growing seasons have seen Dave and Hollie England become even more reliant on maize silage as an energy source for their herd.

The couple, along with their three daughters Katelyn, Georgia and Isabella, milk 950 cows on 315 ha located at Ngaere, 7 km south of Stratford in central Taranaki. In the 2022-23 season their Friesian cross herd produced 485,000 kgMS (510 kgMS per cow and 1,540 kgMS/ha).

The land is owned by the O'Neil Family Trust and Dave and Hollie have been 50:50 sharemilking on the property for the past 10 years.

The name "Ngaere" means "swamp" in English, and before it was developed, the area was covered by a vast ancient wetland. Māori legend says that the Ngaere swamp was formed when Mt. Taranaki stopped and wept on its journey to its current resting place.

"The farm's key challenge are wet winters and springs and the last couple of seasons have been particularly challenging" says Dave. "We've been feeding maize silage the whole time we have been on the farm and it's a really important part of the management system".

Farm walk

- Produced 485,000 kgMS in 2022-23 season
- 950 cows on 315 ha
- 25-30 ha maize grown annually/ 500 t DM bought in
- Feeding 1 tDM maize silage per cow

Each season the couple grow around 25-30 ha of maize on farm and buy in about 500 tDM from a local contract grower. On-farm crops are fertilised mainly with effluent solids from the farm's 400-cow feedpad and weeping wall.

"We use starter fertiliser of 250 kg/ha 12:10:10 but no other bagged fertiliser" says Dave. "Growing maize this way allows us to reduce excess soil nutrients especially nitrogen and potassium and we get a large amount of feed at a cost-effective price".

The couple have also moved to a dedicated cropping block establishing maize using strip till and this has reduced cultivation costs. Annual ryegrass is planted after the maize silage harvest because it is faster to establish than perennial ryegrass under cooler conditions.

The farm, which is at 249 m in elevation on the edge of Mount Taranaki, provides a challenging environment for growing maize.

"We can't plant until late October because the ground is too wet and cold, so we need a hybrid which will be off early enough to allow us to establish grass prior to the winter" says Dave. "A robust plant which stands well is also really important as we seem to be getting more and more severe weather events".

Historically Dave has had great success with Pioneer® brand P8000 but this past season planted Pioneer® brand P8240.

"It has been a better-than-average year, and the crop is looking really good" says Dave. "We are hoping it will yield close to 20 tDM/ha".

While Dave has tried other maize brands in the past, he is committed to planting Pioneer® brand maize.

"We have a great working relationship with local Pioneer Area Managers Kim Sharpe and Alan Bunning and have had excellent interactions with the Pioneer Farms Systems Specialists" says Dave. "It's great to be dealing with a company that has good products and excellent support on the ground".

The maize is inoculated with Pioneer® brand 11C33RR at harvest time.

"Our bunker has an 18.5 m face which means there is a lot of silage exposed when we open it up" says Dave. "We run multiple herds so using 11C33RR means we can put maize silage onto the feedpad 12-24 hours in advance which makes life easier for the staff".

"At the end of maize silage harvest we have a lot of valuable feed in the stack, and we don't want to take any risks. Inoculant is cheap insurance for us".

Over the past five seasons, the farm's maize silage usage has increased from 600 to 1,000 kgDM per cow. Crops are stacked and fed immediately after harvest and maize silage feeding continues until the supply runs out, normally sometime in January.

"We use maize silage to help extend lactation, put weight on cows and build pasture cover levels in the autumn and early winter" says Dave. "It's an excellent energy source for the milking herd and we plan to have enough on hand to get right through the mating period".

