PIONEER LONG LOOK

The Pioneer® brand products team is committed to ‘going the extra mile’ to enhance the sustainability and profitability of New Zealand farmers and those who service and support them. This commitment goes well beyond the delivery of a bag of seed.

As a 100% New Zealand family owned agri-business, we are dedicated to providing our customers with valuable post-sales service, advice and support, in addition to the highest quality products.

We will not be satisfied until our customers are even more successful.

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We will not be satisfied until our customers are even more successful.

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.
Welcome to the 2015-2016 Pioneer® brand Maize for Silage catalogue. It’s exciting when our latest catalogue comes off the printing press and years of product development, research and local trialling are translated into a new, higher performing range of commercially available Pioneer maize and sorghum hybrids, lucerne varieties and inoculant products.

My favourite read each year are the stories about farmers who have built resilient farm systems which can withstand the challenges the weather and the ever-changing global economy deliver. Farmers are the backbone of our business and nothing gives us more pleasure than hearing about how our products and services are helping to meet and surpass their farming goals.

2015 sees the addition of a new hybrid (P0725) to our maize hybrid line-up. This joins five other hybrids which were released in 2014 (P7524, P8805, P9721, P9911 and P1636). Together these hybrids provide growers with the widest range of new genetics ever delivered to the New Zealand market.

We are also excited about the potential of the Samco System for growing Pioneer® brand maize seed under bio-degradable film. By increasing temperature and protecting the young seedling from late frosts, the Samco System allows maize to be planted earlier. Crops can be confidently grown in areas which were previously considered marginal or too cold.

When you purchase Pioneer you don’t just get the contents of a seed bag or inoculant bottle. Our in-field team is committed to helping farmers extract the maximum value from our products. Until farmers are even more successful, we won’t be satisfied.

Wishing you all the best for the year ahead.

Sincerely

William Yates
Managing Director
Maize produces high yields of safe feed which is of very consistent quality” says David. “It’s easy to store and feed, and it does a great job nutritionally.”

The farm’s high stocking rate is also supported with 30 ha of Pioneer® brand lucerne for summer protein, along with potatoes, palm kernel and small amounts of higher cost concentrates including soymeal and canola.

“Providing we keep control of costs, running over 3.5 cows/ha and producing 500 kgMS/cow from mainly home-grown feeds is hard to beat in a tough season” says David. “But the beauty of this system is that we have the flexibility to buy in extra feed and ramp up production if the forecast is high.”

Being profitable and investing in infrastructure in the high payout years has allowed the farm to become more sustainable. A 6 million litre lined pond on the home farm and a 2 million litre lined pond on the second farm were added to their effluent system in 2013, and five 300-cow Herd Homes® have been commissioned over the last two seasons.

“When we started we always used to make do with the equipment and facilities we had” says David. “The higher payout years allowed us to invest in better infrastructure, and this has made it easier for everyone which in turn helps us attract and keep good staff.”

As well as minimising feed-out losses, providing shelter for the cows and minimising pugging and over-grazing, the Herd Homes® have enabled easier and more environmentally sustainable effluent management, an important advantage for a highly stocked farm with rolling contour.

“We collect effluent over the winter and spread it onto the maize paddocks” says David. “It allows us to utilise nutrients in the effluent more efficiently and reduces our maize growing costs.”

FARM DETAILS

FARM SIZE 405 HECTARES (EFF)

HERD SIZE 1,450 COWS

The Bennetts maize silage stack (left). David Bennett with Grant McDonald, their local Pioneer Regional Manager (above).

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WE USE MAIZE TO LENGTHEN THE LACTATION AND TO PUT CONDITION ON COWS...

Keeping costs down and production up is the key to Tony and Louise Collingwood’s profitable dairy farm system.

The couple, along with sons Thomas (9) and Riley (7), milk 355 mainly Jersey cows on 100 effective hectares at Kiokio near Otorohanga.

In the 2013-14 season the farm generated an EFS of $6,100/ha by producing 141,000 kgMS (397 kgMS/cow and 1,400 kgMS/ha) with a production cost of $3.68/kgMS.

In 2014-15 they are on track to produce 150,000 kgMS.

The couple, who met when they were both working as Consulting Officers for DairyNZ, purchased the farm in 2005.

Louise oversees the day-to-day running of the farm while Tony, who works for a local bank, helps with strategic decisions.

They employ two full-time staff.

While the farm started off as a highly stocked, almost all-grass system, it has evolved into a System 3 to 4 operation which feeds up to 1 tDM/cow of bought-in supplements including maize silage, pasture silage and palm kernel each year.

“We first purchased maize silage on the spot market in the 2007-08 drought when we were seriously short of feed” says Louise.

“It worked really well for us and since then we have purchased around 120 tDM each year from a local contractor.”

Maize silage is typically fed from February through to drying off.

“We use maize to lengthen the lactation and to put condition on cows, while at the same time building pasture cover levels” says Louise. “It’s a much more consistent quality than grass silage and it’s very easy to feed.”

The herd starts calving on 14 July and normally half the cows are in by the end of the month. If the weather is poor and pasture is in short supply, the maize stack is opened at the start of calving, and cows are fed maize silage until spring pasture balance date.

One of the key benefits of feeding maize silage in the autumn has been better conditioned cows which produce more milk and cycle faster.

“We’ve never calved cows as fat as they were this spring” says Louise. “The herd peaked at 2.25 kgMS/cow which is great for 370 kg Jersey and Jersey cross cows, and we had the lowest number of non-cyclers.”

While many farmers have recently installed in-shed feeding systems, the Collingwoods have gone against the trend. They sold their in-shed feeding system (which came with the farm), and built a feed pad instead.

“A meal feeding system is not a practical solution for filling a large feed deficit or for feeding dry cows, and the wastage was terrible” says Louise. “It took me a reasonable period of time to be convinced to put in a feed pad but it has proven to be a great investment.”

Feeding supplements on the feed pad minimises wastage and also pasture damage, especially in the wetter paddocks. It has been designed so bins can be quickly and easily filled from the outside using a side-delivery feed-out wagon.

In the last two droughts one herd went onto the feed pad after milking and were fed a mix of maize silage, grass silage and palm kernel before being put in a sacrifice paddock at 11 am. The other herd came onto the pad and were fed their supplements prior to the afternoon milking.

“The cows were full and happy, and it allowed us to minimise the amount of damage they did to the pastures” says Louise.

The Collingwoods have built a 200 tDM silage bunker adjacent to the feed pad and while it hasn’t yet been filled, they believe it will provide them with options in the future.

“We’ve set up our system to be flexible” says Louise. “If palm kernel was ever unavailable, or too expensive we can always feed more maize silage.”
ON-FARM MAIZE GROWING ALLOWS Taranaki COUPLE KARL AND RACHEL PICARD TO PRODUCE A HIGH QUALITY, LOW COST SUPPLEMENT WHILE AT THE SAME TIME REDUCING THE BUILD-UP OF EXCESSIVE SOIL NUTRIENTS.

The couple, along with children Casey (17) and Matthew (13), milk 1,050 Friesian and Friesian cross cows on 340 ha (eff.) at Okaiawa in South Taranaki. The farm is owned by Taranaki Byproducts Ltd. and is used as a greenbelt for the company’s rendering plant. The 2013-14 season was the couple’s first sharemilking on the farm and Karl was kept very busy re-fencing the farm, building races and upgrading the water system. A 300-cow feed pad was also extended to hold 800 cows at a time.

“We nearly bit off more than we could chew with all the projects we started at once, but we got there in the end” says Karl.

In Karl’s first season on the farm their herd produced 487,000 kgMS (463 kgMS/cow or 1,432 kgMS/ha) which was 150,000 kgMS higher than the previous season. In the 2014-15 season they are on track to produce 550,000 kgMS. An upgrade to the cow shed is in the long term plan but will have to wait until the payout improves.

“In the peak it takes us around four hours to milk 19-rows through a 58-a-side herringbone” says Karl. “Sometime down the track we would like to build a bigger shed near the centre of the farm so milking is faster and the cows don’t have to walk so far.”

