

TRIAL RESULTS FOR
2019 to 2020
SELECTION
MAIZE HYBRIDS



PIONEER[®]

Science with Service Delivering Success[®]

22nd January 2019



Dear Pioneer Maize Grower,

We are very pleased to present to you the results of The PACTS Trials. PACTS is an abbreviation for 'Pioneer Accurate Crop Testing System' and we carry out these trials every year so that we can accurately describe the performance of the Pioneer maize hybrids that we are offering for sale.

We conduct on-farm large plot maize trials in the UK, Ireland and Scandinavia, and endeavour to provide you with trial results that fully characterise the available range of early maturity Pioneer hybrids. Correctly describing our products is very important to us as this enables our customers to select the correct hybrid for their needs. Whenever you choose a Pioneer hybrid tested in PACTS Trials you can be sure farmers with the same challenges as yours have helped evaluate it on their farms.

Sales of Pioneer maize seed in the UK, Ireland and Scandinavia were larger than ever before in 2018. The yield and stability of the extra early maturity hybrid P7326 has made it the top selling Pioneer hybrid in the region. The new very early maturity dent hybrid P7034 was sold for the first time in 2018 and all the seed we produced was sold out before the season ended. Many growers looking for later maturity hybrids and extra yield in 2018 opted for P7892 and P7524 and, also P8200 and P8201.

Whatever hybrid type you are looking for the full PACTS range will likely provide an option that ensures a great crop.

PACTS® Hybrid Performance Highlights

P7326

The maturity and consistent yield performance of P7326 on less favourable sites, and simply sites where an early harvest is sought, is what many growers clearly like.

P7034

P7034 can be grown on all but the coldest sites and its dent grain texture will improve silage quality immediately after ensiling due to its in-built ruminal starch degradability.

P7378

With a dry matter content similar to P7326 this higher yielding hybrid provides growers on lighter soils the chance to lift their silage dry matter and starch yields.

P7524

P7524 is ideally suited to growers looking for an early maturity hybrid that can surpass their current silage dry matter yields. It is also likely to find favour with those growing for biogas production.

P7892

This popular very early maturity hybrid combines high dry matter yields with high starch yields and has a strong package of agronomic features including very good early vigour and fast stover dry down.

P7932

This intermediate maturity hybrid with high yields and stiff straw provides a further high dry matter yield option for those cultivating under film using the Samco System, and on very favourable sites when grown in the open

P8200

In PACTS® trials over many locations P8200 has shown good adaptation to favourable sites when grown in the open and a wide range of sites when sown using the SAMCO system. P8200 is a very large stature hybrid that dries down rapidly at maturity and produces very high dry matter yields.

P8201

This hybrid once again tops the PACTS® Samco System trials summary. P8201 combines a very high dry matter yield with a good starch yield. It responds to the heat generated under the film to provide growers using the Samco System with the yield increase they are looking for.

Pioneer® Brand Inoculants

Pioneer proprietary silage inoculants continue to provide those striving to make high quality silage with unique products that reduce silage dry matter losses and improve silage quality. Whether you are making grass silage in cool challenging conditions or maize silage in ideal conditions understanding the benefits that come from applying the most appropriate Pioneer silage inoculant can make dramatic differences to your profitability.

The popular traditional technology products – PIONEER® 1188, PIONEER® 11G22 and PIONEER® 11A44 – are fully complemented by the Fibre Technology product range which includes PIONEER® 11GFT, PIONEER® 11CFT, PIONEER® 11AFT and PIONEER® 11CH4. Fibre Technology products all contain a unique bacterial strain that produces an enzyme that increases fibre digestion rates by freeing up cell wall from lignin.

Also, look out in 2019 for the introduction of the Rapid React® versions of 11G22 and 11C33. In the Rapid React versions of these popular products a newly registered strain is included that significantly reduces the time needed to improve silage aerobic stability after ensiling.

Our sincere thanks go to the farmers and contractors who have participated in the 2018 PACTS® Trials. Their practical help, patience, and frequent sound advice during the growing season make a significant contribution to each trial we conduct. Finally, please do not hesitate to contact us directly or your nearest Pioneer sales representative with any questions you may have about your maize seed and silage inoculant needs.

Yours sincerely,
On behalf of Pioneer



Andy Stainthorpe

Sales Manager, UK, Ireland & Scandinavia



Andy Stainthorpe,

Sales Manager, UK, Ireland & Scandinavia

Office: + 44 (0)1823 334279

Mobile: +44 (0)7801 183234

E-mail: andy.stainthorpe@pioneer.com



Jonathan Bellamy,

Area Sales Manager, North UK

Office: +44 (0)1270 619825

Mobile: +44 (0)7801 183233

E-mail: jonathan.bellamy@pioneer.com



Simon Preece

Promoter, South West UK

Office: +44 (0)1884 861529

Mobile +44 (0)7813 142957

E-mail: simonpreece62@gmail.com



For enquiries in Denmark please contact:






Søren Severin,

Sales Representative

Mobile: (+45) 2381 4720

E-mail: soren.severin@dupont.com



	PACTS® Results Summaries	Page 4-10
	Pioneer Inoculant Product Guide.....	Page 20
	PACTS® Hybrid Descriptions.....	Page 12-22
	PACTS® Individual Site Results	Page 23-31
	PACTS® Trial Details.....	Page 32-33

The purpose of PACTS® Trials

Whether a particular maize hybrid realises its full genetic potential depends largely upon how well it is adapted to the local environment and how successfully it is managed. The PACTS® Trial Results are provided to help growers identify which Pioneer hybrids are best suited to their own location and circumstances. In addition they indicate agronomic techniques that may help you maximise the yield and quality of your crop.