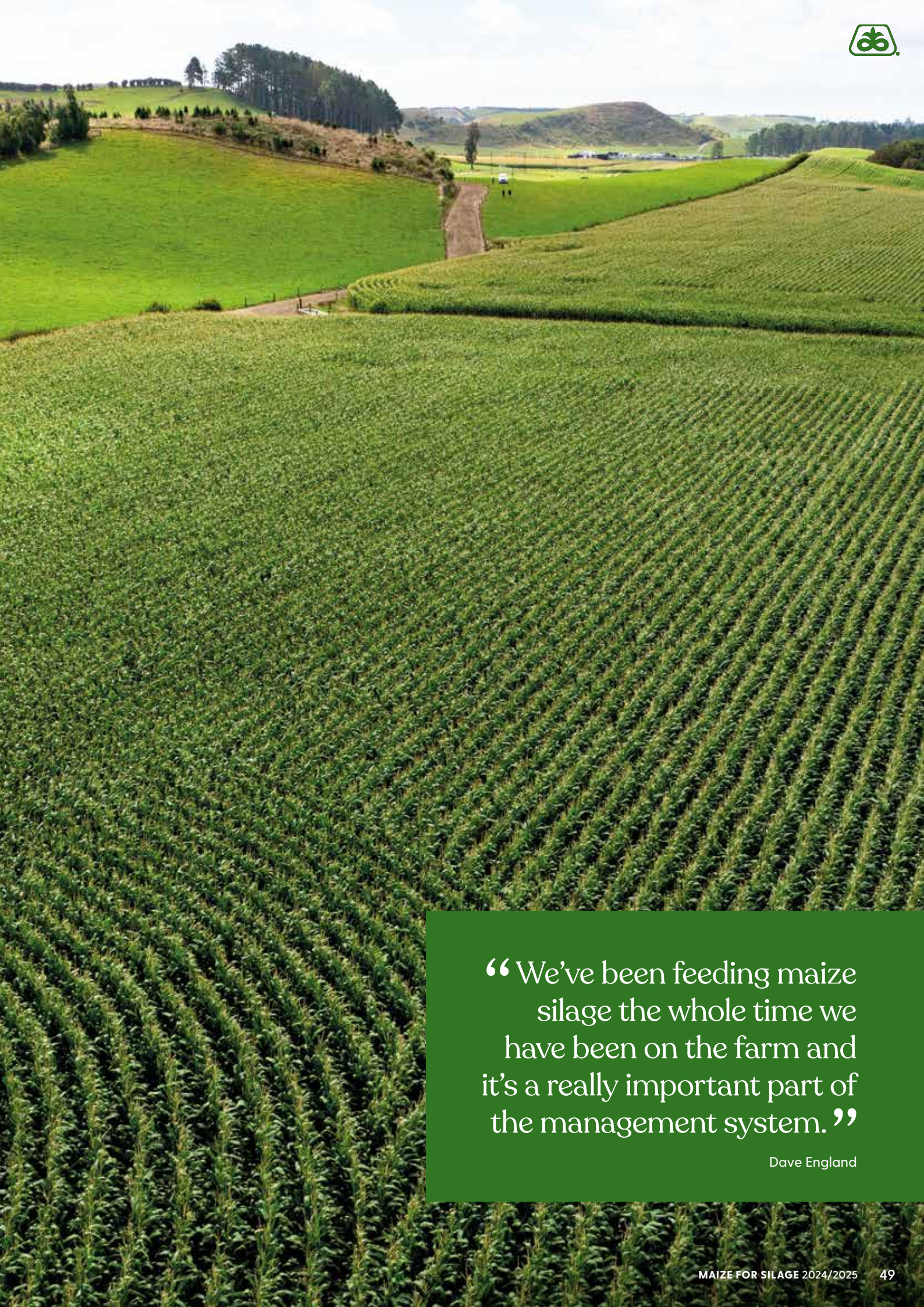
About three weeks prior to calving cows are drafted into a transition cow mob and fed a diet which contains high amounts of maize silage plus anionic salts to help reduce the incidence of milk fever.

"Feeding a springer diet works really well for us" says Dave. "It's a lot simpler and less stressful than dealing with cows with milk fever".

The weather over the last few seasons has been challenging for the farm as it has for so many others around the country.

"I don't think the frequently challenging weather will change going forward, so we are making sure we have more maize silage in the stack" says Dave. "If we've got maize in the stack, we know we can feed our cows well regardless of what the weather brings".

ABOVE Pioneer Area Manager Kim Sharpe with Hollie and Dave England.



> “We’ve been feeding maize silage the whole time we have been on the farm and it’s a really important part of the management system.”
>
> Dave England

PIONEER. BRAND · PRODUCTS

Maize silage

Growing and Harvest Cost Guide

The costs to grow, harvest and store maize silage are estimates only based on a sample of contractor rates, typical industry charges and product costs. All costs exclude GST and are indicative as at 31 March 2024. Given the volatility of farm input prices over the last few months, we encourage you to complete your own budget prior to the start of the growing season.

To use this cost guide, enter your own growing and harvesting costs in the "My costs" column. For help and notes on this table refer to the assumptions on the next page.

