MAIZE FOR GRAIN
2016/2017
CELEBRATING 40 YEARS OF FARMING PARTNERSHIPS

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THE 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.

Cover: Representing three generations of the Ferkins family are Tony (second from left), Josh and David (right) with their local Pioneer representative Simon Bygley (far left) in front of their maize grain crop. Read their story on page 13.
WITH YOU EVERY STEP OF THE WAY

The 2016-17 season marks the 40th year of Pioneer® brand maize seed in the New Zealand market. I take this opportunity to sincerely thank all the growers, contractors, merchants, end-users and other rural professionals who have supported Pioneer and the New Zealand maize industry through the past four decades.

Forty years of maize trialling has culminated in the commercialisation of the outstanding group of hybrids listed on pages 25 to 30 of this catalogue. Many well-established hybrids including P0891 and P1253 continue to deliver exceptional yield stability and grain quality. We also have four exciting new releases including P8000 which is widely adapted for silage and grain; P0640, a great mid-maturity option with top leaf disease resistance and fast dry down and P1477W, a very competitive white hybrid for both the food grade corn and poultry industries.

P9241 is a new addition to the Optimum AQUAmax® range which also includes P9911 and P0725 for grain, as well as P0791 for silage. These products deliver industry-leading yields and offer growers additional choices to help minimise risk and maximise crop productivity under drought stress.

Over the past few months we have completed the installation of a new state-of-the-art seed treatment plant at our Gisborne seed production facility. This investment will allow us to take seed treatment quality to an even higher level.

Another step taken to help growers achieve the maximum possible performance from our hybrids is the new Seed Planter SettingsSM tool on our website. This enables planter operators to determine the correct planter settings for their planter type and model and are unique and specific to every individual batch and seed size of Pioneer® brand maize seed.

While every season delivers its unique set of challenges, the past two have been particularly trying as local growers feel the impact of low global grain prices. In the current environment, we renew our pledge to work closely alongside and support you every step of the way. Our in-field team has the technical knowledge and field experience to help fine-tune your maize growing operation. They are committed to helping you extract the greatest value from your investment in our products.

With warmest regards.

Sincerely,

William Yates
Managing Director
Guy purchased the home farm, which was part of the Apanui Soldier Settlement Scheme, in 1961. He and Isobel milked cows for 25 years, slowly increasing herd size as they purchased additional blocks from the Department of Lands and Survey.

In the 1950’s and 60’s there were no stop banks and a significant part of the Opotiki district would flood regularly as the Waioeka and Otara Rivers broke their banks. The Nicol’s started purchasing additional land after the record 1964 flood which covered most of the 64 square kilometre floodplain and filled nearly all of Opotiki’s 650 homes with muddy water.

“Following the flood there were no fences and most of the paddocks were covered in silt” says Guy.

As they added more area to their farm, blocks which were too far from the milking shed were planted in maize for grain. At one point Guy was cultivating 112 acres with a Massey Ferguson 135 and a 2-furrow plough.

More than 45 years ago Bay of Plenty farmers Guy and Isobel Nicol grew their first maize crop. Today the couple, along with their son Grant, plant more than 1,000 ha of maize for grain and silage from Opotiki in the Bay of Plenty through to Waihau Bay on the East Cape.

“HE USED TO PLOUGH DAY AFTER DAY” says Isobel. “By night all you could see were the whites of his eyes because he was covered in dust!”

Prior to Pioneer® brand maize seed being available in New Zealand the dominant hybrids were Northrup King and Dekalb. Renowned for poor standability they had to be harvested at high moisture levels before they fell over. Cutting wet maize was expensive and as a consequence most maize growing areas had their own drying facilities. Opotiki was no exception.

In the 1970’s there were three grain driers in town including one built by entrepreneur Peter Innes-Smith. Fuelled on oil imported from South America, it spewed large amounts of smoke over the town for the duration of the maize drying season.

Around this time, Guy began agricultural contracting and was involved with preparing Pioneer small plot trials for Yates on the edge of the Ohawa Harbour.

“We planted the headlands and drilled the starter fertiliser for the trials which were all hand-planted”.

These trials helped identify the first Pioneer® brand maize hybrids which were introduced to the New Zealand market in 1976.
"They yielded about the same as the existing hybrids but they could be left to field dry and they didn’t fall over" says Guy. "That was a big advantage".

As their maize area grew and the contracting business expanded, the couple had to decide which direction they wanted to head. The cows were sold and the entire farm was planted in maize grain.

Guy’s farm records consist of dozens of well-worn diaries stored in a plastic box fondly referred to by Isobel as “Guy’s computer”. They record all the details of a lifetime of maize growing including weather conditions, planting dates, harvesting dates, hybrids, fertiliser, herbicides and yields.

The couple came third in the 1983 Bay of Plenty region Ammo-Phos NZ Ltd Maize Grower of the Year Competition with a 13.00 t/ha crop of XL72. More recently they have won the Bay of Plenty Regional Yield Cup in the Pioneer® brand seeds Maize for Grain competition twice with 33J24. Their trial yielded 12.96 t/ha in 2006 and 16.56 t/ha in 2009.

While there have been a lot of good years, Guy remembers two particularly challenging ones.

"After the storm which sunk the Wahine (April 1968) and Cyclone Bola (March 1988) we had to pick all the maize grain crops up off the ground".

In the 2015-16 season the Nicols’ have planted 915 ha of maize grain consisting of 517 ha of grain around Opotiki and 398 ha around the East Cape. They have also planted 120 ha of maize silage on local dairy farms.

Since all the maize grain is dried a significant distance away, Guy is looking for hybrids which have strong stalks and roots which will enable them to stand until they are less than 20% moisture. In the 2015-16 season they have planted a combination of Pioneer® brand P0725, P1253, P0891 and 34P88.

“At the end of the day it is the bank balance that’s important”. Since spring 2015, their son Grant has taken over the management of the coastal crops, leaving Guy to manage the land closer to home.

All the paddocks are ploughed and traditionally cultivated. Planting starts in late September and finishes in late October. According to Guy the two biggest challenges to maize growing are birds, especially pheasants which are prolific around the coast, and weeds.

“We are seeing a lot more hard-to-kill weeds creeping into maize paddocks” says Guy. “We use a pre-emergent herbicide and then wait to see what grows before we decide which post-emergent to apply”.

Harvesting starts in early May and is finished by the end of June. All the grain is dried in Te Puke. While most of the grain is sold for stockfeed, Guy retains a portion of the crop to supply his local Opotiki clients’ whole and kibbled maize requirements.

Over the past few decades Guy has collected and immaculately restored an impressive collection of vintage farm machinery which is displayed in several large sheds on the home farm. Grandson Denny Brunt, who has just finished school, shares his passion for equipment and it seems likely that before long there could be another generation involved in the family’s successful maize business.

One of the Nicols’ crops of P0891 at Opotiki.

“We like Pioneer hybrids because the seed purity is high”

THE FLEMING FAMILY, PALMERSTON NORTH

Three generations of the Fleming family are running a successful contracting, grain drying and processing business which started 60 years ago.

They planted their first maize more than 40 years ago and today the crop provides a major source of income for the company.

David and his younger brother Robert grew up on the family dairy farm at Rongotea, 30 km west of Palmerston North. Neither brother was keen on milking cows so when they left school they ventured into agricultural contracting, baling hay and harvesting cereal grain.

"There was a time when Dad would harvest 100,000 conventional hay bales in a season" says David’s son Russell. "We would have to go out into the paddocks and help him shift them".