Layout

Each PACTS® Trial is established within a commercial crop of maize and is planted and harvested by the host farmer with the assistance of Pioneer staff. All trials are managed as part of the field and the results therefore are reflective of the effect of local weather conditions and commercial crop management practices.

A PACTS® trial is generally comprised of between 15 and 20 plots. The plots are planted in identically sized marked areas adjacent to each other across a uniform part of the selected field. Each plot is 6 or 8 rows wide and normally 50 metres in length. Typically every fourth strip is the same hybrid and is designated as a Control variety. The Control hybrid provides data that is used to offset the variable effects of soil type changes across a trial. In 2018 the Control hybrid was the hybrid P7892.

Sites

Each trial site is classified as being Favourable or Less Favourable depending upon the heat accumulation that would typically be measured at that location. The results from individual trials are detailed in this book however due to space restrictions occasionally some trials are not shown. The results from trials not shown are available on request.

Competitor Hybrids

Typically four varieties from competitor plant breeding companies that have been widely grown commercially in recent years are included in each PACTS® Trial. The competitor hybrids used in 2018 were Ambition, Avitus kws, Glory and Agiraxx.

Analysis

Representative samples from every PACTS® plot are taken at harvest and promptly oven dried to determine percentage dry matter content. Dried samples are subsequently tested in a Near Infra Red Spectrophotometer (NIRS) machine at a Pioneer laboratory. Results from these tests accurately indicate multiple quality parameters including starch content, whole plant digestibility and Neutral Detergent Fibre (NDF). The large number of PACTS® locations, and the samples tested, ensure that the NIRS data generated can be regarded as a reliable indicator of the maize silage hybrid performance a purchaser can expect.



The selection of a particular hybrid for cultivation inevitably varies according to the different criteria a grower has. In many situations yield is of paramount importance but earliness of maturity is usually another critical factor. Other factors such as standing power, silage nutritional quality and end-use intentions e.g. whole plant silage fed to livestock or used for biogas production should be taken into account. No single hybrid will suit all situations.

The following factors are just some of those that can have a major influence on the quantity, quality and value of the maize crop produced.

The Environment	Crop Husbandry	Hybrid Genetics
Latitude	Seedbed Quality	Yield Potential
Soil Type	Drilling Date	Early Vigour
Altitude	Planting Population	Disease Resistance
Aspect	Fertiliser Policy	Maturity
Shelter	Use of The Samco System	Standing Power
Harvesting & Storage	Use On-Farm	Sell Off-Farm
Harvesting Method	As Feed	Silage Quality
Harvest Timing	For Biogas Production	Consistent Supply
Storage Method	Ration Supplementation	Value versus Other Feeds
Feed-Out Methods	Ration Consistency	Local Demand
Use of Inoculant	Yeast and Mould Content	Transport Costs

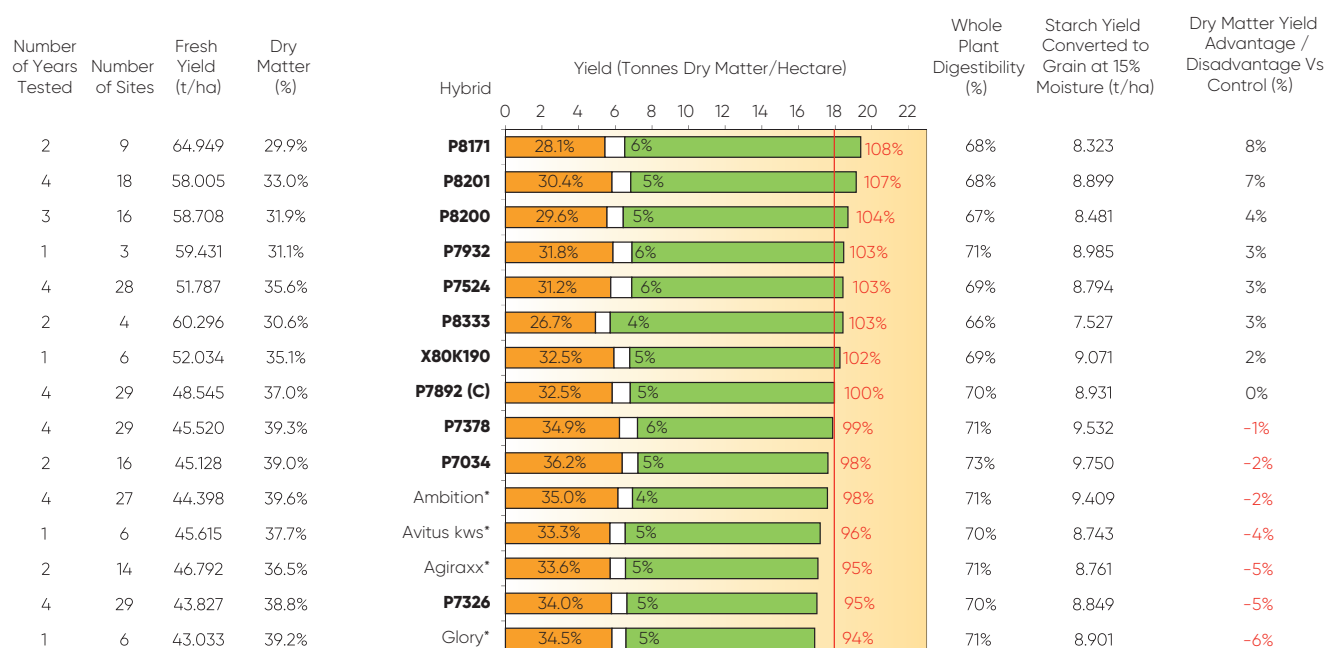
Growing a maize crop that meets all requirements depends upon selecting a hybrid with the most appropriate genetic potential and then managing that hybrid in a manner that will meet the chosen objectives.