Karl has been growing and feeding maize silage for more than 10 years.

“The maize plant is great at extracting excess nutrients including potassium from areas where effluent has been applied” says Karl. “It’s great for pasture renewal and maize silage is the cheapest form of supplement we can feed.”

Maize crops typically yield 20 tDM/ha and cost 18 c/kgDM fed. This year the couple have planted 65 ha of Pioneer® brand P9400.

“We’re looking for a hybrid which delivers a high yield with plenty of starch and energy” says Karl. “We also like the excellent advice and technical support we get from our local Pioneer Area Manager, Kim Sharpe.”

The farm runs a split calving system with 320 autumn and 730 spring calving cows. Last spring mating lasted for six weeks, and the remaining 200 empties were carried over and mated in the autumn to get the balance between the two herds right.

Karl measures pasture quality throughout the season and the feed test results, along with pasture availability and cow production levels, determine the rate and combination of supplements he feeds on the pad. In the 2013-14 season cows were fed a mix of maize silage, palm kernel, molasses and straw. This year he has dropped the molasses and straw, and is using a mixer waggon to feed maize silage, palm kernel and kibbled maize.

“We wanted to put more energy into the diet, so we introduced kibbled maize” says Karl. “It’s a bit more expensive but it gives us more bang for our buck.”

While the couple have farm ownership as their ultimate goal, the medium-term plan is to stay on the current farm and to continue to increase production.

“We’ve done a lot of work on the farm and hopefully we can reap the benefits when the payout rises again” he says.

In the meantime Karl is planning to grow the same, or a bit more maize silage next season, and he believes it will always have a place in his farm system.

“If it wasn’t for maize silage we wouldn’t be able to run the stocking rate we are running and do what we are doing.”

The Picard’s maize silage crop (left). Karl Picard with Kim Sharpe, their local Pioneer Area Manager (above).
**FARM PROFILE**

**MARK AND KELSEY WILLIAMS**
**ROLLESTON, CANTERBURY**

“EFFLUENT IS A RESOURCE, NOT A WASTE PRODUCT...”

The couple were growing lucerne for sale into the racehorse industry on 80 ha near Darfield, when they decided to give dairying a go and purchased a nearby 100 ha dryland sheep farm. Today they are milking 550 Friesian cows on a total of 140 ha which includes a 40 ha lease block.

In the 2013-14 season production was 296,000 kgMS (538 kgMS/cow and 2,114 kgMS/ha). In the 2015 season the stocking rate has increased to 600 cows and the farm is on track to produce 320,000 kgMS in 2014-15.

Farm Manager Rory Burgess handles the day-to-day running of the farm and Kelsey handles the administration, while Mark describes his job as the “Risk Manager”.

He has had plenty of opportunity to fulfil this role since purchasing the farm. Set-up delays made the first year tough, and in the 2013-14 season a wind storm crumpled the pivot irrigator leaving it out of action for several months. This resulted in a $300,000 bill for extra feed. Spring 2014 delivered cold, dry weather and slow pasture growing conditions, while the falling payout has carved a significant amount off the budgeted bottom line.

Still, Mark doesn’t regret the move to dairying, and he is enjoying seeing the daily milk docket.

“It’s a great way of farming because every day you can see how well you have done.”

The farm, which has an annual rainfall of just 750 mm, relies on irrigation for pasture growth. Supplements are a critical part of the equation. In the 2013-14 season the cows were fed 1.5 tDM/cow, but this year they are hoping to feed 800–900 kgDM/cow.

“Last season we fed a lot of supplements when the irrigator was out of action” says Mark.

“This year we’ve budgeted to spend a lot less.”

Before the conversion took place, Mark researched various ways to feed cows up to a third of their diet as supplements, and the couple settled on a feed pad rather than feeding grain in the shed.

“Grain is expensive so we decided to use maize silage and lucerne which we can grow ourselves” he says. “They’re a great combination, with maize providing plenty of carbohydrate and lucerne supplying the protein.”

The original lucerne block now acts as a support block for the dairy operation and is used to grow 20 ha of maize, as well as 60 ha of lucerne. An additional 20 ha of maize is purchased from a neighbour.

“Our maize crops produce an average of 20 tDM/ha and cost us 26 c/kgDM fed out.”

Mark is looking for a maize silage hybrid which will produce high drymatter yields as well as plenty of grain. This season he planted Pioneer® brand 39G12. Once the maize comes off the ground the area is planted in annual ryegrass which is used to feed the springers when they return from winter grazing.

“A good supply of lucerne and maize silage and a feed pad means we can easily milk year round” says Mark.

“It’s a fairly simple system.”

**FARM DETAILS**

**FARM SIZE**

140 HECTARES

**HERD SIZE**

550 COWS

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SCHOOL MAIZE PROJECT A NATIONAL WINNER

GROWING A MAIZE CROP HAS EARNED A TICKET TO IOWA IN THE U.S.A FOR FOUR YEAR SIX, SEVEN AND EIGHT STUDENTS FROM NORTHLAND’S HUKERENUI SCHOOL.

The team, including Eliza Rockell, Katie Barnes, Jasmine Hayes and Makenna Purvis along with Coach, Bastienne Kruger, won the Future Problem Solving Competition National Final in Auckland in November 2014 and will represent New Zealand at the International Finals at Iowa State University in Ames, Iowa, in the United States of America in 2015.

Hukerenui School has a strong and clear vision to extend students’ learning through real life learning experiences. The school’s Community Problem Solving Team, which is part of New Zealand’s Future Problem Solving Programme for the gifted and talented, started an inquiry into the best use of the school’s land for the purpose of enhancing education through real life experiences.

They brainstormed and came up with a range of agricultural and horticultural options which would provide hands-on learning opportunities and develop life-long skills. Assisted by a community which was enthusiastic about the project, together with local advisors and sponsors, the students grew maize, reclaimed native bush, made natural remedies, developed beehives using the wax and honey to produce balms, planted an orchard and developed a paddock to farm alpacas.

With 71% of the school’s land space being utilised for learning projects, the students began to search for more land.

A presentation including a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis was delivered to a local landowner, who had five hectares of land available close to the school. He agreed to not only lease the land to the students to grow the donated maize seed, but to also buy the resulting Pioneer® brand P0791 maize silage crop.

Students from Year 6, 7 and 8, along with teacher Patsy Bray, took on board the business of becoming maize farmers, creating a company called A-Maizing Maize.

The school’s Board Chairman, Derek Barnes, carted fertiliser, showed the students how to drive a tractor and spent many hours convincing local companies to support the project. Local farmers, contractors and merchants helped the students to manage the maize crop, while a range of sponsors provided crop inputs.

“Doing soil samples, chasing cutworm and snails, doing the rain dance, learning how to coordinate contractors, how to make business phone calls and how not to spread urea taught them some valuable and hard lessons.”

Not only did the students manage maize on the leased land, they also established a science trial on the school grounds where they collected temperature and rainfall data and measured the yield and quality of eight Pioneer® brand maize silage hybrids.

Profits made from the maize enterprise were invested into a still and the students are extracting their own essential oils and learning to make a range of products for sale.

The school plans to continue with the maize growing enterprise, giving future year 6, 7 and 8 students the opportunity to experience hands-on learning through growing maize.

“It has been inspirational to be involved with the students of Hukerenui School and to watch how much they have learnt and achieved with their A-Maizing Maize enterprise” says Craig Booth, Northland Regional Manager for Pioneer® brand Products. “We wish the Community Problem Solving Team every success at the International Finals in Iowa in June 2015.”
While many crops such as brassicas must be fed when they are mature, maize silage can be stacked and fed when you are short of feed. Well-compacted and sealed maize can hold its quality for several seasons providing nutritious feed exactly when you need it.

Many dairy farm run-offs are not farmed to their full potential. Growing maize on your run-off allows you to grow and harvest more drymatter which can be easily transported to the milking platform. Plant a short to medium maturity maize hybrid, and sow annual ryegrass when the maize is harvested. This will ensure you have plenty of high quality pasture for the winter months.