After a few years David purchased the farm next to where he grew up which was owned by an uncle. He planted barley and wheat in the first years, but subsequently found that maize grain was a better fit with his contracting business.

“The problem with cereals is they have a really narrow harvest window” says Russell. “We would be out contract harvesting for local farmers while our own cereal crops fell onto the ground. Maize grain harvest is much less time critical”. “Maize also offers higher yields and you can grow it year after year in the same paddocks. Cereals need to be rotated otherwise you get major disease issues”.

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Robert purchased the family dairy farm which was also converted to crops. Slowly the pair expanded their operation adding owned and leased land as well as cultivation, planting and harvesting equipment and a home-built grain drying complex.

Today three generations of the family are involved in the business. While David has taken a step back, Robert, his son Jason, Russell and his son Dion are all actively involved in the day-to-day operation of Fleming Brothers Agricultural Contracts Ltd. Robert and Jason run the combines and harvest the silage. Jason does all the planting. Russell and Dion operate the trucks, baling and cultivation equipment, feed milling and the drier.

“Everyone is responsible for an area of the business and they have freedom to make decisions within their area” says Russell. “But there is a lot of give-and-take and we are always happy to help each other out”.

Individuals make the final decision as to the machinery they operate in their sector of the business.

“We’ve got Case and John Deere combines, a Claas forage harvester and nine tractors in three different colours depending on who bought them”!

Each year the family plants around 500 ha of maize grain on owned and lease land. They also plant around 500 ha of maize silage for local dairy farmers.

In the 2015-16 season they have planted a mix of Pioneer® brand 3PV12, P9721, 3PV05, P9400 and P9911 for grain and silage.

“We are looking for hybrids which produce high yields and have fast drydown. High disease resistance is important and we need good root and stalk strength ratings so plants can handle the high Manawatu winds. We like to stay around 96 CRM because we find the shorter maturity hybrids work better for us. With tight planting and harvesting early we can produce high quality grain reliably each season”.

“We like Pioneer hybrids because the seed purity is high, the early vigour is good and we like the way the company has supported and helped grow the maize industry”.

Maize planting starts the second week of October when soil conditions allow. The aim is to have all the grain crops in the ground by the first week in November. Silage planting finishes a week later.

Russell, who is a director of FAR representing the South Western North Island and has been a member of the maize research committee, is an advocate of reduced tillage methods. The planting programme includes minimum tillage and vertical strip tillage depending on the paddock’s soil type.

“Generally minimum tillage works best for us” says Russell. “Strip tillage is good but we can end up spending a lot on slug control”.

Auto-steer tractors help improve planting accuracy while GPS mapping is used to capture yield information, which is used to help make crop management decisions in subsequent seasons.

Maize grain harvest starts in late April and they aim to be finished by late May or early June at the very latest.

“On the better ground we are expecting yields around 12.5 t/ha plus, which is around 25% higher than we achieved a decade ago”.

David and Robert built their first cereal drier which was fuelled with ambient air from a petrol motor in 1965. 35 years ago the gas line was brought onto the property and now the drying system runs on natural gas.

“Last year we dried 17,700 tonnes of maize grain and around 2,000 tonnes of cereal grain” says Russell. “We have capacity to store 10,000 tonnes at any one time”.

Up until three years ago the bulk of the grain was sold as whole maize into the poultry and deer industries. Three seasons ago they installed a disc mill and began selling processed maize grain directly to local dairy farmers.

“Last year two-thirds of our grain was processed and sold to dairy farmers” says Russell. “While sales are slower this year, we believe demand will increase again as soon as global milk prices stabilise and the milk solids payout lifts”.

Russell Fleming (left) with Pioneer representative Mark Burke.
Murray’s early working life was spent working on a dairy farm. He spent several years driving trucks before establishing his own transport company, Murray Hart Transport, in 1975. During this time he carted seed maize from the Yates seed dryer at Waharoa to F. Cooper Ltd, a wholly-owned Yates subsidiary in Masterton, where it was processed.

The couple purchased 18 ha of land at Tatuanui in August 1981 and planted their first maize, a 15 ha grain crop the following spring. In the following few seasons they grew Pioneer seed maize crops for Yates. In 1985, they diversified their operation by building a chicken shed to raise meat birds for Harvey Farms which was subsequently purchased by Inghams Enterprises. Around the same time, Pioneer’s seed production was moved to Gisborne and the couple switched from seed maize to commercial maize grain.

“We soon discovered maize grain was the ideal crop for us because it produced high yields and it didn’t require a lot of time” says Murray. “We apply chicken litter to the paddocks prior to planting and the maize thrives on the nutrients it provides.”

Nowadays 950,000 Ross meat birds pass through the farm’s four state-of-the-art poultry sheds each year. Newly hatched chicks come into the sheds where they are continuously fed a nutritionally balanced ration. The first catch leaves the farm at 29 - 31 days destined ultimately for KFC stores around the country. Remaining birds stay in the sheds until they reach 40 - 45 days when they are slaughtered and further processed. The chickens have a feed conversion ratio of 1.5 meaning it takes just 1.5 kg of feed to produce a kilogram of chicken body weight.

The couple are looking for hybrids which will deliver high yields. They have planted a Pioneer maize grain strip trial for the past 30 years and Murray closely studies the results along with those from other farms in the region, before deciding what to plant the following spring.

Margaret’s record books record an impressive list of Pioneer® brand maize hybrids they have planted including 3709, 3551, 3544 and 3901 in the 1980’s and 3475, 3821, 3751 and 3731 in the 1990’s. More recently they have grown 34P88, P9891 and P1253.

In 2015-16 they have planted Pioneer® brand P0725, a new Optimum AQUAmax® hybrid, chosen for its ability to perform well under moisture-limited conditions.

“We always take into consideration what the weather experts are predicting for the growing season” says Murray. “This year we got a lot more rain than they thought we would”.

Murray mulches the stubble and spreads chicken litter on the ground in the winter. Paddocks are sprayed out in mid-August and cultivated in time for maize planting in early October.

“Our ground is in good shape after more than 30 years in maize” says Murray. “We’ve avoided compaction and the chicken litter has helped maintain organic matter levels and soil structure”.

Murray and Margaret inspecting their maize grain crop of P0725.

“MAIZE WAS THE IDEAL CROP BECAUSE IT PRODUCED HIGH YIELDS AND IT DIDN’T REQUIRE A LOT OF TIME”

MURRAY AND MARGARET HART, WAIKATO

Waikato couple Murray and Margaret Hart have been involved with Pioneer® brand maize seed right from the early days when Yates was producing seed maize in the Waikato.

The farm records show an impressive yield trend over the past 28 planting seasons. In the period 1988 to 1993, the average maize yield was 10 t/ha. In the past five harvest seasons, crops have produced an average yield of 13.9 t/ha with the top crop of Pioneer® brand 34P88 producing 15.86 t/ha in the 2010-11 growing season. The average yield increase has been 167 kg of grain per hectare per year.

“We’ve seen the benefits of improved hybrid genetics over the years” says Murray. “It is always exciting to see what is coming out of the research programme next”.

The Hart’s Grain Yield from 1987 - 2014

Padocks are soil tested each season to determine crop fertiliser requirements. Last season they applied a base of sulphate of ammonia, a starter of DAP and side-dressed with 220 kg/ha of urea. Weeds are controlled using a pre-emergent application of acetochlor and atrazine and a combination of dicamba and topiramate at side-dressing.