2024-25 Average Estimated Cost
(exclusive of GST)

		Average estimated costs* ($/ha)		My Costs ($/ha)
Growing Costs		Typical fertility	High fertility	My farm ($/ha)
Pre-planting	Cost of leased land[1]	?	?	
	Soil test, other	10	10	
	Spraying out pasture including glyphosate	75	75	
	Lime including cartage and application[2]	165	0	
	Base fertiliser cost including application	450	0	
	Cultivation: to planting specifications[3]	470	470	
Planting	Pioneer® brand P9978 maize seed @ 1.30# or 1.35## bags/ha	665	695	
	FAR maize seed levy ($8/80,000 kernels @ 1.30# or 1.35## bags/ha)	10	10	
	LumiGEN® System L-400 seed treatment @ 1.30# or 1.35## bags/ha	170	180	
	Starter fertiliser cost including application[2]	260	0	
	Planting	210	210	
Post-planting	Pre emergence weed control (herbicide + application)	120	120	
	Post emergence weed control (herbicide + application)	120	120	
	Sidedress nitrogen cost including application[2]	325	0	
	Interest on maize expenditure (7 months @ 8%)	145	95	
	Total growing cost	**$3,195**	**$1,980**	
Harvest Costs				
Harvesting	Harvesting and stacking	1460	1460	
	Covering	250	250	
	Pioneer® brand 11C33RR maize specific inoculant[4]	345	345	
	Total harvest cost	**$2,055**	**$2,055**	
Total Growing & Harvest Costs		**$5,250**	**$4,035**	

*Rounded to the nearest five dollars # Typical fertility ## High fertility

Maize silage drymatter cost

Research has shown that maize can be grown in high fertility dairy farm paddocks, including those with a history of effluent application, without the need for additional fertiliser.

The table below gives indicative drymatter costings for both high and typical fertility maize growing environments. High fertility environments include dairy paddocks coming out of long-term pasture as well as paddocks with a history of effluent application. Typical fertility environments include run-out pasture paddocks and repeat cropping blocks. Very low fertility paddocks including repeat cropping blocks are likely to require additional fertiliser nutrients depending on a number of factors including maize crop yield and winter management system. 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			
		Typical fertility paddock		High fertility paddock	
	tDM/ha	Maize silage cost per kgDM in the stack (c/kgDM)	Maize silage cost per MJME (c/MJME)[5]	Maize silage cost per kgDM in the stack (c/kgDM)	Maize silage cost per MJME (c/MJME)[5]
Maize silage yield (tDM) in the stack	16	32.8	3.04	-	-
	18	29.2	2.70	22.4	2.08
	20	26.3	2.43	20.2	1.87
	22	23.9	2.21	18.3	1.70
	24	21.9	2.03	16.8	1.56
	26	20.2	1.87	15.5	1.44
	28	18.8	1.74	14.4	1.33
	30	-	-	13.5	1.25

Assumptions

1. Average land rentals have not been included because of large regional variation. Provision to consider land rental has been included in the My Costs column.
2. Fertiliser and lime application rates vary according to soil pH and nutrient status and crop yield targets. Always soil test maize paddocks and seek professional advice to develop a nutrient application plan.
3. Cultivation costs will vary depending on soil types, land class and cropping history.
4. Costs for Pioneer® brand 11C33RR are based on inoculating a 22 tDM/ha crop.
5. Maize silage cost per MJME assumes a maize silage energy content of 10.8 MJME/kgDM.
6. Farmers growing maize silage for sale are usually responsible for costs up to and including the sidedress nitrogen application.
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.
8. The costs and benefits of regrassing have not been included.

Notes

The information in this cost guide is general in nature and is not intended to be representative 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 (for table on page 56).

[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:**
Pioneer hybrid trait 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 0.50 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 0.75 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 milk solids
kgMS/cow = kilograms of milksolids per cow
$/ha = 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

Choosing the right Pioneer hybrid for your farm

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

1 Calculate your days from planting to harvest

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

▸ / 2024
planting date

▸ / 2025
harvest date

▸ days
Days from planting to harvest

GO TO STEP 2 >

Target **harvest** date 2025		Planned **planting** date 2024														
		September		October							November					
		21	26	1	6	11	16	21	26	31	5	10	15	20	25	30
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

Hybrid 1 | Hybrid 2 | Hybrid 3

Use the tables below to choose your region then identify hybrid options by matching your number of days from planting to harvest.