Applying dairy shed effluent to pasture often results in a build-up of soil potassium and a higher risk of milk fever. It can also increase the risk of nitrogen leaching. Maize thrives on the nutrients contained in effluent and the maize plant can mine excess soil nitrogen and potassium, reducing the risk of milk fever and nitrogen loss to water.

Most of the nitrogen leached on dairy farms comes from cow urine. That’s because the volume of nitrogen in a urine patch is far greater than the ryegrass plants’ annual requirement. Ryegrass-clover pasture frequently contains more nitrogen (or crude protein) than cows can utilise. The bigger the nitrogen surplus in a cow’s diet, the higher the amount of nitrogen excreted in her urine. Feeding low nitrogen maize silage in conjunction with pasture dilutes dietary protein levels, which in turn reduces the amount of urinary nitrogen.

Because maize silage is a forage, you can vary the amount you feed to control pasture residuals. Increase the feeding rate and leave more pasture behind to prevent overgrazing. If you have plenty of grass on hand, then you can reduce the feeding rate and clean up paddocks better.

The combination of maize silage and a stand-off pad, or a wintering barn, allows you to restrict access to pasture, minimising pasture pugging without compromising animal welfare.

**MAIZE SILAGE:**

**THE ULTIMATE FEED**

**CHOOING THE RIGHT FEED AND HOW MUCH TO FEED IS A COMPLEX DECISION. AS WELL AS BALANCING PRICE WITH LIKELY FINANCIAL BENEFITS, AND NUTRIENT COMPOSITION WITH ANIMAL NUTRITIONAL REQUIREMENTS, YOU MUST ALSO CONSIDER HOW THE FEED WILL INTEGRATE INTO YOUR FARM. GROWING AND FEEDING MAIZE SILAGE DELIVERS A NUMBER OF UNEQUALLED FARM SYSTEM AND ENVIRONMENTAL BENEFITS.**

**LOWER FEED COSTS, MORE PROFIT**

Growing and harvesting more home grown feed (pasture and crops) will allow you to control feed costs and increase your returns. Maize is a drought tolerant crop that produces reliably high yields. Most farmers can grow maize silage crops yielding 18–26 tDM/ha for 14.5–19 c/kgDM in the stack*. Crops grown on high fertility paddocks (including effluent paddocks) without the need for additional fertiliser cost around 4 c/kgDM less. Maize silage can be used to displace concentrates and other supplements which have a higher cost per kilogram of drymatter and unit of energy.

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**AVERAGE MAIZE SILAGE COST**

<table>
<thead>
<tr>
<th>High Fertility Paddock</th>
<th>Low Fertility Paddock</th>
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<tbody>
<tr>
<td>14.5c @ 20 tDM</td>
<td>19.0c @ 20 tDM</td>
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*See page 42 for more information.

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**MAIZE FOR SILAGE 2015-2016**

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**FOR MORE INFORMATION ON HOW MAIZE SILAGE CAN FIT INTO YOUR FARM SYSTEM AND TAKE YOUR SYSTEM TO THE NEXT LEVEL CALL 0800 PIONEER (746 633) TO TALK TO YOUR LOCAL PIONEER REPRESENTATIVE.**

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**MAIZE FOR SILAGE 2015-2016**

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**THE NEW ZEALAND FAMILY OWNED MAIZE SEED BUSINESS**
Likewise, maize trials conducted at one or two sites are not the best way to select a hybrid. It’s much better to look at data from a lot of plots, on many types of ground, including paddocks and environments similar to yours.

Each season, the New Zealand Pioneer® brand products research team work with local growers and contractors to test a broad range of new experimental hybrids under local conditions at multiple locations. This is like taking a new car for a test drive on the roads you travel every day.

**IMPACT™ TRIALS**
Firstly, new hybrids are tested in IMPACT™ (Intensively Managed Product Advancement, Characterisation and Training) trials. These replicated small plot trials are located at approximately 50 sites around the country.

“When choosing sites we look for growing environments that are common to the area” says Barry McCarter, Maize Product Manager for Pioneer® brand products.

“When we see a lot of hybrids, over multiple locations and several seasons, we can pick the best ones to re-test the next season” says Barry. “Many of the experimental hybrids don’t progress beyond this stage because their yield and agronomic characteristics are no better than existing commercial hybrids.”

**PRODUCT ADVANCEMENT TRIALS (PAT)**
The handful of hybrids that show significantly improved performance through IMPACT trials move to the Product Advancement Trials (PAT) stage of testing where they are planted in strips alongside commercially available hybrids in growers’ paddocks.

“The PAT trials are where hybrids are really put to the test in multiple trials in defined growing regions. They are tested in real-life situations that allow us to gather useful information about every aspect of the hybrid” says Barry.

New hybrids planted in IMPACT and PAT trials are carefully observed and their performance is rated for a broad range of plant performance characteristics such as standability, disease resistance, silage quality and yield.

Experimental hybrids that offer significant advantages over existing commercial products are identified for local seed production and commercialisation.

“New hybrids will only be advanced if they exceed the agronomy and disease tolerance requirements for the environment they will be grown in” says Barry.

**MORE THAN JUST YIELD**
Over 450 grain and silage trials conducted by the Pioneer research team around the country each season help determine which products to advance and provide growers with a live “shop window” experience. They also allow the Pioneer field team to gain knowledge of the “personality” of hybrids in your growing region.

“From all these trials, we understand the true potential of hybrids and where they perform best” says Barry. “This goes a long way in helping farmers select the right product for the right paddock”.

Experimental hybrids that offer significant advantages over existing commercial products are identified for local seed production and commercialisation.

“New hybrids will only be advanced if they exceed the agronomy and disease tolerance requirements for the environment they will be grown in” says Barry.

**POSITIONING PRODUCTS**
While Pioneer trials are aimed at identifying products that perform consistently in a wide range of growing conditions, sometimes a product will fit a special need.

“We may see a sweet spot where a hybrid performs well in dry conditions or on marginal land” says Barry. “A hybrid may not make 27 tDM/ha in the best soil, but it may consistently yield 22 tDM/ha where others would offer a variable performance.”

“Over the past 25 years, Pioneer Research Technicians, contractors and local farmers have planted thousands of hybrid plots in trials across the country” says Barry. “When you see Pioneer® brand maize hybrids winning the race in your paddock, it’s because they have made it through the most rigorous testing programme in the industry.”

**CHOOSING WHAT FITS**

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**New Zealand Silage Yield Trend 1961 to 2014**

Source: New Zealand Yearbook and Pioneer® brand products New Zealand Research programme

Alan Brown (left) with his local Pioneer Regional Manager, Craig Maxwell (right). Pioneer Research Station, Rukuhia (above).
The best maize crops are produced by growers who plant and manage crops with excellent execution and the right timing. This includes paddock selection, soil fertility management, pest and weed control, hybrid selection and of course accurate and timely planting.

Maize seed comes in a range of shapes and sizes. If you are planting high quality Pioneer® brand maize seed and your planter is well maintained and operated with the correct settings and ground speed, it doesn’t matter whether you plant big seed or small seed, rounds or flats. Every bag contains high quality seed and industry-leading genetics, ensuring you get the best possible crop.

The genetic parents and growing conditions (including temperature and rainfall) during seed production also influence seed size and shape. Many research studies have shown that for high quality seed, there are no consistent effects of seed size and shape on overall maize hybrid germination, plant growth, or silage and grain yield.

In recent years, earlier planting and the increased use of reduced tillage techniques have created a more challenging environment for maize establishment. However, maize breeding advances have resulted in hybrids with enhanced germination and emergence capability so have faster early growth under these challenging seedbed conditions.

Pioneer® brand seed production processes in Gisborne ensure the delivery of world class quality seed with outstanding germination and vigour, in all seed sizes and grades. Every seed paddock produces a range of seed shapes and sizes, which are reflected in the overall availability of seed size for every hybrid. While we always endeavour to supply the seed size and shape you prefer, this is not always possible.

Running your planter through the Pioneer “seed Planter CheckSM” across a range of settings and seed sizes will ensure your planter is working accurately and efficiently.