Grain harvest takes place in late April or early May depending on the weather. The grain is sold to a local drier and ultimately to end users who produce food grade and industrial starch or stock feed. There is a chance that some of it may end up back on the farm as part of the specially formulated chicken meal, which is supplied by Inghams up to five times a week.

Grain for Feed 2016/2017

A YATES FAMILY BUSINESS

MAIZE FOR GRAIN 2016/2017

The couple with Pioneer representative Paul Baker (middle) inside one of their chicken sheds.
His parents, who owned a small business in Gisborne, purchased 30 ha of land at Matawhero in the mid-1960’s and began growing barley and maize for grain. David started agricultural contracting around this time and he was joined by sons Tony, Nick and John in the late 1980’s and early 1990’s. Today the family are growing maize grain, squash and sweetcorn and are fattening cattle on a number of owned and leased blocks. They run a contracting business, a grain drying operation and a vineyard.

The family have been growing Pioneer® brand maize hybrids for grain for over three decades. Older favourites which come to mind include hybrids such as 3362, 34K77 and 38P05. In the 2015-16 season they have planted a mix of P1253, P0891, P0725 and P0021.

“We are generally looking for longer maturity hybrids with good standability and ear flex” says Tony. “Pioneer offer a range of high yielding hybrids and we get good support from the guys on the ground”.

The majority of the maize crops are planted on heavy soils which have been cropped for many seasons.

“Our cultivation regime depends on ground conditions, but we generally plough or disc rip and power harrow” says David. “The heavy soils need more work to prepare them for planting and we are careful to avoid compaction”.

Paddocks are soil tested every second year and the results are used to determine an appropriate fertiliser programme. Typically a base dressing of superphosphate is applied, crops are planted with around 250 kg/ha of 20:10 and side-dressed with 300 – 400 kg/ha urea.

Planting usually starts in mid-September although the last two seasons have been 2 - 3 weeks later due to wet soil conditions.

Tony Ferkins (right) with Pioneer representative Simon Begley.

“The Ferkins family have grown maize seed crops for Pioneer’s Gisborne seed production operation since 1996.

Tony, who oversees the family’s operation, is quick to point out that the business is a “team” effort. Nick manages livestock and field work while John, who is a mechanic, is in charge of machinery and the grain drier. David who is “semi-retired” still plays an active role whenever and wherever he is needed.

They have grown maize seed crops for Pioneer’s Gisborne seed production operation since 1996.

“A move from town to the country marked the start of a successful farming business for the Ferkins family.”

“Pioneer offer a range of high yielding hybrids & we get good support”
"If we get 50 mm of rain we can’t get back onto the paddocks for 7 - 10 days” says Tony. 

“We plant at 85,000 to 95,000 seeds per hectare depending on the hybrid and the paddock” says Tony. 

Tony believes a good weed control programme is a critical part of maize growing. All paddocks are sprayed with acetachlor prior to planting and a post-emergent herbicide is applied to every paddock. 

“If you go into a maize crop at harvest time you know which paddocks didn’t get a post-emergence herbicide application” says Tony. “Even the paddocks which looked like they were clean have a lot more weeds”. 

Grain harvest starts in early March and the aim is to have the entire crop in by mid-June. Short maturity maize crops typically yield around 11.0 - 11.5 t/ha dry while the best longer maturity crops will produce up to 17 t/ha dry. 

The Ferkins dry 90% of the crop themselves in a CNG-fuelled Shivvers drier which was installed in the early 1970’s. 

"We started with the drier and a single silo and have gradually added storage space” says Tony. “We can currently store 1,800 tonnes of dry grain and are in the process of building another silo”. 

While the bulk of the grain is sold to the main grain merchants, a small proportion is sold whole or kibbled to dairy farmers. 

The Ferkins’ maize yields are increasing despite the fact that many of their paddocks have been cropped for many seasons. 

“Our experience is that the newer hybrids deliver a much higher level of performance when the conditions are right” says Tony. “Nowadays it doesn’t seem to be many seasons before your favourite hybrid has upgraded to something even better”.

Pioneer® brand maize in New Zealand has come a long way since its early days 40 years ago. And it may never have happened if Philip Yates, the founder of Genetic Technologies Limited, hadn’t read an article in an American business magazine back in 1975. 

The story was actually about hybrid wheat which got Philip thinking, so when he was in the United States the following month he approached three companies, one of them being Pioneer Hi-Bred International. 

While hybrid wheat wasn’t at the time close to being a commercial option, he got talking to Pioneer about hybrid maize. He immediately liked the company; it was substantially family-owned and shared many of the values and vision of Philip’s own family company at the time, Yates. He arranged for Yates to become the producer and distributor of Pioneer seeds in New Zealand. 10 years later, that arrangement was transferred to Philip’s new company, Genetic Technologies Ltd. 

The early days of establishing Pioneer maize seed in New Zealand had its challenges. Philip’s first year in business did not go well. He imported three hybrids from Australia at a time when all the maize seed produced across the Tasman was harvested by combine. That cracked the seed allowing pathogens to enter, resulting in an unacceptable proportion of weak plants. Local growers were upset and Philip decided the only way to ensure high seed quality was to produce it locally. With its fertile flat land, Poverty Bay was the obvious location so a seed production facility was commissioned.

“Having our own facility allows us to ensure our customers only receive the highest quality seed,” says Philip. “In fact, Pioneer Hi-Bred International has commented that they rarely see such consistently high quality maize seed. This is due to the winning combination of a favourable climate, excellent production facilities and rigorous adherence to internationally accredited quality control procedures”. 

While Pioneer Hi-Bred International had a large number of new hybrids available each year, it soon became apparent that not all of them were well-suited to New Zealand growing conditions. In addition, hybrids which gave outstanding yields in the Waikato or Bay of Plenty performed variably in the cooler growing environments of the Lower North Island. The quest to find the best grain hybrid for every single grower was the starting point for Pioneer’s comprehensive local trialling programme. 

Prior to the late 1980’s there were no grain weigh wagons in New Zealand so trialling hybrids was very difficult. The first Pioneer grain trial strips were harvested into jockey bins and weighed on the Traffic Department’s scales. This clearly wasn’t ideal, so the decision was made to import a weigh wagon from the United States.
“It was made of solid steel and more suited to the straight roads and flat fields of the American Mid-West than New Zealand’s rolling hills,” says Philip. “After a lot of very slow trips between the Waikato and the Lower North Island, and a lot of difficulty negotiating grain paddocks, it became apparent we needed something which was lighter and easier to tow”.

A Gisborne company was commissioned to build a lighter aluminium weigh wagon which had folding sides for easier towing. Refinements of the original prototype led to the weigh wagon design which is still in use for Product Advancement Trials (PAT) today. The grain hybrid trialling programme was further enhanced by the purchase of two state-of-the-art, GPS-guided, computer-controlled, pneumatic small-plot planters, a research combine and two transporters in the past seven years.

“Data gathered from more than 30,000 maize plots over the past 25 years has enabled us to learn a tremendous amount about how our grain hybrids perform in a range of climates, soil types and growing environments from Northland to Canterbury.

“As the grain industry has expanded into new regions and end-user requirements have changed, we’ve expanded our hybrid range to ensure we deliver to Pioneer’s Right Product, Right Paddock philosophy,” says Philip. “As each year goes by, we are seeing higher yields, better disease resistance, more drought tolerance and improved grain quality.”