Region 1

Northland, Auckland North, Coastal BOP, Gisborne & Northern Hawke's Bay

Hybrids	Estimated days from planting to harvest
P8000	110-125
NEW P8086	110-125
NEW P8532	115-129
P8666	117-131
NEW P8711	119-133
NEW P92575	123-140
P9400	126-140
NEW P9650	129-143
P9911	130-150
P9978	130-148
P0362	132-147

Hybrids	Estimated days from planting to harvest
P0640	135-149
P0891	135-151
P0900	140-155
P0937	140-155
P1096	140-155
P1315	140-155
P1613	142-157
P1636	144-158
P1477W	145-160
NEW P1837	146-161

Region 2

North & Central Waikato

Hybrids	Estimated days from planting to harvest
P8000	115-129
NEW P8086	115-129
NEW P8532	119-132
P8666	121-134
NEW P8711	123-136
NEW P92575	128-145
P9400	131-145
NEW P9650	133-147
P9911	134-154
P9978	134-151
P0362	136-151

Hybrids	Estimated days from planting to harvest
P0640	140-156
P0891	139-156
P0900	143-162
P0937	143-162
P1096	143-162
P1315	144-162
P1636	147-165
P1477W	147-165
NEW P1837	148-166

Region 3

South Waikato, King Country, Coastal Taranaki, Rangitikei, Manawatū, Southern Wairarapa & Central Hawke's Bay

Hybrids	Estimated days from planting to harvest
NEW P7364	118-133
P7524	120-135
P8000	122-136
NEW P8086	122-136
NEW P8240	124-138
P8333	125-139
NEW P8532	127-141
P8666	129-143

Hybrids	Estimated days from planting to harvest
NEW P8711	131-145
NEW P92575	136-154
P9400	140-154
NEW P9650	144-156
P9911	145-165
P9978	145-161
P0362	147-162

Region 4

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

Hybrids	Estimated days from planting to harvest
NEW P7179	120-135
P7124	125-140
NEW P7364	127-141
P7524	128-143
P8000	130-145
NEW P8086	130-145
NEW P8240	132-147
P8333	133-148

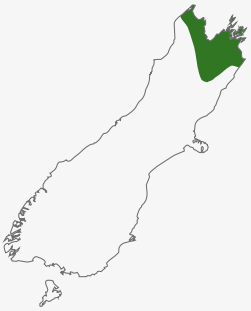
Hybrids	Estimated days from planting to harvest
P8500	135-150
NEW P8532	135-150
P8666	137-152
NEW P92575	145-163
P9400	149-163
NEW P9650	150-165
P9911	153-173
P9978	153-169

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 5

Nelson & Marlborough

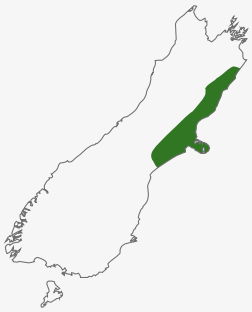


Hybrids	Estimated days from planting to harvest
P7524	130-145
P8000	132-146
NEW P8086	132-146
NEW P8240	133-147
P8333	134-148
P8500	137-151
NEW P8532	137-151

Hybrids	Estimated days from planting to harvest
P8666	142-156
NEW P92575	146-164
P9400	150-164
NEW P9650	154-166
P9911	155-175
P9978	155-170

Region 6

North & Mid Canterbury

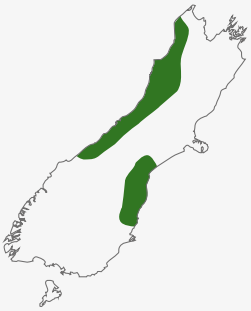


Hybrids	Estimated days from planting to harvest
NEW P7179	135-148
P7124	140-155
NEW P7364	142-155
P7524	144-157
NEW P7647	145-158
P8000	146-160

Hybrids	Estimated days from planting to harvest
NEW NEW P8086	146-160
NEW P8240	147-161
P8333	148-162
P8500	150-165
NEW P8532	150-165
P8666	153-168

Region 7

South Canterbury & West Coast



Hybrids	Estimated days from planting to harvest
NEW P7179	139-153
P7124	145-159
NEW P7364	146-160
P7524	148-162
NEW P7647	148-162
P8000	152-166

Hybrids	Estimated days from planting to harvest
NEW NEW P8086	152-166
NEW P8240	152-167
P8333	153-168
P8500	155-170
NEW P8532	155-170
P8666	157-172

Region 8

North Otago & Southland

Hybrids	Estimated days from planting to harvest
NEW P7179	145-160
P7124	150-165
NEW P7364	151-166
P7524	153-168
NEW P7647	154-168
P8000	156-170
NEW P8086	156-170