High yielding crops of maize can be achieved from any grade of Pioneer® brand seed provided due care and attention is given to planter and meter maintenance, settings and ground speed. Evenly spaced plants without skips are the foundation for higher yields.

Planting too many, unevenly spaced seeds causes competition between plants. Planting too few seeds and falling short of the optimum population limits yield potential.

To help you maximise the return from your investment in Pioneer genetics and seed quality, the Pioneer team uses MeterMax® Ultra test planters to check a range of finger picker and vacuum metering units produced by John Deere, Kinze, Case IH and Monosem. The test units can also provide potential alterations in singulator, speed or vacuum settings to improve accuracy when changing seed size.

To request a seed Planter Check™, please contact your local Pioneer Representative.

Rubber seals, disk and singulator are given a visual inspection for wear.

The planting meter is mounted onto the test stand and filled with seed.

The vacuum gauge may also be attached for testing.

The ground speed, vacuum plate type and population are entered into the test planter.

Pioneer Field Technicians visit each growing region with the MeterMax® Ultra test planters and conduct seed Planter Checks™ during winter and early spring. A number of key steps are followed:

\[ \checkmark \text{The hopper is filled with seed and the stand uses advanced sensor technology to measure the planter unit performance, to improve and optimise planter efficiency.} \]

\[ \checkmark \text{Appropriate adjustments are made, followed by retesting and further adjustment to ensure optimum performance.} \]

\[ \checkmark \text{On completion, a print-out of the test results is provided.} \]

SEED SIZE AND SHAPE IS DETERMINED PRIMARILY BY THE POSITION OF THE KERNELS ON THE MAIZE COB. SMALL, ROUND KERNELS USUALLY ORIGinate FROM THE TIP, FLATS FROM THE MIDDLE AND LARGE, ROUND KERNELS FROM THE BASE OF THE COB.
Optimum AQUAmax® hybrids for the 2015-2016 season

**Pioneer Optimum Aquamax® drought-tolerant hybrid (right) vs. a susceptible hybrid (left) grown side by side in a drought environment.**

**MORE OUT OF EVERY DROP**

**OPTIMUM AQUAMAX® HYBRIDS ARE EXCITING NEW PRODUCTS THAT OFFER GROWERS ADDITIONAL CHOICES TO HELP MINIMISE RISK AND MAXIMISE CROP PRODUCTIVITY UNDER DROUGHT STRESS.**

Developed and tested utilising Pioneer’s extensive drought technology research and proprietary Accelerated Yield Technology (AYT™) system, Optimum Aquamax® hybrids help deliver a yield advantage in water-limited environments.

Simply stated Optimum Aquamax® hybrids:

- Maximise water access through an extended rooting system.
- Help minimise the risk of decreased yields due to drought stress.
- Deliver yield stability even in dry seasons.

**DROUGHT SUSCEPTIBLE HYBRID**

**OPTIMUM AQUAMAX® HYBRID**

Optimum AQUAmax® hybrids for the 2015-2016 season

- **Pioneer Optimum Aquamax® hybrids:***
  - Use less water per kilogram of yield
  - Equipped with strong agronomics
  - More out of every drop
  - Tough from tassel to root
  - Better staygreen lengthens window of opportunity for growth
  - Efficient root system captures deep soil moisture
  - Advanced stomata control for more efficient use of water
  - Aggressive silking for improved kernel set
  - Deeper kernels maintain yield under late season water stress
  - Developed and tested utilising Pioneer’s extensive drought technology research and proprietary Accelerated Yield Technology (AYT™) system

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**THE NEW ZEALAND FAMILY OWNED MAIZE SEED BUSINESS**

**MAIZE FOR SILAGE 2015-2016**
Every farm throughout New Zealand provides its own unique set of growing conditions. Each paddock may be different to the one next-door.

The Pioneer® brand products hybrid range for 2015/16 offers 22 new and well-known hybrids, all of which have gone through our comprehensive New Zealand trialling programme. With around 180 silage trials in the ground every season, chances are we will have trialled our products somewhere near you. This allows us to offer the right hybrid to suit your specific environment so you can plant with confidence.

Our team includes representatives who are dedicated to and know your area, so please contact us or your local merchant or contractor, if you need any advice on choosing the right hybrid for your farming situation.

Sharing your farming risk
Every bag of Pioneer® brand hybrid maize or sorghum seed you plant is covered by our 50% Seed Replant Risk Cover. If in the unfortunate situation that your Pioneer crop needs replanting within two months of planting, we will provide you with replant seed at half the price for the affected area.*

*This cover is for planting within the same season, and only applies to Pioneer® brand hybrid maize seed when it is planted in accordance with specifications and usual practices. Affected areas will need to be assessed and replant approved by a Pioneer Representative. Depending on product availability, hybrid and seed treatment will be as per original order. If a given product is out of stock, the next best alternative will be provided. Cover does not apply to lucerne or greenfeed maize blends, or seed treated by a third party.
TAKING MAIZE TO COOLER CLIMATES – A TRUE PIONEER

Growers in the cooler environments of the Central and Lower North Island and South Island now have a hybrid that delivers top yields in the available growing season. The earliest available hybrid, 39V43, grows into a surprisingly tall plant which produces silage with superb energy and digestibility. Best used in high altitude Central and Lower North Island and South Island environments where P7524 and 39G12 are considered too late in maturity.

STANDS AND DELIVERS TONNES OF HIGH ENERGY FEED

Great addition to the silage line-up in this maturity. A reliable hybrid producing impressive silage yields with high energy and digestibility.

P7524 is a hybrid with striking appearance, being a very tall plant, with low ear placement and great standability. P7524 performs best at plant populations near to optimum.

P7524 has a maturity between 39V43 and 39G12, which provides an exciting new option for growers in New Zealand’s cooler high latitude or high altitude growing environments.

ENERGY-PACKED STALWART TO GIVE ENERGY FEED

A popular choice offering exceptional tonnage and energy in New Zealand’s cooler growing regions. A silage and grain hybrid that delivers high quality, grain-dense silage. Widely established in Taranaki, Lower North Island and South Island. Plant alongside 39V43, P7524 or P8805 depending on maturity expectations.

HEFTY PLANT, RAIN OR SHINE – MAKES THE MOST OF EVERY DROP

Tough hybrid providing growers with silage production stability. P8805 performs where water may be limited as well as under ideal conditions. This new yield leader’s maturity lies between 39T45 and 38V12. A top yielding hybrid for silage and grain that has excellent all round agronomics and a balanced disease resistance profile. A versatile widely adapted hybrid which may be grown from Northland as a very early option, all the way to Canterbury as a fuller season product.

RELIABLE YIELDS FROM NORTHLAND TO CANTERBURY

A well-known, top performing silage stalwart which replaces 38H20. Consistently delivers top-end yields, while maintaining comparative yield advantage in moderate to challenging environments.

An excellent early choice in warmer northern growing regions where it should be considered for the production of early feed or where late planting is necessary. From Taranaki, Manawatu and south into Canterbury 38V12 will form an important part of all normal planting dates. Position with P8805 and P9400 depending on maturity needs.

STANDS TALL – DELIVERS BIG TIME

A tall, dense plant producing high grain content silage with superior digestibility. Strong agronomically with a sound disease resistance offering. Performs best in moderate to high yield environments, yet also performed well in the dry 2013 and 2014 summers. The top yielding early option in Northland and Waikato, while giving stable yields in Taranaki and Lower North Island as a mid to full season hybrid. Maturity is between 38V12 and P9721.
**NEW**

**THE NEW ZEALAND FAMILY OWNED MAIZE SEED BUSINESS**

Review carefully the trait ratings found in the table on page 47. Contact your local Pioneer Representative or Merchant for further advice.

**IMPORTANT NOTE:** Hybrid comparisons are only valid within a range of + or - 4 CRM. These descriptions mainly feature product strengths. When choosing hybrids, also consider the hybrid maturity mix between

**37Y12**

Primarily a replacement for the warmer regions to the north. Is also be considered alongside P9400, which is earlier.