It is clear from talking to Philip that he has always been passionate about maize and the benefits it can bring to New Zealand. “No other plant has the ability to convert sunlight, nutrients and water into grain as efficiently as maize.”

Asked about his favourite hybrids, Philip talks fondly of 34B23 – “that was a star performer”. Then there was 3334, which was widely grown in other parts of the world. “It was a great-looking, stable hybrid delivering high grain yields. As for 3715, it will be remembered for delivering a new level of grain yield but with very fast drydown! The list would not be complete without mentioning 38P05, which was extensively grown by Kiwi grain growers for about 15 years.” Of the current crop, he cites P9611, one of the Optimum AQUAmax® hybrids.

“The new Optimum AQUAmax® hybrids are a major step forward and have been developed by Pioneer to make the plant more tolerant to drought stress. Nearly all of the maize grown in New Zealand is subject to moisture limitation at some time during its growing season and it’s only going to get worse as a result of climate change. That’s why we really believe in the potential of Optimum AQUAmax® to improve efficiency and productivity.”

One of the strengths of the New Zealand maize industry is how Genetic Technologies Ltd and its experienced in-field team work closely with merchant and grain company representatives and contractors to help growers choose the best hybrids and systems for their particular circumstances.

“Working with Pioneer exclusively means they treat us as part of their family and make sure we can always source the very best-performing products.”

Relationships are also very important to Genetic Technologies Ltd. Having worked his way up from the paddock to the boardroom, Philip’s son Will is the Company’s Managing Director. As a youngster, he used to go on trips with Philip around the country and overseas and there were often Pioneer people hosted around the family dinner table.

“I grew up with a strong feeling for the business and the seed industry,” says Will, who did a Bachelor of Business Studies at Massey and a two year internship with Pioneer in Iowa before coming home and joining the family business 24 years ago.

Will’s commitment remains as strong today as it was back then. “I have a deep passion for New Zealand agriculture and in particular, the seed and maize industries. We have a huge amount of respect, for a close affinity and connection with the sectors of the industry we service and with those we work alongside of.”

“Making sure we resource the business through sound research, technical extension, and sales service and support, will help farmers capture the opportunities that maize is going to increasingly present them, and enable them to be even more successful in their farming businesses”.

As Philip says: “After the Australian seed debacle I went around every grower I had sold that seed to and made the promise I would spend the rest of my working life producing the best hybrids and finest quality seed this world can produce. And that has been our mantra ever since.”

With several of his grandchildren heading into their teenage years, it may not be too long before another generation of the Yates family is out in the field.
WHAT WE LOOK FOR IN A HYBRID

Over the past 40 years Pioneer has been working alongside growers to identify maize hybrids that are adapted to New Zealand conditions, meet the requirements of grain users and produce reliable yields of high quality grain.

Each year we bring to market new products that have been extensively tested, have proven performance and are worthy of planting in the next growing season. However, it takes a lot of planning, research and analyse to ensure that a new commercial hybrid is a consistent and profitable performer.

Just like an actor auditioning for a big role, each hybrid has to pass many tests before they make it onto the agricultural stage. Most fall by the wayside, some pass the audition and a few become outright stars. Whatever the outcome, the rationale behind the research programme is always about striving for the ideal mix of stability and performance.

“To put it simply, our driving philosophy is ‘right product, right paddock’” says Maize Product Manager, Barry McCarter.

The first step in the process is selecting hybrids that are expected to be suitable for New Zealand conditions. From October to May each year, Barry works with Pioneer maize breeders all over the world to identify experimental hybrids to test here.

Whether they end up as corn flakes or stock feed, the aim is to find hybrids which perform better than the ones we currently have.

“We look for hybrids that will help boost profitability for maize growers. Factors we take into account include maturity, agronomic characteristics, yield stability and intended end-use. The quality requirements for grain for human food and grain for livestock feed are quite different yet both are vitally important” says Barry.

It’s a painstaking process. Every year, the slate is wiped clean and the team start again, looking for the next generation of hybrids that will be most effective for New Zealand growers.

For every 10 hybrids entering the testing process, only one will end up on the market. The average commercial life is about five years, although there are one or two exceptional hybrids, like 34P88 and 37Y12, which have been around longer.

A large number of experimental hybrids are selected for testing in each maturity group. This ensures the Pioneer line-up includes the correct balance of commercial hybrids for each unique growing environment and end-use. By August, the research team will have a complete list of available products and will be planning how the programme will roll out in the season ahead.

GRAIN HYBRID HALL OF FAME

Every now and then throughout history a farmer will stumble upon a hybrid like no other they have seen before. These ‘stand out’ hybrids have stood strong and proud in paddocks across the country over many seasons until eventually being superseded by something even better. However they will not be forgotten. These hybrids have earned their place in the Pioneer® brand products Hall of Fame.

1980’S

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1990’S

<table>
<thead>
<tr>
<th>CRM 111</th>
<th>CRM 110</th>
<th>CRM 104</th>
<th>CRM 103</th>
<th>CRM 97</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="corn-3362.png" alt="" /> 3362</td>
<td><img src="corn-3394.png" alt="" /> 3394</td>
<td><img src="corn-3522.png" alt="" /> 3522</td>
<td><img src="corn-3585.png" alt="" /> 3585</td>
<td><img src="corn-3751.png" alt="" /> 3751</td>
</tr>
</tbody>
</table>
The Product Advancement Trials (PAT) assess hybrids closer to being commercialised. These hybrids have usually performed well in the previous year’s IMPACT™ tests and now need further scrutiny in larger plots and in a wider spread of test sites.

The active participation of growers, contractors and merchants along with the Pioneer sales and research team members enables the growing of approximately 150 PAT’s every season. Mutual consultation leads to the set-up of each farm strip trial, the selection of the trial paddock and when to plant using commercial equipment. Planting is complete by early November and then the constant monitoring begins. Without the cooperation of local growers and contractors our trial programme would not be possible.

PAT trials receive the same crop management as the commercial crop planted in the rest of the paddock. While contractors and growers manage the crop, the Pioneer field team keep a close eye on the trial strips and take appropriate records as the season advances. This stage is like the shop window for new hybrids entering the market. Barry says the hybrids start to develop their own distinctive personalities, which will determine how and where growers use them. “You have to get out in the field and see how they’re behaving in that particular environment. Appearance is very important – you have a look at them and think ‘If I had 20 hectares of this hybrid, how happy would I be?’”

As well as appearance, the team looks at many aspects of grain quality including test weight, grain size, shape, texture, hardness and freedom from disease. These quality traits will influence the best end-use for each product, with some more suitable for human food and others better for animal feed. Harvesting takes place in April and May, with extensive data from the IMPACT™ trials collected electronically, via the research grain combine.

The grain PAT plots are harvested by contractors and growers with strips being weighed through Pioneer weigh wagons and the moisture, weight and quality recorded. The PAT farmers receive their own trial results and retain the grain harvested from the trial plots. All measurements are centrally loaded and verified for accuracy. The data is then analysed to establish the quality of the data and to demonstrate the yield difference between hybrids being compared. Results are summarised for each growing region to give an overview of the comparative yield performance of key hybrids.

The trial results and summary data analysis is published on the Pioneer website in July, and is also available to download or view on mobile phone.