HISTORICAL FORAGE PACTS® TRIALS RESULTS SUMMARY

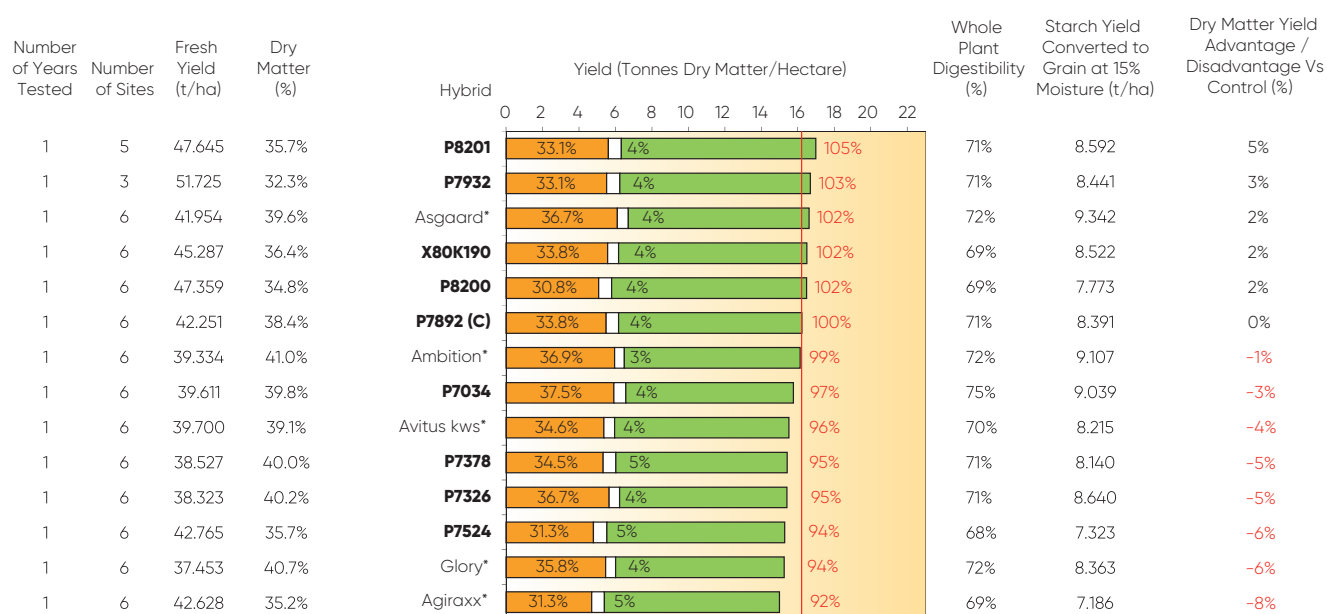
Year	Control Hybrid	Fresh Weight Yield (t/ha)	Dry Matter (%)	Dry Matter Yield (t/ha)	Starch (%)	Sugar (%)	Digestibility Value (%)	Neutral Detergent Fibre (%)	Number of Sites
2018	P7892	41.295	35.9	14.8	31.51	3.8	69.6	41.4	14
2017	P7892	48.662	37.0	18.0	32.6	5.1	70.4	37.9	19
2016	P7892	47.607	35.8	17.0	33.2	5.6	70.4	40.9	14
2015	PR39V43	47.603	31.9	15.2	25.0	9.8	69.5	43.2	15
2014	PR39V43	47.822	36.2	17.3	34.1	5.4	68.8	40.5	18
2013	PR39V43	44.695	35.6	15.9	35.3	4.0	71.6	38.9	13
2012	PR39V43	37.966	32.4	12.3	29.4	4.9	70.1	43.0	12
2011	JUSTINA	48.100	33.1	15.9	31.1	2.1	70.1	43.6	14
2010	JUSTINA	45.994	33.7	15.5	36.2	1.4	70.6	41.7	10
2009	JUSTINA	55.161	31.0	17.1	27.2	4.8	66.0	nr	13
2008	JUSTINA	46.108	30.4	14.0	30.0	3.4	69.1	nr	16
2007	JUSTINA	55.853	29.9	16.7	30.0	3.3	68.2	nr	14
2006	JUSTINA	45.042	35.3	15.9	37.0	3.0	nr	nr	13
2005	JUSTINA	54.633	31.3	17.1	33.4	2.6	nr	nr	16
2004	JUSTINA	50.774	32.3	16.4	33.9	2.7	nr	nr	15
2003	JUSTINA	50.629	31.8	16.1	33.0	3.0	nr	nr	17
Average		47.821	33.5	16.0	32.0	4.1	69.5	41.2	14

NOTE: All trials included in this summary were grown in the open; nr = not recorded

WHOLE PLANT FORAGE, FAVOURABLE SITES, 2015-2018



WHOLE PLANT FORAGE, FAVOURABLE SITES, 2018



■ Starch Yield & %
 ■ Sugar Yield & %
 ■ Stover Yield
 ■ Relative Dry Matter Yield Index (C=100%)

C = Control Hybrid; * = Competitor hybrid; ** = Hybrid trade name following registration in an EU country in 2018