**P9721**

A new addition to the Optimum AQUAmax® range providing growers more yield per drop – rain or shine! A tall shoyu hybrid with unmatched silage performance and yield stability. An impressive all-round hybrid, with top agronomics bundled with sound disease resistances. Combines the best of bulk and energy for maximum milk productivity. Produces an eye-catching ear on plants with sound standability and staygreen, together with top disease resistances. Excellent option in moderate to high yielding situations. New companion hybrid to P9400 and P9911 throughout the North Island.

**P9911**

Optimum AQUAmax® delivers top of the line drought tolerance. Produces a tall plant with a chunky ear delivering impressive yields of soft textured grain. Excellent silage appeal is enhanced by superior drought tolerance and staygreen which contribute to yield stability and a wide harvest window. Plant in northern production areas through to Bay of Plenty and East Coast. Companions with P0725, P0791, or P0891.

**P0021**

AQUAmax® stable. Delivers competitive in moderate to high yield responsiveness situations. Bred to perform in the dry yet be drought buster – full-season drought warrior. produces high grain content silage with excellent digestibility ratings that will drive milk production.

**P0791**

AQUAmax® drought tolerance provides resilience when it’s dry, and yield responsiveness with favourable growing conditions. Standability and notable staygreen provide a wide harvest window that contractors will appreciate. New companion hybrid to P0791 and P0891. 

**P0725**

A relatively short plant producing impressive yields of quality silage with high grain content for maximum milk production. Produces an eye-catching ear on plants with sound standability and staygreen, together with top disease resistances. Excellent option for moderate to high yield environments in Northland, Waikato, Bay of Plenty, Gisborne, Hawke’s Bay, Taranaki and Lower North Island. A true companion to P9911 but may also be considered alongside P9400, which is earlier.

**P105**

A tall plant producing silage and grain in all warmer northern production regions. Produces high grain content silage with extraordinary digestibility ratings. Standability and notable staygreen provide a wide harvest window that contractors will appreciate. New companion hybrid to P0791 and P0891.
Delivers exceptional yield stability for silage and grain in all northern production regions. Produces high starch content silage with excellent digestibility ratings. The all-rounder with very good drought tolerance, standability and staygreen combined with sound resistance to Northern Leaf Blight. Best suited to moderate to high yielding paddocks.

Well adapted to high plant populations that should be adjusted to match yield expectations. Other hybrids to consider include P0725, P0791, P1253 or 34P88.

**imsP0725**

**imsP0791**

**imsP1253**

**ims34P88**

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**NEW IMPRESSIVE YIELD! IMPRESSIVE ENERGY! IMPRESSIVE HYBRID!**

Well known hybrid for silage production in Northland, Waikato and Bay of Plenty through to Northern Hawke’s Bay. A dependable hybrid that provides a wide harvest window. Produces grain rich silage with excellent energy and digestibility. Newer hybrids to consider include P1253, or P0891 and P0725 which are earlier.

**imsP1253**

**imsP0891**

**imsP0725**

**ims34P88**

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**ENJOY THE AGRONOMICS OF THIS TOP YELDING ENERGY DENSE PLANT**

Similar in maturity to 34P88 but is a slightly shorter plant with lower ear placement. P1253 is well adapted to higher yield potential situations and should be planted early to optimise its performance opportunity. Produces impressive yields of high grain content silage with superior energy and digestibility ratings. Plant with 34P88, or P0891 and P0725 which are earlier.

**imsP1253**

**ims34P88**

**imsP0891**

**imsP0725**

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**MATURES VERY LATE BUT WELL WORTH THE WAIT**

Very late maturing hybrid for early planting in New Zealand’s warmest growing environments in Northland and coastal Bay of Plenty. A very tall hybrid producing silage with superior digestibility and energy.

To exploit the performance of this hybrid plant before 10th October into high potential paddocks and establish 90,000 to 100,000 plants per hectare. Significantly later option than P1636.

**imsP1253**

**ims34P88**

**imsP0891**

**imsP0725**

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**CRITICAL NOTE:** Hybrid comparisons are only valid within a range of + or - 4 CRM. These descriptions mainly feature product strengths. When choosing hybrids, also review carefully the trait ratings found in the table on page 47. Contact your local Pioneer Representative or Merchant for further advice.
Pioneer® brand crop-specific inoculants contain unique bacterial strains which enhance fermentation efficiency, reduce shrinkage, decrease heating at feed-out time and increase fibre digestibility. The end result is more milk™ or more meat™ for every tonne of pasture or crop ensiled.

**Pasture Silage**

Spring pasture often has low levels of sugar. Naturally-occurring bacteria differ in the efficiency with which they convert sugar to acid, and this can impact fermentation quality.

Pioneer® brand 1127 and 1174 inoculants contain strains of bacteria which convert sugar to acid more efficiently. The end result is lower losses and better quality silage.

**Maize Silage**

Maize silage is high in sugar and starch. This makes it prone to heating when the stack is opened at feed-out time. Heat is undesirable because it means valuable feed energy is lost from the stack.

Pioneer® brand 11C33 and 11CFT inoculants contain strains of bacteria which improve fermentation quality and reduce heating. This means more energy is available for milk or meat production.

**Multi-Crop**

Reduces drymatter loss by promoting a faster more efficient fermentation. Significantly reduces protein degradation in lucerne silages.

**Lucerne, Cereal, Sorghum & Other Silages**

No matter what you are ensiling there is a Pioneer® brand inoculant that will work for you.

**More Choices, More Benefits**

Only Pioneer inoculants provide the choices and benefits you need including:

- Crop specific products
- Patented bacterial strains
- Comprehensive, global, product-specific research
- Quality assurance backed by an ISO 9001:2000 accredited quality control system
- Guaranteed bacteria levels on the label of every bottle
- Exclusive Appli-Pro® inoculant applicator technology for more consistent and precise inoculant application
- Extensive local technical back-up including Forage Specialists, Animal Nutritionists and a Veterinarian.

**Key Benefits**

- Reduces drymatter loss by rapidly lowering pH and decreasing feed-out losses.
- Keeps silage cooler for longer enabling it to be fed out up to a day in advance.
- Improves fibre (NDF) digestibility, which increases cow intake.
- Rapidly lowers pH and improves maize silage feed value.
- Best suited for silages that have excellent stack face management.
- Lower priced fermentation product which rapidly lowers pH conserving valuable crop sugars while reducing protein degradation.
- Reduces drymatter loss resulting from fermentation losses. Helps retain nutrient content and enhance digestibility of pasture silage.
- Lower priced fermentation product which rapidly lowers pH. Conserves valuable crop sugars while reducing protein degradation.
- Reduces drymatter loss by promoting a faster more efficient fermentation.
- Significantly reduces protein degradation in lucerne silages.
- Lower priced fermentation product which rapidly lowers pH. Conserves valuable crop sugars while reducing protein degradation.

**Pack Sizes Available**

- **11CFT**
- **11C33**
- **1132**
- **1174**

- **Pasture Silage Specific**
- **Maize Silage Specific**

- **Pack Sizes Available**

- **Wet Tonnes Treated**

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1. While 11CFT and 11C33 inoculated maize silage can be fed immediately after harvest, it will stay cooler for longer when it is fermented for 30 days prior to feeding.

2. Trial data available on request.
A lucerne stand is a long-term investment for your farming business, so if you’re planting a crop it’s important to choose the right variety.

Improved Varieties

Pioneer is one of the very few seed companies that are actively breeding and producing lucerne seed. Breeding efforts are focused on developing superior-performing varieties through improved yield, winter hardiness and stand persistence.

Our Lucerne line-up for 2015-16 includes Pioneer® brand 54V09, which has become a trusted performer for growers around the country, as well as Pioneer® brand 55Q27 which is an exciting new introduction.