“We look at several years of observations and yield results within a growing region and it soon becomes clear which hybrids are the best ones to commercialize,” says Barry. “Individual trial results should not be used to select a hybrid because they are not a reliable predictor of hybrid performance in future seasons. A useful rule of thumb is that at least 20 trial results are required to provide confidence in the yield performance information”. In October, seed production gets underway at Pioneer’s seed production facility in Gisborne, with harvesting in March. By the following spring, these new, higher-performing hybrids are ready to hit the market, allowing maize growers across New Zealand to choose the “right product for the right paddock” and enjoy greater yields than ever before.

2000’S

<table>
<thead>
<tr>
<th>Hybrid</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRM 109</td>
<td>1999 - 2012</td>
</tr>
<tr>
<td>CRM 109</td>
<td>2006 - Present</td>
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<tr>
<td>CRM 102</td>
<td>2000 - Present</td>
</tr>
<tr>
<td>CRM 97</td>
<td>2008 - Present</td>
</tr>
<tr>
<td>CRM 94</td>
<td>2000 - Present</td>
</tr>
</tbody>
</table>

2010’S

<table>
<thead>
<tr>
<th>Hybrid</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRM 100</td>
<td>2011 - Present</td>
</tr>
<tr>
<td>CRM 107</td>
<td>2012 - Present</td>
</tr>
<tr>
<td>CRM 109</td>
<td>2012 - Present</td>
</tr>
<tr>
<td>CRM 94</td>
<td>2011 - Present</td>
</tr>
<tr>
<td>CRM 97</td>
<td>2014 - Present</td>
</tr>
</tbody>
</table>
MAIZE FOR GRAIN YIELD COMPETITION

The Pioneer® brand seeds Maize for Grain Yield competition recognises and celebrates grain growers who achieve the highest yields with Pioneer® brand maize hybrids in their on-farm trials.

The competition covers five regions: Waikato, Bay of Plenty, Gisborne/Hawke’s Bay, Manawatu/Rangitikei and Auckland Province & North.

All on-farm trial co-operators are automatically entered into the competition. Each regional competition includes early, mid and late maturity groups. The regional winner is the grower with the highest yield from a commercial Pioneer hybrid. The National Yield Cup is awarded to the highest yielding regional winner.

NATIONAL YIELD CUP WINNERS 1998–2015

<table>
<thead>
<tr>
<th>YEAR</th>
<th>WINNER</th>
<th>HYBRID</th>
<th>REGION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>Allister Bennett</td>
<td>3522</td>
<td>Waikato</td>
</tr>
<tr>
<td>1999</td>
<td>John Locke</td>
<td>33R87</td>
<td>Waikato</td>
</tr>
<tr>
<td>2000</td>
<td>Mo Parakene</td>
<td>33J26</td>
<td>Gisborne/Hawke’s Bay</td>
</tr>
<tr>
<td>2001</td>
<td>Jeff &amp; Todd Crabb</td>
<td>34K77</td>
<td>Waikato</td>
</tr>
<tr>
<td>2002</td>
<td>Brownrigg Agriculture</td>
<td>34J96</td>
<td>Gisborne/Hawke’s Bay</td>
</tr>
<tr>
<td>2003</td>
<td>Mike &amp; Karen Innesy</td>
<td>33224</td>
<td>Bay of Plenty</td>
</tr>
<tr>
<td>2004</td>
<td>Terry O’Brien</td>
<td>34K77</td>
<td>Waikato</td>
</tr>
<tr>
<td>2005</td>
<td>Brownrigg Agriculture</td>
<td>34D71</td>
<td>Gisborne/Hawke’s Bay</td>
</tr>
<tr>
<td>2006</td>
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<td>33224</td>
<td>Gisborne/Hawke’s Bay</td>
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<tr>
<td>2007</td>
<td>Mark Armstrong</td>
<td>34B97</td>
<td>Gisborne/Hawke’s Bay</td>
</tr>
<tr>
<td>2008</td>
<td>Brian Amor</td>
<td>34B97</td>
<td>Gisborne/Hawke’s Bay</td>
</tr>
<tr>
<td>2009</td>
<td>Brownrigg Agriculture</td>
<td>34B97</td>
<td>Gisborne/Hawke’s Bay</td>
</tr>
<tr>
<td>2010</td>
<td>Brian Amor</td>
<td>34D71</td>
<td>Gisborne/Hawke’s Bay</td>
</tr>
<tr>
<td>2011</td>
<td>Geoff MacGregory</td>
<td>P0537</td>
<td>Gisborne/Hawke’s Bay</td>
</tr>
<tr>
<td>2012</td>
<td>Brian Amor</td>
<td>P0537</td>
<td>Gisborne/Hawke’s Bay</td>
</tr>
<tr>
<td>2013</td>
<td>Brownrigg Agriculture</td>
<td>P1253</td>
<td>Gisborne/Hawke’s Bay</td>
</tr>
<tr>
<td>2014</td>
<td>Brownrigg Agriculture</td>
<td>P1253</td>
<td>Gisborne/Hawke’s Bay</td>
</tr>
<tr>
<td>2015</td>
<td>Brownrigg Agriculture</td>
<td>P1253</td>
<td>Gisborne/Hawke’s Bay</td>
</tr>
</tbody>
</table>

Look out for the 2016 winners and their yields, which will be listed at www.pioneer.nz in July 2016.

Over the past 40 years, Pioneer® brand seeds has been working with New Zealand farmers to help them get the best from their maize hybrids. Over this time our hybrid range has broadened and improved and we are pleased to offer 18 new and well-known hybrids for the 2016/17 season.

With over 200 grain trials in the ground every season, chances are we are trialling 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 in-field team are dedicated to and know your area, so please contact us, or your local merchant or contractor, for advice on positioning the right hybrid to best fit your farming goals.

SHARING YOUR FARMING RISK

Every bag of Pioneer® brand hybrid maize 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 treated by Pioneer which is planted in accordance with Pioneer® brand products’ specifications and recommended crop establishment practices. The affected area 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 seed treated by a third party.
**NEW**

**PIONEER.**

**P8000**

Grain yield potential 9
Stalk strength 6
Root strength 6
Drought tolerance 6
Grain drydown 8
Staygreen 7

**VESSEL. WIDELY ADAPTED STUNNER. DELIVERS TOP GRAIN YIELDS.**

**P8000** is tall with low ear placement, strong roots and stalks for excellent eye appeal and improved standability in this maturity.

Growers will also note excellent staygreen and Northern Leaf Blight resistance.

**P8000** has a chunky cob with deep dent grain for the production of top grain yields.

Destined to be widely grown in Lower North Island and South Island. Provides an excellent balance of yield and earliness in northern growing regions.

Similar in type and maturity to **39G12** which it replaces for grain production.

Available in limited quantities for 2016.

---

**NEW**

**PIONEER.**

**P8805**

Grain yield potential 9
Stalk strength 6
Root strength 6
Drought tolerance 6
Grain drydown 8
Staygreen 7

**A BRAWNY ALL ROUNDER IN BOTH TOUGH AND IDEAL CONDITIONS.**

A tough hybrid providing growers with production stability. **P8805** performs where water may be limited as well as under ideal conditions.

A top yielding product for grain and silage that has excellent all round agronomics and a balanced disease profile.

A resilient, widely adapted plant which may be grown from Northland as a very early option, all the way to Canterbury as a fuller season product.

Similar in type and maturity to **39H12** which it replaces for grain production.

Available in limited quantities for 2016.