WHOLE PLANT FORAGE, LESS FAVOURABLE SITES, 2015-2018

Number of Years Tested	Number of Sites	Fresh Yield (t/ha)	Dry Matter (%)	Hybrid	Yield (Tonnes Dry Matter/Hectare)	Whole Plant Digestibility (%)	Starch Yield Converted to Grain at 15% Moisture (t/ha)	Dry Matter Yield Advantage / Disadvantage Vs Control (%)
4	31	48.869	34.1%	P7524	29.2% 7% 105%	69%	7.442	5%
2	17	44.825	36.9%	P7034	32.3% 5% 104%	72%	8.172	4%
4	31	44.235	37.0%	P7378	31.0% 6% 103%	70%	7.739	3%
4	33	42.014	38.2%	P7326	32.7% 5% 101%	71%	8.025	1%
2	3	43.912	36.3%	Asgaard*	30.5% 5% 101%	71%	7.450	1%
4	33	47.256	33.6%	P7892 (C)	28.3% 7% 100%	70%	6.872	0%
4	32	40.475	38.7%	Ambition*	33.7% 5% 99%	71%	8.076	-1%
1	6	41.283	37.9%	Glory*	32.5% 3% 99%	71%	7.790	-1%
1	7	40.389	38.0%	Avitus kws*	33.5% 4% 97%	72%	7.861	-3%
2	17	43.462	35.1%	Agiraxx*	29.2% 5% 96%	70%	6.819	-4%

WHOLE PLANT FORAGE, LESS FAVOURABLE SITES, 2018

Number of Years Tested	Number of Sites	Fresh Yield (t/ha)	Dry Matter (%)	Hybrid	Yield (Tonnes Dry Matter/Hectare)	Whole Plant Digestibility (%)	Starch Yield Converted to Grain at 15% Moisture (t/ha)	Dry Matter Yield Advantage / Disadvantage Vs Control (%)
1	8	38.775	38.8%	P7034	38.7% 3% 109%	73%	8.906	9%
1	8	36.749	40.2%	P7326	35.6% 3% 107%	72%	8.042	7%
1	7	40.731	35.4%	P7524	33.3% 4% 104%	70%	7.325	4%
1	7	35.951	39.6%	P7378	35.6% 3% 103%	71%	7.742	3%
1	7	35.366	39.1%	Ambition*	36.7% 2% 100%	72%	7.756	0%
1	8	40.487	34.1%	P7892 (C)	29.8% 3% 100%	69%	6.290	0%
1	8	39.391	34.7%	Agiraxx*	31.1% 3% 99%	69%	6.492	-1%
1	6	35.370	38.5%	Glory*	34.2% 2% 99%	70%	7.131	-1%
1	7	34.604	38.6%	Avitus kws*	35.3% 2% 97%	71%	7.196	-3%

■ Starch Yield & %
 ■ Sugar Yield & %
 ■ Stover Yield
 ■ Relative Dry Matter Yield Index (C=100%)
 C = Control Hybrid; * = Competitor hybrid; ** = Hybrid trade name following registration in an EU country in 2018

PIONEER HYBRIDS FOR ENERGY PRODUCTION

The most appropriate maize hybrid for biogas production in any one situation depends on multiple factors. Maize hybrid selection for biogas production should always begin with a field assessment to determine appropriate hybrid maturity. PACTS Trials enable Pioneer to predict gas yields that can be achieved from different Pioneer hybrids cultivated on different sites in the open and under film.



SELECTED GAS YIELD PREDICTIONS FROM PACTS® TRIALS

Favourable Sites Grown In The Open, 2015-2018

Hybrid	Methane Yield		Dry Matter %	Years Tested	Sites Tested
	Litres / ha	Litres / kg Dry Matter			
P8171	5,939,402	305	29.9%	2	9
P8201	5,913,033	307	33.1%	4	18
Asgaard*	5,851,841	319	38.3%	2	14
P7932	5,815,984	314	31.1%	1	3
P7524	5,738,040	310	35.6%	4	28
P8200	5,695,468	302	31.9%	3	16
P7378	5,691,011	317	39.3%	4	29
P7034	5,683,331	323	39.0%	2	16
P7892 (C)	5,667,343	315	37.0%	4	29
P8333	5,569,278	299	30.6%	2	4
Ambition*	5,563,867	316	39.6%	4	27
Agiraxx*	5,390,033	314	36.5%	2	14
Avitus kws*	5,377,540	312	37.7%	1	6
Glory*	5,368,302	317	39.3%	1	6
P7326	5,340,649	313	38.9%	4	29

Less Favourable Sites Grown In The Open, 2015-2018

Hybrid	Methane Yield		Dry Matter %	Years Tested	Sites Tested
	Litres / ha	Litres / kg Dry Matter			
P8201	5,546,032	312	30.5%	2	3
P7034	5,247,134	318	36.9%	2	17
P7524	5,210,406	312	34.1%	4	31
P7378	5,136,841	314	37.0%	4	31
Asgaard*	5,102,078	319	36.3%	2	3
P7326	5,080,968	317	38.2%	4	33
P8057	5,062,940	316	33.8%	1	8
P7892 (C)	5,002,445	314	33.6%	4	33
Ambition*	4,994,833	318	38.7%	4	32
Glory*	4,945,932	317	37.9%	1	6
Avitus kws*	4,936,318	321	38.0%	1	7
Agiraxx*	4,757,519	312	35.1%	2	17