Less Coating, More Seed

Pioneer’s Nitragin® Plus seed coating offers four stage layering to ensure excellent seedling establishment and nodulation of every plant. The benefits of this unique seed coating are:

- 9% weight increase in the coating process giving you more pure seed for every kilogram of coated seed you purchase.
- Patented seed drying process ensuring customers of high Rhizobium levels on every seed.
- Excellent product stability – guaranteed Rhizobium shelf life of two years from coating.
- Superior seed adhesion with minimal dust, making planting easier and more accurate.

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)

Pioneer® brand Lucerne Manual

The Pioneer® brand Lucerne Manual covers all aspects of growing, grazing, harvesting and feeding lucerne in New Zealand.

To receive your complimentary copy

- WWW.PIONEER.CO.NZ
- 0800 PIONEER (746 633)

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

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

Nitragin® Plus is a registered Trademark of EMD Crop Bioscience and/or its affiliates.
FAST SUMMER FEED

IF YOU’RE IN A WARM PART OF THE COUNTRY, CONSIDER BETTAGRAZE FOR A QUICK-GROWING, HIGH-YIELDING, DROUGHT TOLERANT CROP THAT CAN BE GRAZED OR HARVESTED AND STORED FOR WHEN YOU NEED IT MOST.

LATE PLANTING
Bettagraze is a great option for late spring to early summer planting in paddocks which require spring drainage or contour work. It can be planted after a late winter crop, pasture silage harvest or in paddocks where spring-sown crops (e.g. brassicas) have failed to establish. Since it has a larger seed size, Bettagraze can be planted deeper into the moisture zone, allowing good establishment even in dry seed beds.

DROUGHT TOLERANT
Forage sorghum x sudan grass hybrids have a higher water use efficiency than ryegrass. This makes them the ideal species for warm, dry weather.

SPEEDY GROWTH
In the right conditions Bettagraze will be ready for cutting or grazing 35 to 45 days after planting. In a warm growing season you can expect to get two or three grazings or harvests.

CROP MANAGEMENT TIPS
✓ Plant Bettagraze in warm growing environments only. For good crop establishment, soil temperature at 5 cm depth needs to be at least 17°C and rising.
✓ Soil test your paddock to determine fertilizer needs.
✓ Good weed control is important. Spray out the paddock prior to planting.
✓ Drill and roll seed into a fine, moist seedbed at 3-5 cm depth. Broadcast sowing is not recommended.
✓ Plant Bettagraze at 25–45 kg/ha at 15–30 kg/ha. Crops planted at higher rates will have thinner stems and a higher yield potential.
✓ Grazing Bettagraze behind a wire or cut at 35-45 days after planting when the crop is at least 1m in height. For maximum regrowth leave a residual of 15 cm.
✓ Re-cut or graze after 4-6 weeks when the crop is at least 0.8 m and no more than 1.2 m in height.
✓ Monitor nitrate and prussic acid levels, especially in crops which have been drought stressed or frosted.
✓ Always spray out crops prior to autumn frosts or regrowing.

NZ BETTAGRAZE TRIAL YIELD DATA
New Zealand trials show that Bettagraze delivers significantly higher yield per cut than Pacific Sprint and Seedforce BMR Revolution.

Bettagraze compared with Pacific Sprint
(Two replicated trials)

<table>
<thead>
<tr>
<th>Fast feed</th>
<th>Silage making</th>
<th>Hay making</th>
<th>Sheep grazing</th>
<th>Beef grazing</th>
<th>Dairy grazing</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

1 = Poor, 9 = Excellent
Based on Pioneer research comparisons with other Pioneer® brand Sorghum/Sudan hybrids.

Bettagraze compared with Seedforce BMR Revolution
(Four replicated trials)

<table>
<thead>
<tr>
<th>Fast feed</th>
<th>Silage making</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,848</td>
<td>4,386</td>
</tr>
</tbody>
</table>

Highly significant (P<0.01) yield advantage to Bettagraze.
*Significant (P<0.05) yield advantage to Bettagraze
If you’re farming in an area which has previously been considered too cold for maize, or if you are in a warmer area and would like to grow a higher yielding, longer maturity hybrid, the SAMCO system is right for you.

**What is the SAMCO System?**

The SAMCO System is a complete and simple method for growing maize under bio-degradable film. It is based on four key elements –

1. The SAMCO machine
2. Efficient weed control
3. SAMCO Oxo-Bio degradable film
4. The right Pioneer® brand maize silage hybrid.

**How does it work?**

In a single pass the SAMCO machine sows the maize seed, applies a pre-emergent herbicide and lays a bio-degradable film. The film is designed to be strong enough to be pulled through the machine, but weak enough to allow the plants to break through at the correct growth stage. It creates a greenhouse effect keeping the young maize seedlings in a warm, humid environment for 4-6 weeks. During this time plants are protected from late frosts and adverse weather. The film also helps conserve moisture which would normally evaporate from the soil. Ventilation in the film limits excessive temperature during warm spring days.

The SAMCO film is naturally broken down by warm temperatures and ultra violet light, and the residue is eaten by soil microorganisms. When the maize plant touches the film, the root system develops more rapidly and this helps to sustain the plant in the later growth stages. Eventually the plant breaks through the film, and is on its way to producing a high-yielding crop.

**SAMCO System Benefits**

In traditional maize growing areas
Use the SAMCO system to plant earlier.
Grow a higher yielding, longer maturity maize hybrid, or harvest your maize silage up to a month earlier.

Growing maize at altitude or in cooler environments
Plant earlier and you can be certain your crop is protected from late season frosts for 4-6 weeks. Alternatively, grow a higher yielding, longer maturity hybrid and get it off earlier in time to plant new pasture or a winter crop.

**Get the Best Results**

To achieve the best results out of growing Pioneer® brand maize seed under the SAMCO system:

✓ Choose a flat paddock, or near flat with consistent contour. Square or rectangular paddocks are ideal.
✓ Spray out existing pasture several weeks prior to planting.
✓ Plough the paddock to bury the trash and work the top to form a fine, even, clod-free seed bed.
✓ Soil test and apply the required fertiliser before final cultivation.
✓ The SAMCO planter works best in a seed bed which is 75-100 mm deep with a maximum clod size of 30 mm.

Find out more about the SAMCO System

For more information on the SAMCO system including choosing the right Pioneer® brand maize hybrid to plant, talk to your local Pioneer Representative (see the outside back cover for their contact details).
If you have an in-shed feeding system, maize grain could be the key to more milk™ production, better reproductive performance and healthier cows. Grown in New Zealand, maize grain is readily available and competitively priced.

Maize grain – the high performance feed

Maize grain is higher in energy than other concentrate feeds, such as barley, wheat, palm kernel and most dairy meals. What’s more, this energy is mainly in the form of starch, which drives milk protein percentage. Since milk protein is worth more than milk fat, feeding maize grain can directly increase your milk revenue.

Healthy, productive cows

Maize is one of the best possible sources of starch for your cows because it is digested more slowly and to a lesser extent in the rumen. This reduces the risk of acidosis, and its associated production losses and animal health costs.

Get it when you need it

Convenient and easy to use, processed maize grain can be ordered when required. You can feed it mixed with silage or other feeds in bins, or through your in-shed feeding system.

Environmentally friendly

Cow urine is a major source of nitrogen leaching on dairy farms. The more nitrogen cows excrete above their requirements, the more they excrete in their urine. Low protein feeds such as maize grain dilute dietary protein, reducing the amount of nitrogen excreted in cows’ urine. This reduces the risk of nitrogen leaching into groundwater, lakes and rivers.

Quality control

Compliance with Pioneer’s globally accredited ISO 9001:2008 quality standards is at the forefront of all conditioning, grading and seed treating operations at our Gisborne production plant.

Advanced film coatings

The use of film coatings and advanced drying processes ensure the seed treatment ingredients adhere to the seed reducing dust and improving planter operator safety.

Pioneer warranty

For your protection every bag of Pioneer® brand seed is mechanically stitched closed with a green and white bi-colour tamper proof string. This “locks in” the Pioneer warranty & Seed Replant Risk Cover and guarantees there is a minimum of 80,000 kernels in each and every bag.

If the bag has been opened and treated by a third party, your Pioneer warranty and Seed Replant Risk Cover will be void.