---

**NEW**

**PIONEER.**

**P9241**

Grain yield potential 9
Stalk strength 6
Root strength 6
Drought tolerance 6
Grain drydown 8
Staygreen 7

**REASSURING ALL ROUNDER – BUILT TO YIELD, BRED TO DEFEND.**

An early maturity AQUAmax® hybrid with great appearance, exceptional all-round agronomic profile, disease resistances and yield stability for grain and silage.

Moderately tall with low ear placement, good standability with the best combination of drought and staygreen.

Analysis of the trial data shows that **P9241** yields particularly well in the Lower North Island but is also well adapted to all northern growing regions where a hybrid of this maturity is required.

Comparison with **P8805** and **P9400**.

Available in limited quantities for 2016.

---

**NEW**

**PIONEER.**

**P9400**

Grain yield potential 9
Stalk strength 6
Root strength 6
Drought tolerance 6
Grain drydown 8
Staygreen 7

**TRUSTY AND RELIABLE. DELIVERS QUALITY GRAIN BIG TIME.**

An imposing plant producing top grain yields with impressive test weights. Strong agronomically with a sound disease resistance offering.

Widely adapted. Performs best in moderate to high yield environments from Kahia to Masterton.

Intermediate in maturity between **P8805** and **P9721**.

Available in limited quantities for 2016.

---

**NEW**

**PIONEER.**

**P9721**

Grain yield potential 9
Stalk strength 7
Root strength 7
Drought tolerance 7
Grain drydown 8
Staygreen 9

**THE HERO FOR FAST DRYDOWN AND TOP GRAIN YIELDS. YOU CAN BANK ON IT.**

Similar in type and maturity but delivers higher yields than **37Y12**.

**P9721** offers a great all-round balanced package of agronomic traits, with wide adaptability for the production of industry leading grain yields in this maturity.

Widely grown as a mid to late maturity hybrid in the Lower North Island while it is an easier option in the warmer regions in the north.

Plant with **P9241**, **P9400** and **P0021**.

Available in limited quantities for 2016.

---

**NEW**

**PIONEER.**

**P9911**

Grain yield potential 8
Stalk strength 5
Root strength 5
Drought tolerance 5
Grain drydown 9
Staygreen 9

**WATER WISE WITH OPTIMUM AQUAmax® GIVES MORE GRAIN WITH EVERY DROP.**

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

A showy hybrid providing yield stability. May be the best option for those bony paddocks.

An impressive all-round product, with top agronomics and a sound disease resistance package.

A sought after partner to **P0021** throughout the North Island.

---

**IMPORTANT NOTE:** Hybrid comparisons are only valid within a range of ± 4 CRM. These descriptions mainly feature product strengths. When choosing hybrids, also review carefully the trait ratings found in the table on page 39 and 40. Contact your local Pioneer representative or Merchant for further advice.
A relatively short plant with excellent requirements. Depending on agronomic and maturity or P0640 Companion with P9911, P0547 Widely planted from Dargaville to Bulls. An important mid-maturity hybrid in the north and a top full maturity is an important mid-maturity yield environments. Excellent option in moderate to high resistances. Produces an eye-catching cob on plants with sound standability and staygreen, bundled together with top disease resistances. While broadly adapted, the analysis of trial results show this hybrid to be particularly productive in Northland and Rangitikei. Combination with P0021 or P0640 depending on maturity requirements. The principle Head Smut and ear rot resistance option. A moderately tall plant with low ear placement. Combines dependable staygreen with strong drought tolerance, Northern Leaf Blight and Common Rust resistances. The disease profile of P0537 includes impressive Head Smut resistance and a superior balance of ear rot resistances. Strong agronomics and top-end yields enable this broadly adapted hybrid to be used in a wide range of environments from Northland, Waikato, Bay of Plenty and south to Hawke’s Bay. Plant with P0547 or P0640 which are similar in maturity. Will earn your respect in Northland and Rangitikei. Very similar in type and maturity to P0537, but with higher yield and faster grain drydown for earlier harvest timing. While broadly adapted, the analysis of trial results show this hybrid to be particularly productive in Northland and Rangitikei. Combination with P0021 or P0640 depending on maturity requirements. Leaf disease champion - delivers the performance advantage. Combines excellent all-round agronomics with desirable ear rot, superior Northern Leaf Blight and Common Rust resistances. A tall plant with sound standability, staygreen and drought tolerance producing very impressive grain yields. Growers will appreciate the harvest opportunity presented by this new hybrid’s outstanding drydown. P0640 is particularly productive in Whakato while providing grain yield stability in a wider range of environments including Northland, Bay of Plenty and East Coast. Combination with P0021 and P0547. Available in limited quantities for 2016. AQUAmax Great performance with extraordinary consistency! Optimum AQUAmax® drought tolerance provides resilience when it’s dry and yield responsiveness with favourable growing conditions. Delivers exceptional yield stability for grain and silage in all northern production regions. Has similar grain yield potential to 34P88 but is earlier and has much faster drydown, enabling earlier harvest and lower drying costs. New companion hybrid to P0891 or P1253 which is later. The perfect all-rounder. Produces a “sea of gold” Delivers exceptional yield stability for grain and silage from Kaitaia to Napier. Very good drought tolerance, standability and staygreen combined with strong resistance to Northern Leaf Blight and Common Rust. Best suited to moderate to high yielding paddocks. Produces grain with excellent appearance, very high test weight and with food grade end-use quality. Well adapted to high plant populations which should be adjusted to match growing conditions and yield expectations. Other hybrids to consider include P0725, P1253 or 34P88. Hard to beat favourite with stable yields. A relatively short plant with excellent grain yields. Produces an eye-catching cob on plants with sound standability and staygreen, bundled together with top disease resistances. Excellent option in moderate to high yield environments. P0021 is an important mid-maturity hybrid in the north and a top full maturity option in the Lower North Island. Widely planted from Dargaville to Bulls. Combination with P0911, P0547 or P0640 depending on agronomic and maturity requirements. **IMPORTANT NOTE:** Hybrid comparisons are only valid within a range of + or - 4 CRM. These descriptions mainly feature product strengths. When choosing hybrids, also review carefully the trait ratings found in the table on page 39 and 40. Contact your local Pioneer representative or Merchant for further advice.
A white grained hybrid producing attractive, well filled cobs of food quality, high test weight grain. Will be valued by food corn and poultry producers.

Tall, erect leaf, modern plant type with excellent standability, drought tolerance and staygreen. All bundled together with superior Northern Leaf Blight, Common Rust and Fusarium ear rot resistances.

Plant early in the Bay of Plenty, Poverty Bay and Hawke’s Bay to deliver on the yield potential of this compelling hybrid. Available in limited quantities for 2016.

IMPORTANT NOTE: Hybrid comparisons are only valid within a range of ± 4 CRM. These descriptions mainly feature product strengths. When choosing hybrids, also review carefully the trait ratings found in the table on page 39 and 40. Contact your local Pioneer Representative or Merchant for further advice.

ALSO AVAILABLE

These hybrids are available in limited quantities for 2016. See page 37 and 38 for growing regions.
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.

**MORE OUT OF EVERY DROP**

**OPTIMUM AQUAmax® HYBRID RANGE FOR THE 2016/2017 SEASON**

- **Pioneer P9241**
  - SEE PAGE 25
- **Pioneer P9911**
  - SEE PAGE 26
- **Pioneer P0725**
  - SEE PAGE 28

**OPTIMUM AQUAmax® HYBRID** vs. **DROUGHT SUSCEPTIBLE HYBRID**

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

More out of every drop.
HIGH QUALITY, EVENLY PLANTED SEEDS DELIVER TOP YIELDS

Planting high quality seed of the right hybrid is proven to produce a high-density, high yielding maize crop.