Less Favourable Sites Grown Under The Samco System, 2014-2018

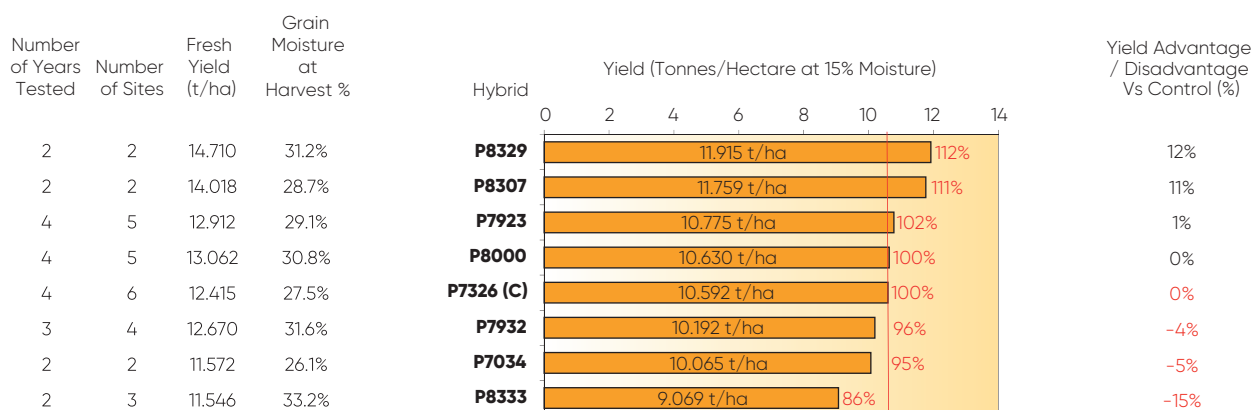
Hybrid	Methane Yield		Dry Matter %	Years Tested	Sites Tested
	Litres / ha	Litres / kg Dry Matter			
P8201	5,751,305	314	31.1%	4	15
P8171	5,414,337	308	29.8%	2	4
P8333	5,336,557	313	34.5%	3	9
P8200	5,297,718	307	31.5%	5	27
P7932	5,255,013	309	31.7%	3	9
P8372	5,250,037	298	29.1%	2	5
P7378	5,240,264	320	37.8%	4	11
P7034	5,172,173	318	38.2%	2	7
P8000	5,045,435	313	32.0%	5	16
P7892	5,014,289	319	35.0%	5	18
P7905 (C)	4,985,380	314	32.0%	5	32
P8329	4,951,413	305	30.3%	2	5
P8307	4,852,512	306	34.2%	2	5
P7524	4,769,506	315	34.9%	5	19
P7326	4,752,242	320	39.5%	5	18

Methane yields are determined using a calculation based on the Weissbach formula. This formula predicts gas output based on the value of the key substrates in the forage prior to fermentation. The calculation of Fermentable Organic Dry Matter, or 'FoTs', is a key part of the formula and the FoTs is determined using actual yield and quality results from PACTS® trials.

* = Competitor Hybrid;

** = Trade name following registration in an EU country

GROWN IN THE OPEN, 2016-2018



Grain Yield, Tonnes/Hectare at 15 Moisture Relative Yield Index (C=100%)

C = Control Hybrid; * = Competitor hybrid; ** = Hybrid trade name following registration in an EU country in 2018

PACTS® HYBRID AGRONOMIC DESCRIPTIONS FOR 2019

Hybrid	Maturity Description	Soil Type Reference			FAO Rating (Silage)	Early Vigour	Resistance to Lodging Score*	Typical Stover Dry-Down Rate	PACTS Eyespot Resistance Scores**
		Light	Medium	Heavy					
P7326	Extra Early	←	——	→	180	Very Good	8.2	Fast	5.9
P7378	Very Early	←	——		180	Very Good	7.4	Fast	3.9
P7034	Very Early	←	——		190	Good	8.2	Moderate	5.7
P7524	Early	←	——	→	200	Very Good	8.3	Moderate	7.3
P7892	Early	←	——		200	Very Good	8.3	Very Fast	5.5
P7923	Early	←	——	→	220	Good	8.2	Moderate	8.3
JUSTINA	Early	←	——		220	Very Good	8.2	Fast	3.0
P7905	Intermediate	←	——		230	Good	8.0	Moderate	3.2
P8201	Intermediate	←	→		230	Very Good	8.1	Moderate	6.9
P8200	Intermediate	←	——	→	230	Good	7.8	Moderate	7.9
P7932	Late	←	——		220	Good	8.2	Moderate	7.0
P8000	Late	←	——		230	Average	8.2	Moderate	8.6
P8333	Late	←	——		240	Good	8.2	Moderate	-
P8171	Very Late	←	——		240	Good	7.8	Slow	-

*Lodging resistance scores based on 1-9 where 9 = good and 1 = poor

** Eyespot resistance disease scores based on a 1 - 9 scale where 9 = good; (ratings derived from combination of inoculated nurseries and field situations)

GROWING MAIZE UNDER FILM



The Samco System provides extra heat during the first few weeks of growth when the plant is often challenged by cold temperatures. Over the course of the growing season the System significantly increases heat accumulation which can either bring forward the harvest date or increase yield. Different hybrids provide the grower with quite different results when planted using the Samco System. Samco and Maizetech have worked closely with Pioneer for many years to understand exactly how different varieties behave when sown under film.



Extensive trials and commercial experience have shown that certain maize hybrids are more suited to sowing under film than others. Some are clearly unsuitable. Site assessments and intended planting date should determine the maturity of the hybrid to be sown and then other desired features such as high relative yield and standing ability can help identify the specific hybrid to be sown.

P7326 – Extra Early Maturity

P7326 has now been tested for four seasons under the Samco System. P7326 has proven itself to be a prime choice for growers on very marginal locations where it has produced very high starch content silage with good dry matter yields for this maturity. P7326 should also be considered as an appropriate choice on other locations where the sowing date is significantly delayed.

P7034 – Very Early

P7034 has now been tested in PACTS trials on seven sites over two years. Whilst it is slightly slower than P7326 to break through the film it has given good dry matter yields of very high starch content. P7034 is a dent hybrid that produces grain with very high levels of ruminal degradable starch. P7034 should be considered for marginal sites or sites where an early harvest is required.

P7892 – Very Early Maturity

This very early maturing, high starch content hybrid has proven itself to be a reliable option for Samco System growers on marginal sites and situations where planting is delayed. P7892 is slightly later to mature than P7326 but with higher dry matter yield potential.