Pioneer® brand Maize Silage hybrid trait characteristics for 2024-2025

		Yield and maturity					Plant traits								Silage quality traits		Hybrid disease ratings[12]			Recommended established plant populations (000's/ha) [13, 14, 15, 16]		
	Hybrid	Silage CRM[1]	Grain yield for maturity[2]	Silage yield for maturity[2]	Adaptability to high population[3]	Adaptability to low population[4]	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	6	6	9	6	6	6	6	7	7	7	9	8	8	6	6	7	110	120	130
NEW NEW	P7179	71	9	9	9	5	6	7	6	6	7	7	7	8	9	5	6	7	110	120	130
NEW	P7364	73	9	9	9	6	8	7	7	6	7	6	8	8	9	5	4	7	110	120	130
	P7524	75	7	6	9	8	7	7	7	6	8	8	7	7	8	4	-	6	110	115	120
NEW	P7647	76	7	8	6	7	6	7	5	6	7	7	7	9	9	5	6	-	105	110	115
	P8000	80	7	6	7	7	6	6	6	6	7	8	7	9	9	6	6	6	108	115	120
NEW NEW	P8086	80	9	9	7	7	7	6	7	6	6	6	7	7	8	6	7	7	105	115	125
	P8240	82	9	9	7	9	7	6	7	6	6	8	8	7	8	5	5	7	105	115	120
	P8333	83	9	9	5	9	7	6	5	6	8	7	8	7	8	5	6	7	100	110	115
	P8500	85	7	6	6	8	7	6	6	6	7	8	9	6	7	5	5	7	105	115	120
NEW	P8532	85	9	9	7	9	7	7	7	7	7	7	8	6	7	7	-	7	100	110	115
	P8666	86	8	8	5	9	8	6	5	6	8	7	8	6	7	6	6	7	100	110	115
NEW NEW	P8711	87	9	8	8	9	8	7	7	6	7	8	8	9	9	7	7	6	100	110	115
	P92575	92	9	9	9	9	8	7	7	7	7	6	9	9	8	8	7	6	95	110	120
	P9400	94	7	7	6	9	7	7	7	4	7	8	6	8	8	7	6	6	100	108	115
NEW	P9650	96	9	9	9	7	7	7	6	6	6	6	7	9	9	7	7	7	95	110	120
	P9911	99	7	9	7	9	9	5	5	7	6	8	9	6	6	5	5	6	100	108	115
	P9978	99	9	9	9	7	7	6	6	5	6	7	7	9	9	7	7	6	95	110	120
	P0362	103	8	8	9	6	7	6	7	6	6	7	8	7	7	6	7	7	95	105	115
	P0640	106	9	9	7	9	7	6	6	6	7	8	8	7	7	7	7	6	95	105	110
	P0891	107	7	7	9	6	7	8	6	4	6	7	7	6	7	6	6	6	95	105	110
	P0900	109	9	9	9	9	9	7	7	7	7	7	8	6	6	7	7	6	85	95	115
	P0937	109	9	9	9	7	8	6	7	7	8	6	9	7	6	7	6	6	90	100	115
	P1096	110	7	7	9	7	7	7	7	7	6	6	8	5	5	7	6	6	90	100	115
	P1315	110	7	9	5	9	7	7	6	6	7	8	8	5	5	7	7	6	80	90	100
	P1613	111	7	7	8	6	7	7	6	5	6	8	8	5	6	6	7	-	90	105	110
	P1636	112	7	9	8	7	7	6	8	6	7	8	7	6	6	5	6	-	95	105	110
	P1477W	114	9	9	9	6	7	8	8	5	6	7	8	6	7	7	6	7	90	105	110
NEW	P1837	115	7	9	5	9	8	6	6	6	7	9	9	5	5	7	7	7	70	80	90

Ratings 9 = Outstanding 1 = Poor - = Insufficient data available NEW = New hybrid

CRM = Comparative Relative Maturity For trait notes see page 52

3 Choose key traits that are important to you

Use trait table on page 56. Enter the hybrid trait ratings (right) for the hybrids you selected in Step 2.

	Hybrid 1	Hybrid 2	Hybrid 3
	▸	▸	▸
Silage yield rating[2]	▸	▸	▸
Grain yield rating[2]	▸	▸	▸
Drought tolerance rating	▸	▸	▸
Staygreen rating[8]	▸	▸	▸
Early growth rating[6]	▸	▸	▸
Leaf disease rating[11]	▸	▸	▸
Whole plant digestibility[9]	▸	▸	▸
Starch and sugar[10]	▸	▸	▸
	▸	▸	▸

4 Bag calculator

Obtain planting populations from page 56. Determine the number of bags required for each paddock on your farm by completing the table below.

Paddock name				
Planting population (000's)	A			
Hectares	B	X	X	X
		÷ 80	÷ 80	÷ 80
Bags required	C	=	=	=

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