The starting point is to choose the right seed in the first place and here the choice is clear. Pioneer® brand maize seed is the highest quality seed available to New Zealand farmers. Attention to quality at every step of the seed production process sets Pioneer seed apart. High quality parent seed that has proven genetic traits is used to produce hybrids which deliver maximum yield. All New Zealand grown Pioneer® brand hybrid maize seed is tested to ensure it meets or exceeds Pioneer’s global industry-leading stringent standards for vigour, germination and genetic purity.

• PIONEER WARRANTY*
   For your protection every bag of Pioneer® brand maize seed is mechanically stitched closed with green and white bi-colour tamper proof string. This “locks in” the Pioneer warranty and 50% Replant Risk Cover and guarantees there is a minimum of 80,000 kernels in every bag.
   *If the bag has been opened and treated by a third party the Pioneer warranty and Replant Risk Cover will be void.

SEED TREATMENT

From the moment seed is planted it comes under attack from soil-borne fungi, insects and sometimes birds. So why does Pioneer maize seed deliver the best results? A big part is due to our new world-class Seed Treatment facility located in Gisborne, which was commissioned in 2015.

• SEED TREATMENT OPTIONS
   All Pioneer maize seed comes with a standard fungicide coating. Growers can then choose from a range of additional seed treatment options which combat pests including Argentine Stem Weevil, Black Beetle, Greasy Cutworm and birds.

• ADVANCED FILM COATING & APPLICATION PROCESS
   Quality polymers applied by a state-of-the-art seed treater followed by an advanced drying process ensure the treatment adheres to the seed minimising dust and improving planter operator safety.

• QUALITY CONTROL
   To carry the Pioneer Premium Seed Treatment® stamp of approval, every bag of treated Pioneer® brand maize seed must comply with Pioneer’s globally accredited ISO 9001:2008 quality standards. The guarantees all conditioning, grading and seed treating operations are carried out to the highest industry-leading specifications.

SEED SIZING 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.

SEED PLANTER CHECK™

High-yielding maize crops can be achieved from any grade of Pioneer® brand seed provided due care and attention is given to planter maintenance, settings and ground speed.

EVENLY SPACED PLANTS ARE THE FOUNDATION FOR HIGHER YIELDS.

Seeds that are planted too close together because of uneven spacing cause competition between the plants resulting in lower yields. On the other hand, planting too few seeds means the optimum population for the paddock is not achieved (Continued on page 35).

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.
INDICATIVE Maize for Grain Costs of Production for the 2016-17 Season

<table>
<thead>
<tr>
<th>Yield</th>
<th>Indicative cost estimate ($/ha)</th>
<th>My costs ($/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tonnes per hectare: WET 12.14 13.29 14.45 15.61 16.76</td>
<td>7</td>
<td>75</td>
</tr>
<tr>
<td>Tonnes per hectare: DRY (@ 14% moisture) 10.50 11.50 12.50 13.50 14.50</td>
<td>70</td>
<td>750</td>
</tr>
<tr>
<td>Total drying and cartage costs per hectare</td>
<td>710 770 840 900 970</td>
<td>750 750 750 750 750</td>
</tr>
<tr>
<td>Interest on input costs excluding harvest</td>
<td>Interest on $2,015 @ 8% for 8 months</td>
<td>$ 110</td>
</tr>
<tr>
<td>Total costs (inputs &amp; interest)</td>
<td>$ 2,505</td>
<td></td>
</tr>
<tr>
<td>Cartage and drying costs Cartage - 50 km @ $18 per wet tonne 220 240 260 280 300</td>
<td>490 530 580 620 670</td>
<td></td>
</tr>
<tr>
<td>Drying (from 22% - 14%) @ $40 per wet tonne</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>Cost summary 10.5 t/ha DRY 11.5 t/ha DRY 12.5 t/ha DRY 13.5 t/ha DRY 14.5 t/ha DRY</td>
<td>710 770 840 900 970</td>
<td></td>
</tr>
<tr>
<td>Harvest: Combine 380</td>
<td>3,215 3,275 3,345 3,405 3,475</td>
<td></td>
</tr>
</tbody>
</table>

Assumptions
1. Costs to grow, harvest, transport and dry the crop are estimates only.
2. Medium yield growing environment where 94,000 seeds of P0891 are planted per hectare.
3. Wet harvest moisture content of 22%.
4. 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 31 January 2016. See www.pioneer.nz for updated costs.

The economics of growing maize for grain are dependent on growing costs, crop yield and the price received per tonne of grain. As a guide, the approximate fixed and variable costs to grow maize for grain are shown in this table. Please contact your local Grain Merchant representative or contractor to establish current costs.

Use the ‘My costs’ column to determine your costs based on the estimates provided.

Visit www.pioneer.nz to enter figures specific to your farm.

SEED PLANTER SETTINGS ONLINE GUIDE

Pioneer® brand products now offer an online Seed Planter Settings™ guide. This enables planter operators to determine the correct planter settings and speed from your computer or mobile phone. These settings are unique and specific to every individual batch and seed size of Pioneer® brand maize seed.

The information provided by this online tool, determined by running each hybrid, batch and seed size through a MeterMax™ test planter, provides vacuum, RPM, singulator and planting speed settings for John Deere, Case IH, Kinze and Monosem vacuum metering units.

While it may be necessary to adjust the planter according to local conditions at planting time, calibrating planter settings to best suit specific seed batch recommendations should be considered an important starting point for planter set-up.

Planting the optimum number of evenly spaced plants is the foundation for higher yields.

TO DETERMINE YOUR SEED PLANTER SETTINGS GO TO WWW.PIONEER.NZ/SEEDPLANTERSettings

1Registered trademark of Precision Planting INC.

Pioneer’s Research Manager performing a Seed Planter Check™. To help maximise the return from your investment in Pioneer genetics and seed quality, the Pioneer team uses MeterMax™ diagnostic equipment to optimise a range of planter brands and models including John Deere, Kinze, Case IH and Monosem to improve planter performance and accuracy.

Pioneer Technicians visit each growing region with the MeterMax™ test planter unit to conduct Seed Planter Checks™ during winter and early spring.

Not only does this help growers achieve maximum yields, it also reduces the risk of delays caused by mechanical break-downs.

Contact your local Pioneer representative if you would like to organise a Seed Planter Check™.
Hybrid recommendations for grain by region

**Note:** Hybrid descriptions in all New Zealand Pioneer® brand products publications conform to strict word usage protocols. Words that are used to describe the hybrid traits and performance characteristics are as follows:

- **8-9:** Excellent, exceptional, outstanding, superb, impressive, industry-leading.
- **6:** Good, above average, sound, reliable, stable, dependable, consistent.
- **7:** Acceptable, slightly below average.
- **4:** Average, acceptable, adequate, moderate.

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 that has a maturity rating of 7 in a region with a heat unit accumulation of 2500 will be quicker to harvest than a hybrid with a maturity rating of 7 in a region with a heat unit accumulation of 2000.