P7905 – Intermediate Maturity

P7905 is a large stature hybrid that can produce high starch and dry matter yields with the Samco System. P7905 should be planted within the normal planting window and marginal sites should be avoided.

P8200 – Intermediate Maturity

P8200 has been tested in PACTS® Trials under the Samco

System on 27 locations over the past five years.

This hybrid has given very consistent and reliable results across very different types of seasons and sites. This

tall hybrid has given very high dry matter yields of silage with good starch content. P8200 penetrates film well, dries down rapidly at maturity and is suited to most locations when planted at the normal time.



P8201 – Intermediate Maturity

P8201 has been tested in the last four years of PACTS® Trials. This is a very large stature hybrid that penetrates film extremely well and has good vigour after emergence through the film. Very high dry matter yields of good starch content have been recorded and P8201 is a hybrid to consider for growers on favourable sites wishing to maximise the dry matter yield under film.

P8000 – Late Maturity

P8000 has now proven itself to be a stiff strawed hybrid capable of producing high starch content silages across a wide range of sites using the Samco System. P8000 is suited to favourable sites when planted in the normal planting period.

P7932 – Late Maturity

P7932 was sold for the first time in 2018. It is a large stature, stiff strawed, very high dry matter yielding hybrid with an average starch content. It can be grown under film on favourable sites in the UK and Ireland providing it is sown within the normal planting window.

P8333 – Late Maturity

P8333 is a dent grain type with high starch content suitable for sowing under film on favourable sites. It will produce good dry matter yields of high starch content silage. The dent grain in P8333 will produce grain with a high level of rumen degradable starch. P8333 is not suitable for late planting.

P8171 – Very Late Maturity

P8171 is a new hybrid for 2019. It has been tested in PACTS trials for two years and it is a very late maturing hybrid with a high dry matter yield potential. It should only be sown in the UK and Ireland on favourable sites under film where an early harvest is not required. P8171 is not suitable for late planting.

The agronomic practices required for cultivating maize under film vary significantly to those normally adopted when cultivating maize in the open. In addition to selecting a suitable hybrid it is important that appropriate advice is sought on all the other appropriate crop management techniques relevant to this method of cultivation.

'A fundamental part of the Samco System is the use of maize hybrids that we know are suited for cultivation under film' says Sam Shine of Samco. 'Samco work closely with Pioneer and the PACTS Trials to identify hybrids that respond significantly to the conditions that exist under the film and then learn how to manage them in the field.'

Samuel J. Shine.

For further details about the Samco System please contact Samco, Tuogh, Adare, County Limerick Tel; 00 353 (0)61 396176 Website: www.samco.ie



STRIP TRIALS, WHOLE PLANT FORAGE, 2014 - 2018



Number of Years Tested	Number of Sites	Fresh Yield (t/ha)	Dry Matter (%)	Hybrid	Yield (Tonnes Dry Matter/Hectare)	Whole Plant Digestibility (%)	Starch Yield Converted to Grain at 15% Moisture (t/ha)	Dry Matter Yield Advantage / Disadvantage Vs Control (%)
4	15	58.773	31.1%	P8201	32.1% 5% 115%	70%	8.979	15%
2	4	58.835	29.8%	P8171	30.1% 5% 110%	68%	8.073	10%
5	27	54.869	31.5%	P8200	30.9% 4% 109%	68%	8.167	9%
3	9	49.300	34.5%	P8333	30.9% 5% 107%	70%	8.044	7%
3	9	53.230	31.7%	P7932	28.8% 5% 106%	69%	7.439	6%
2	7	42.781	38.2%	P7034	37.9% 3% 103%	71%	9.492	3%
4	11	43.193	37.8%	P7378	39.1% 4% 103%	71%	9.776	3%
5	16	50.378	32.0%	P8000	32.0% 5% 102%	70%	7.886	2%
5	32	49.664	32.0%	P7905 (C)	31.9% 5% 100%	70%	7.733	0%
5	18	44.803	35.0%	P7892	33.6% 5% 99%	72%	8.060	-1%
5	19	43.329	34.9%	P7524	33.0% 6% 95%	70%	7.635	-5%
5	18	37.597	39.5%	P7326	37.0% 4% 94%	72%	8.411	-6%