Get the most from every seed

When it comes to achieving high maize yields, every plant counts.

Pioneer Premium Seed Treatment® offers a number of industry-leading insecticide, fungicide and bird repellent options to control insects, soil borne diseases and birds. These give your seedlings the best possible chance of achieving their full yield potential.

To carry the Pioneer Premium Seed Treatment® stamp of approval, every bag of treated Pioneer® brand maize seed must meet the following stringent quality control standards.

Environmentally friendly

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Contact your local Pioneer representative (see the outside back cover for their contact details).
### MAIZE GROWING TOOL

### GROWING AND HARVESTING COST GUIDE

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

#### CALCULATE GROWING & HARVESTING COSTS FOR YOUR FARM

<table>
<thead>
<tr>
<th>2015/16 AVERAGE ESTIMATED COST (EXCLUSIVE OF GST)</th>
<th>Average estimated costs ($/ha)</th>
<th>My farm ($/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Growing Costs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost of leased land</td>
<td>Low fertility</td>
<td>High fertility</td>
</tr>
<tr>
<td>?</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Soil test, other</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Spraying out pasture (incl. glyphosate)</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>Lime @ 2.5 t/ha + application</td>
<td>170</td>
<td></td>
</tr>
<tr>
<td>Base fertiliser</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>Cultivation¹</td>
<td>400</td>
<td>400</td>
</tr>
<tr>
<td><strong>Planting</strong></td>
<td>505</td>
<td>525</td>
</tr>
<tr>
<td>Pioneer® brand P0791 maize seed @ 1.30/1.35 bg/ha</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>FAR maize seed levy ($7/280,000 kernels) @ 1.30/1.35 bg/ha</td>
<td>145</td>
<td>150</td>
</tr>
<tr>
<td>Seed insecticide treatment (Poncho®) @ 1.30/1.35 bg/ha</td>
<td>185</td>
<td></td>
</tr>
<tr>
<td><strong>Planting</strong></td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td><strong>Pre planting</strong></td>
<td>110</td>
<td>110</td>
</tr>
<tr>
<td>Sidedress application</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Sidedress nitrogen</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td>Interest on maize expenditure (7 months @ 7%)</td>
<td>93</td>
<td>58</td>
</tr>
<tr>
<td><strong>Total growing cost</strong></td>
<td>$2,374</td>
<td>$1,480</td>
</tr>
<tr>
<td><strong>Harvesting</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harvesting and stacking</td>
<td>980</td>
<td>980</td>
</tr>
<tr>
<td>Covering</td>
<td>170</td>
<td>170</td>
</tr>
<tr>
<td>Pioneer® brand 1132 maize specific inoculant</td>
<td>280</td>
<td>280</td>
</tr>
<tr>
<td><strong>Total harvest cost</strong></td>
<td>$1,430</td>
<td>$1,430</td>
</tr>
</tbody>
</table>

#### MAIZE SILAGE DRYMATTER COST

Recent research has shown that high fertility dairy farm paddocks, including those with a history of effluent application, may not require any additional fertiliser to be applied. Different yield environments also influence the recommended planting rate for Pioneer® brand maize silage hybrids (see page 47).

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

<table>
<thead>
<tr>
<th>Drymatter and Megajoules of Metabolisable Energy</th>
<th>Low fertility</th>
<th>High fertility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize silage cost per kgDM in the stack (c/kgDM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>23.8</td>
<td>2.20</td>
</tr>
<tr>
<td>18</td>
<td>21.1</td>
<td>1.96</td>
</tr>
<tr>
<td>20</td>
<td>19.0</td>
<td>1.76</td>
</tr>
<tr>
<td>22</td>
<td>17.3</td>
<td>1.60</td>
</tr>
<tr>
<td>24</td>
<td>15.9</td>
<td>1.47</td>
</tr>
<tr>
<td>26</td>
<td>14.6</td>
<td>1.35</td>
</tr>
<tr>
<td>28</td>
<td>13.6</td>
<td>1.26</td>
</tr>
<tr>
<td>30</td>
<td>-</td>
<td>9.7</td>
</tr>
</tbody>
</table>

#### DRYMATTER AND MEGAJOULES OF METABOLISABLE ENERGY

**Maize silage cost per MJME (c/MJME)**

16 10.6 0.90
18 10.3 0.86
20 10.0 0.83
22 9.7 0.80
24 9.4 0.77
26 9.1 0.74
28 8.8 0.71
30 8.6 0.70

**Assumptions**

1. Cost to grow, harvest and store the crop are estimates only.
2. Average land rentals have not been included because of large regional variations (provision has been made for you to consider land rental in your own costing column).
3. The costs and benefits of regrassing have not been included.
4. Cost for Pioneer® brand 1132 is based on inoculating a 22 tDM/ha crop.
5. Farmers growing Pioneer® brand maize for silage for sale are usually responsible for costs up to and including the nitrogen sidedressing application.
6. Maize silage cost per MJME assumes a maize silage energy content of 10.8 MJME/kgDM.
7. The amount of pasture lost during the maize growing season will vary between paddocks, farms and districts. The value of pasture lost during the maize growing season has not been considered in the calculation of the maize silage drymatter cost.
8. Costs are estimates based on a sample of contractor rates, other typical industry charges and product costs. All costs exclude GST and are indicative at 1 Dec 2014. See www.pioneer.co.nz for updated costs.

**Important:**

Costs are estimates based on a sample of contractor rates, other typical industry charges and product costs. All costs exclude GST and are indicative at 1 Dec 2014. See www.pioneer.co.nz for updated costs.

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

**Online Calculators**

- Calculate this on our website www.pioneer.co.nz

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¹ Cultivation costs will vary depending on soil type and land class.
² Low fertility
³ High fertility
⁴ Registered trademark of Bayer CropScience

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**THE NEW ZEALAND FAMILY OWNED MAIZE SEED BUSINESS**

**THE NEW ZEALAND FAMILY OWNED MAIZE SEED BUSINESS**
TRAIT CHARACTERISTIC NOTES (See page 47).

- 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.
- Yield for maturity: Hybrid comparisons should only be made within a range of + or - 4 CRM. Analysis of differences in harvest drymatter percentages between hybrids measured in our New Zealand forage 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.
- 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.
- 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.
- Early growth: Ratings are taken when two leaf collars are visible.
- Plant height: 9 = Tall 1 = Short.
- Staygreen: A measure of late season plant health. A lower score also means that the plant stover loses colour and dries down more rapidly at maturity.
- Whole plant digestibility: Based on estimated 24 hour in vitro, whole plant digestibility percentage (DM basis) as predicted by Near Infrared Reflectance Spectroscopy (NIRS).
- Fibre digestibility: Based on 24 hour enzymatic estimate of the proportion of degradable neutral detergent fibre (NDF) as a percentage of the total NDF in whole plant sample, predicted by NIRS.
- Silage crude protein: Based on the amount of crude protein in the whole plant, predicted by NIRS.
- Readily available energy (RAE): Based on total starch, sugar and oil content of hybrids harvested at silage maturity. Use this score as a relative comparison of the whole plant concentration of more readily available energy (primarily grain) among individual hybrids.
- Northern Leaf Blight (NLB) and Eyespot: Caution: In conditions where NLB and Eyespot risks are high, growers should only consider planting hybrids with at least moderate resistance ratings of 5 or higher for these diseases.
- 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 LB ratings are based on overseas data together with New Zealand observations. Scores are based on visual assessment only and not on yield reduction data.
- 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 17, then increase established plant populations to the next level i.e. for P0791 in a medium yield environment at high altitude, plant to achieve 106,000 established plants per hectare.
- 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), predicted plant populations may need to be increased to compensate for reduced establishment due to field losses.
- Plant populations: The tabulated established populations are recommendations only. Work with your local Pioneer Representative or Merchant Seed Representative to determine the appropriate plant population for your specific growing environment.

Growing environment definitions:
- 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.
  - Recommended for new maize growers.
- 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.