### Coastal BOP / Gisborne / Northland / North Auckland

### Mid Maturity

- Coastal BOP / Gisborne / Northland / North Auckland

### Very Early Maturity

- Coastal BOP / Gisborne / Northland / North Auckland

### Full Maturity

- Coastal BOP / Gisborne / Northland / North Auckland

### North & Mid Canterbury

### Mid Maturity

- North & Mid Canterbury

### Very Early Maturity

- North & Mid Canterbury

### Full Maturity

- North & Mid Canterbury

### Central Hawke’s Bay

### Mid Maturity

- Central Hawke’s Bay

### Early Maturity

- Central Hawke’s Bay

### Full Maturity

- Central Hawke’s Bay

### Heat units in the Bay of Plenty environment

This has important implications for hybrid selection. 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 that has a maturity rating of 7 in a region with a heat unit accumulation of 2500 will be quicker to harvest than a hybrid with a maturity rating of 7 in a region with a heat unit accumulation of 2000.

Hybrid comparisons are only valid within a range of + or - 4 CRM (Comparative Relative Maturity). Contact your local Pioneer® brand products or Merchant representative for further positioning advice.

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Notes on performance traits can be found on page 42.

The ratings are based on both customer ‘side-by-side’ paddock experience and research comparison data. Individual seasons and paddock ratings may show a variation from these average comparative ratings. Extreme conditions may adversely affect performance and position ratings may differ a season to season. Average comparative ratings show the hybrid’s relative performance and position within a given group. Note that each hybrid has a specific height and only pays yield at a certain maturity stage (i.e., >=95% silking).

Performa tests at all烘kennels when testing early seed maturity. Three ratings are based on comparisons with other Pioneer® trait hybrids. **NNP** is noted when a hybrid and an average performance across a range of adaptation under normal conditions. **MNP** is noted when a hybrid and an average performance across a range of adaptation under challenging yield environments. **PMP** is noted when a hybrid and an average performance across a range of adaptation under medium yield environments. **HPM** is noted when a hybrid and an average performance across a range of adaptation under high yield environments. For example, a hybrid with a maturity rating of 7 in a region with a heat unit accumulation of 2500 will be quicker to harvest than a hybrid with a maturity rating of 7 in a region with a heat unit accumulation of 2000.

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### Traits Characteristic Notes

<table>
<thead>
<tr>
<th>Trait</th>
<th>Description</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kernel Colour</strong></td>
<td>Indicates the relative percentage of kernels that are another than maize flints. Lower scores indicate a higher colour. Scores in the 3-7 range indicate a more desirable yellow coloured grain.</td>
<td></td>
</tr>
<tr>
<td><strong>Kernel Size</strong></td>
<td>Indicates relative percentage of kernels that are smaller than medium flats. Higher scores indicate a greater tendency.</td>
<td></td>
</tr>
<tr>
<td><strong>Kernel Smoothness</strong></td>
<td>Percent deviation of aleurone density of kernels determined by a phenometric computer.</td>
<td></td>
</tr>
<tr>
<td><strong>Kernel Shape</strong></td>
<td>Includes kernels dealt with a higher score indicating smoother (flatter) corn on the kernel.</td>
<td></td>
</tr>
<tr>
<td><strong>Panicula Removal</strong></td>
<td>Indicates ease of removing panicula with a higher score indicating better response.</td>
<td></td>
</tr>
<tr>
<td><strong>Peak Harvest Moisture</strong></td>
<td>Indicates the tendency of the kernels to red show with a higher score indicating less hocking.</td>
<td></td>
</tr>
<tr>
<td><strong>Kernel Drydown</strong></td>
<td>Indicates relative percentage of kernels that are another than maize flints. Higher scores indicate a greater tendency.</td>
<td></td>
</tr>
<tr>
<td><strong>Grain Starch</strong></td>
<td>Represents percentage of starch in the grain. Higher scores indicate higher percentage of starch.</td>
<td></td>
</tr>
<tr>
<td><strong>Growing Environment Definitions</strong></td>
<td>Different growing environments are defined based on United States and European data sets. NLB abnormalities are usually too small to give a valid rating. Eyespot is based on European data. If you are figuring hybrid ratings which are not from Pioneer® brand hybrids to the grain harvest moisture stage, stated as 22% moisture.</td>
<td></td>
</tr>
<tr>
<td><strong>Established Plant Populations</strong></td>
<td>The planting populations shown in the Pioneer® brand maize for grain hybrid trait characteristic chart (on page 36) assume good seed establishment conditions. If you are planting very early or into a less than ideal seedbed or where insect or disease pressure is high, you may need to increase your planting populations. If you are facing yield environments (drought-prone) environments.</td>
<td></td>
</tr>
<tr>
<td><strong>High Cob, Leaf or Stalk Disease Pressure</strong></td>
<td>Indicative of disease resistance levels of a hybrid.</td>
<td></td>
</tr>
<tr>
<td><strong>Medium to Low Cob, Leaf or Stalk Disease Pressure</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>Low or No Cob, Leaf or Stalk Disease Pressure</strong></td>
<td>Indicative of disease resistance levels of a hybrid.</td>
<td></td>
</tr>
<tr>
<td><strong>Continuously Cropped Soils</strong></td>
<td>Indicative of disease resistance levels of a hybrid.</td>
<td></td>
</tr>
<tr>
<td><strong>Average Fertility Soils with Predictably Adequate Summer Rainfall</strong></td>
<td>Indicative of disease resistance levels of a hybrid.</td>
<td></td>
</tr>
<tr>
<td><strong>Good Soils Straight Out of Long Term Pasture</strong></td>
<td>Indicative of disease resistance levels of a hybrid.</td>
<td></td>
</tr>
<tr>
<td><strong>Exposed Sites with Very High Wind Run</strong></td>
<td>Indicative of disease resistance levels of a hybrid.</td>
<td></td>
</tr>
</tbody>
</table>

### Notes

- **Acronyms for Trait Descriptions**
  - **HT** = Hybrids with hard texture, suitable for dry milling of hard textured grain such as grits.
  - **R** = Ratings indicate the relative amount of protein in the grain.
  - **S** = Ratings indicate the relative amount of starch in the grain.
  - **S** = Ratings indicate the relative amount of oil in the grain.
  - **PC** = Percent deviation of aleurone density of kernels determined by a phenometric computer.
  - **SS** = Percent deviation of aleurone density of kernels determined by a phenometric computer.
  - **SD** = Percent deviation of aleurone density of kernels determined by a phenometric computer.
  - **PR** = Percent deviation of aleurone density of kernels determined by a phenometric computer.
  - **AE** = Percent deviation of aleurone density of kernels determined by a phenometric computer.
  - **HR** = Percent deviation of aleurone density of kernels determined by a phenometric computer.
  - **PL** = Percent deviation of aleurone density of kernels determined by a phenometric computer.
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- **A Note on Disease Resistance Ratings**
  - Disease resistance ratings are mostly based on United States and European data sets. For some Hybrid combinations it may be too small to give a valid rating. Eyespot and Common Rust ratings which are based on European data are based on New Zealand observations only and not on yield reduction data.

- **Growing Environment Definitions**
  - **CYE** = Challenging yield environments (CYE) may include some or all of the following characteristics:
    - Intermittent summer rainfall (drought-prone) environments.
    - Exposed sites with very high wind run.
  - **MYE** = Medium yield environments (MYE) may include some or all of the following characteristics:
    - Good soils straight out of long term pasture.
    - Continuous or long term pasture.
  - **HYE** = High yield environments (HYE) may include some or all of the following characteristics:
    - Deeper, highly fertile and well structured soils.
    - Exposed sites with very high wind run.
    - Light, sandy or shallow soils of low fertility, predictably low summer rainfall (drought-prone) environments.

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