SELECTED MULTIPLE YEAR PAIRED COMPARISON RESULTS



	No. Years Tested	No. Sites	Dry Matter (%)	Yield (Tonnes Dry Matter/ha)	Yield Index (%)	Wholeplant Organic Matter Digestibility (%)	Starch (%)	Sugar (%)	Neutral Detergent Fibre (%)	Megajoules Metabolisable Energy / Kg Dry Matter	Calculated Methane Production (litres/kg Dry Matter)	Calculated Methane Production (l/ha)
P8201	4	14	31.0%	170.66	100.0%	70.5%	30.9%	5.2%	41.6%	11.7	316	5,416,834
P8200			31.1%	16.821	98.6%	69.2%	31.0%	4.0%	42.0%	11.5	311	5,231,822
P8200	5	15	32.8%	18.083	100.0%	69.1%	32.8%	3.7%	41.4%	11.4	311	5,612,167
P8000			32.8%	17.287	95.6%	70.4%	32.4%	4.8%	40.8%	11.7	315	5,445,784
P8200	3	7	32.9%	16.857	100.0%	69.6%	32.5%	3.3%	40.2%	11.5	312	5,246,540
P7932			33.8%	16.971	100.7%	71.6%	31.3%	4.8%	41.0%	11.9	320	5,420,893
P8201	3	6	33.7%	18.111	100.0%	72.5%	34.8%	4.8%	38.1%	12.0	323	5,840,744
P7932			33.6%	17.036	94.1%	71.2%	30.2%	5.3%	41.8%	11.8	318	5,421,379
P7905 (C)	4	15	31.4%	14.808	100.0%	70.6%	30.6%	5.3%	41.2%	11.7	315	4,685,246
P8201			30.6%	17.079	115.3%	70.3%	30.8%	5.1%	41.7%	11.6	315	5,405,061
P7905 (C)	5	25	34.1%	16.013	100.0%	71.1%	28.1%	8.3%	41.5%	11.8	317	5,081,872
P8200			31.3%	17.534	109.5%	68.2%	31.1%	4.1%	42.5%	11.3	308	5,384,827
P8200	2	4	33.1%	15.494	100.0%	70.8%	34.4%	3.8%	38.5%	11.7	316	4,889,706
P7034			35.7%	13.526	87.3%	74.8%	39.1%	3.5%	35.1%	12.4	330	4,472,437
P8200	5	17	30.2%	16.906	100.0%	66.8%	29.3%	3.3%	44.4%	11.1	302	5,094,617
P7892			34.1%	15.171	89.7%	70.5%	31.4%	4.5%	41.9%	11.7	316	4,795,259
P8200	5	16	30.4%	17.026	100.0%	68.3%	30.4%	4.0%	42.6%	11.3	308	5,234,637
P7326			37.9%	14.545	85.4%	71.1%	35.1%	3.8%	40.0%	11.8	319	4,632,148
P8200	2	4	33.1%	15.494	100.0%	70.8%	34.4%	3.8%	38.5%	11.7	316	4,889,706
P8171			32.8%	16.488	106.4%	72.0%	34.1%	4.5%	38.8%	11.9	321	5,306,746

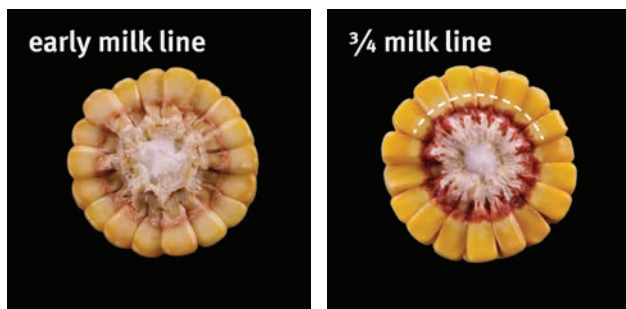
NOTE: All Pioneer PACTS® variety plots planted under film in the UK & Ireland have been sown using the Samco System. The Samco System incorporates the use of a specific type of planter and also films tested and approved by Samco. It should not be assumed that the types of responses shown in this book will be obtained when using either a different make of planter or different makes of films.

DENT HYBRIDS

There is no doubt that the world's highest starch yielding maize hybrids are dent hybrids. The goal of Pioneer maize breeders has been to develop dent hybrids that can perform in challenging maritime environments. Pioneer breeders have now achieved that goal by releasing P7034 which has the early vigour and early flowering necessary to handle maritime growing conditions.

While Pioneer corn breeders focus on hybrid agronomics and yield, the Pioneer Global Nutritional Sciences team helps livestock producers understand the nutritional benefits of dent hybrids. Maize silage and maize grain from dent corn has been fed to dairy and beef animals in the United States and Canada for decades. Our goal is to share the experience North American livestock producers have with feeding high dietary inclusion levels of dent hybrids allowing for lower cost rations and excellent rumen health.

The first nutritional advantage of a dent hybrid like P7034 is deeper, more expansive kernels resulting in more starch deposition into the ear. Dent silage growers understand that kernel starch deposition continues late in the life of the maize plant and they prefer to harvest when the milk line is between $\frac{1}{2}$ to $\frac{3}{4}$ down the kernel.



The exponential deposition of starch in dent hybrids is such that every day the maize plant stays in the field there could be upwards of 0.5 to 1.0 percentage units more starch in every tonne of maize silage. P7034 has been selected for early flowering so the plant has adequate time to lay down as much starch as possible.

The second nutritional advantage of dent kernels is that the starch granules are not encased in as much zein protein as starch granules in flint hybrids. Published research has shown that rumen bacteria can access dent starch granules more extensively than flint starch granules. This results in more rumen bacterial microbe growth which translates to the need for less supplemental dietary protein

because the animal digests the rumen microbes as an excellent protein source when they flow out of the rumen into the intestines. This microbial protein source as allowed high-producing dairy cows in North America to require only 15-16% crude protein in the diet.

It is also known that the ensiling process also impacts ruminal starch digestibility. Bacterial action and low pH will solubilise the zein protein encasing starch granules causing the ruminal starch digestibility to drift upwards in both dent and flint hybrids before stabilising at about





6 months ensiled. However, research at the University of Lorraine in Nancy France showed that dent hybrids had significantly higher total tract starch digestion (and less fecal starch loss) than flint kernels. While the flint and dent hybrids converged in starch digestion after 6 months ensiled, the dent kernels still maintained a numerical advantage. This has led producers growing both flint and dent hybrids in France, Germany and the UK to harvest the dent hybrid last so that it is fed out first to fully capture the ruminal starch digestibility advantage.

Maize silage is fed for starch and fibre digestibility and yield. P7034 provides excellent biomass yield in addition to higher starch yield. North American silage growers have the luxury of planting brown mid-rib (BMR) silage hybrids to drive fibre digestibility. Extensive university and industry research has shown that backcrossing the (non-GMO) BMR mutant gene into silage genetics was the only way to significantly improve fibre digestibility due to the fact that growing environment is 3-times more influential on fibre digestibility than hybrid genetics. The good news is that Pioneer is also actively developing BMR hybrids that will withstand maritime growing conditions.