1 Calculate your days from planting to harvest

USE THE CHART BELOW TO CALCULATE

GO TO STEP 2

Step by step guide

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

1. **Calculate your days from planting to harvest**

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

   **TOOL**

   - **Target harvest date** 2016
   - **Planned planting date** 2015

<table>
<thead>
<tr>
<th>September</th>
<th>October</th>
<th>November</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 10 15 20 25 30</td>
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<td>163 153 148 143 138 133</td>
</tr>
<tr>
<td>178 173 168 163 158 153 148 143 138 133 128 123 118</td>
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<td>178 173 168 163 158 153 148 143 138 133 128 123 118</td>
<td>178 173 168 163 158 153 148 143 138 133 128 123 118</td>
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<td>178 173 168 163 158 153 148 143 138 133 128 123 118</td>
<td>178 173 168 163 158 153 148 143 138 133 128 123 118</td>
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<td>178 173 168 163 158 153 148 143 138 133 128 123 118</td>
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<td>178 173 168 163 158 153 148 143 138 133 128 123 118</td>
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<tr>
<td>178 173 168 163 158 153 148 143 138 133 128 123 118</td>
<td>178 173 168 163 158 153 148 143 138 133 128 123 118</td>
<td></td>
</tr>
</tbody>
</table>

2. **GO TO STEP 2**
**HYBRID OPTIONS FOR YOUR REGION**

<table>
<thead>
<tr>
<th>REGION 1</th>
<th>NORTH ISLAND / NORTH EAST COAST</th>
<th>REGION 2</th>
<th>NORTH AND CENTRAL MAKATO</th>
<th>REGION 3</th>
<th>SOUTH WAKATO / KING COUNTRY / COROMANDEL / HAMORIKI / SOUTHERN MEMBERWAWA / EASTERN MAKATO</th>
<th>REGION 4</th>
<th>Rotorua Region / Taupo / Central Taupō / Southern Memberwawa</th>
<th>REGION 5</th>
<th>Nelson / Marlborough / North Canterbury</th>
<th>REGION 6</th>
<th>South Canterbury / West Coast</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hybrid</strong></td>
<td><strong>Established days from planting to harvest</strong></td>
<td><strong>Maturity</strong></td>
<td><strong>Hybrid</strong></td>
<td><strong>Established days from planting to harvest</strong></td>
<td><strong>Maturity</strong></td>
<td><strong>Hybrid</strong></td>
<td><strong>Established days from planting to harvest</strong></td>
<td><strong>Maturity</strong></td>
<td><strong>Hybrid</strong></td>
<td><strong>Established days from planting to harvest</strong></td>
<td><strong>Maturity</strong></td>
</tr>
<tr>
<td>P9911</td>
<td>119 - 134</td>
<td>M</td>
<td>P9911</td>
<td>119 - 134</td>
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<td>P9400</td>
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<tr>
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<td>F</td>
<td>P9911</td>
<td>146 - 159</td>
<td>F</td>
<td>P9911</td>
<td>146 - 159</td>
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<td>148 - 159</td>
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<tr>
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<td>VS</td>
<td>P9911</td>
<td>130 - 135</td>
<td>VS</td>
<td>P9712</td>
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<td>VS</td>
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</tr>
<tr>
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<td>M</td>
<td>P9911</td>
<td>135 - 150</td>
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<td>P9911</td>
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</tr>
<tr>
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<td>140 - 150</td>
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<td>P9911</td>
<td>140 - 150</td>
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</tr>
<tr>
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<td>F</td>
<td>P9911</td>
<td>145 - 159</td>
<td>F</td>
<td>P9911</td>
<td>145 - 159</td>
<td>F</td>
<td>P9911</td>
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<td>150 - 164</td>
<td>M</td>
<td>P9911</td>
<td>150 - 164</td>
<td>M</td>
</tr>
<tr>
<td><strong>Maturity Key</strong></td>
<td><strong>VS</strong> = Ultra Short</td>
<td><strong>S</strong> = Short</td>
<td><strong>M</strong> = Medium</td>
<td><strong>F</strong> = Full</td>
<td><strong>VL</strong> = Very Long</td>
<td><strong>VS</strong> = Ultra Short</td>
<td><strong>S</strong> = Short</td>
<td><strong>M</strong> = Medium</td>
<td><strong>F</strong> = Full</td>
<td><strong>VL</strong> = Very Long</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES**
- Hybrid maturity is based on heat unit accumulation through the season. Varieties are classified on their predicted relative maturity dates. For the season of 2015-2016, Pioneer® hybrids for silage have been classified with the ‘**VS**’ maturity classification to allow for faster accumulation of heat units in the Bay of Plenty environment. This has important implications for hybrid selection. The table above is a guide to the estimated days from planting to harvest for Pioneer® hybrids in northern regions. The increase in germination from older hybrids has been noted.

**THE NEW ZEALAND MAIZE FOR SILAGE HYBRID TRAIT CHARACTERISTICS FOR 2015-2016**

<table>
<thead>
<tr>
<th>Trait</th>
<th>Description</th>
<th>Range</th>
<th>Hybrid 1</th>
<th>Hybrid 2</th>
<th>Hybrid 3</th>
<th>Hybrid 4</th>
<th>Hybrid 5</th>
<th>Hybrid 6</th>
<th>Hybrid 7</th>
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</thead>
<tbody>
<tr>
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<td><strong>High</strong></td>
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<td>115</td>
<td>115</td>
<td>115</td>
<td>115</td>
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</tr>
<tr>
<td>Yield</td>
<td><strong>Moderate</strong></td>
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<td>110</td>
<td>108</td>
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<td>104</td>
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<td><strong>Challenging</strong></td>
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<td>104</td>
<td>104</td>
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<td>100</td>
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<tr>
<td>Plant height</td>
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<td></td>
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<td>7 8 8 8 7 7 7 7 7 7 7 7 7 7 7</td>
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<td></td>
<td>5 8 8 8 6 6 6 7 7 5 6 6 6 7 6 6 7 6 7 6 6 7 6 6</td>
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<td></td>
<td></td>
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<tr>
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<td></td>
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</tr>
</tbody>
</table>

**PLANT POPULATIONS**

Recommended established plant populations (SIPs) (seed/ha) = **HYBRID**

<table>
<thead>
<tr>
<th>Trait</th>
<th>Description</th>
<th>Range</th>
<th>Hybrid 1</th>
<th>Hybrid 2</th>
<th>Hybrid 3</th>
<th>Hybrid 4</th>
<th>Hybrid 5</th>
<th>Hybrid 6</th>
<th>Hybrid 7</th>
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<tbody>
<tr>
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<tr>
<td>High seed rate</td>
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**PIONEER® BRAND MAIZE FOR SILAGE HYBRID TRAIT CHARACTERISTICS FOR 2015-2016**

<table>
<thead>
<tr>
<th>Trait</th>
<th>Description</th>
<th>Range</th>
<th>Hybrid 1</th>
<th>Hybrid 2</th>
<th>Hybrid 3</th>
<th>Hybrid 4</th>
<th>Hybrid 5</th>
<th>Hybrid 6</th>
<th>Hybrid 7</th>
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<tbody>
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<tr>
<td>Yield</td>
<td><strong>Moderate</strong></td>
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<td>108</td>
<td>108</td>
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<td>104</td>
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<tr>
<td>Yield</td>
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<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Plant height</td>
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<td></td>
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<td>7 8 8 8 7 7 7 7 7 7 7 7 7 7 7</td>
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</tr>
<tr>
<td>Early growth</td>
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<tr>
<td>Drought tolerance</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**NOTES**
- Challenging soil = **HYBRID** = New hybrid. No recommendations for frost.
Enter the hybrid trait ratings above for the hybrids you selected in Step 2.

<table>
<thead>
<tr>
<th>Hybrid 1</th>
<th>Hybrid 2</th>
<th>Hybrid 3</th>
</tr>
</thead>
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Bag calculator

Paddock name

Planting population (000's)

| X | X | X |

Hectares

÷ 80 ÷ 80 ÷ 80

Bags required

C

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

NOTES:

- Choose key traits that are important to you
- Use tray table
- Planting populations page 47

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