Bill Mahanna, Ph.D., Dipl ACAN

Pioneer Global Nutritional Sciences Manager

Mode of Action	Product	Forage	Purpose
Unique Fibre Technology	 11GFT	Grass and wholecrop cereal silages	Fermentation, animal performance and fibre digestibility, aerobic stability
	 11CFT	Maize silage	Fermentation, animal performance and fibre digestibility, aerobic stability
	 11AFT	Lucerne silage	Fermentation, animal performance and fibre digestibility, aerobic stability
	 11CH4	A wide range of high dry matter silages	Aerobic stability and gas production
Traditional Technology	PIONEER® 11G22	High dry matter grass, wholecrop cereal and pea/cereal silages	Fermentation, animal performance and aerobic stability
	PIONEER® 11C33	Maize silage	Fermentation, animal performance and aerobic stability
	PIONEER® 11B91	Crimped maize grain	Fermentation, animal performance and aerobic stability
	PIONEER® 1188	Grass silage below 30% dry matter	Fermentation and animal performance
	PIONEER® 11A44	A wide range of high dry matter silages	Aerobic stability



P7326

- » Extra Early Maturity, FAO 180
- » Primary End Use: Forage, Biogas and Grain

P7326 was the biggest selling Pioneer hybrid in the maritime maturity region of the UK, Ireland and Scandinavia in 2018.

PACTS results show P7326 is clearly an obvious choice for growers who are seeking a hybrid that will reach 30% dry matter quickly and produce good yields of high starch content silage. P7326 has shown a high degree of adaptation to cultivation on less favourable locations where heat is often limiting, and also on favourable locations wherever an early harvest is required. P7326 has demonstrated very good early vigour.



Hybrid Characteristics

- Fastest Pioneer hybrid to reach 30% dry matter
- Tall hybrid for such an early maturity
- Very good early vigour
- High starch content silage with good whole plant digestibility

Grown In The Open

- On both favourable and less favourable sites
- Where early vigour and rapid early growth is important
- For production of dry grain or grain for crimping on all but marginal sites

Grown Using The Samco System

- High comparative dry matter yields on the coldest sites e.g. sites in Northern Ireland, South West Scotland and southerly areas of Finland
- High starch yields for this maturity
- On more favourable locations when sowing is delayed

Hybrid Specific Agronomic Advice

	Grown In The Open	Samco System
Early Vigour	Very Good	Very Good
Lodging Resistance ¹	8.2	
Eyespot Resistance Score ¹	5.9	
Stover Dry-Down Rate	Fast	Very Fast
Forage Seeding Rate ² (seeds/ha)	103 000 to 110 000	110 000
Film Penetration Ability ³	Not Applicable	Good ³

¹ Based on 1- 9 scale where 9 = good and 1 = poor

² Assumes plant establishment losses of less than 5%

³ Film penetration varies with conditions and film type; use films approved by Samco and Maizetech

Selected Multiple Year Paired Comparison Results

» Less Favourable Sites – Selected P7326 Paired Comparisons

	No. of Years Tested	No. of Sites	Dry Matter DM (%)	Yield (Tonnes DM/ha)	Yield Index (%)	Wholeplant Organic Matter Digestibility (%)	Starch (%)	Sugar (%)	Neutral Detergent Fibre (%)	Megajoules Metabolisable Energy /kg Dry Matter	Calculated Methane Production (litres/kg DM)	Calculated Methane Production (l/ha)
P7326	1	6	42.4%	15.299	109.4%	71.6%	35.9%	3.3%	37.7%	11.8	319	4,907,075
Glory*			40.3%	13.978	100.0%	69.3%	33.5%	1.7%	41.4%	11.5	310	4,375,820
P7326	4	32	38.2%	16.200	102.4%	70.7%	32.6%	5.7%	39.7%	11.7	316	5,129,189
Ambition*			38.8%	15.822	100.0%	71.0%	33.6%	4.7%	40.4%	11.8	318	5,039,624
P7326	1	7	41.8%	15.332	108.0%	73.1%	37.8%	3.3%	37.1%	12.1	325	4,966,160
Avitus kws*			40.4%	14.197	100.0%	73.3%	39.5%	2.2%	37.0%	12.1	326	4,604,172
P7326	2	17	40.0%	15.748	104.7%	71.0%	34.7%	3.8%	37.8%	11.8	317	4,990,203
Agiraxx*			37.1%	15.042	100.0%	69.6%	32.2%	3.0%	40.6%	11.5	311	4,690,731
P7326	4	33	38.2%	16.035	101.0%	70.8%	32.7%	5.5%	39.7%	11.7	317	5,080,968
P7892 (C)			33.6%	15.875	100.0%	70.2%	28.3%	7.0%	41.8%	11.6	314	5,002,445
P7326	2	17	40.0%	15.748	100.0%	71.0%	34.7%	4.0%	37.8%	11.8	317	4,990,203
P7034			39.0%	16.310	103.6%	71.5%	35.6%	3.4%	37.2%	11.8	318	5,173,473
P7326	4	31	38.2%	16.041	100.0%	70.7%	32.7%	5.5%	39.7%	11.7	316	5,077,470
P7378			36.9%	16.315	101.7%	69.8%	30.6%	6.7%	41.1%	11.6	314	5,119,404

» Favourable Sites – Selected P7326 Paired Comparisons

	No. of Years Tested	No. of Sites	Dry Matter DM (%)	Yield (Tonnes DM/ha)	Yield Index (%)	Wholeplant Organic Matter Digestibility (%)	Starch (%)	Sugar (%)	Neutral Detergent Fibre (%)	Megajoules Metabolisable Energy /kg Dry Matter	Calculated Methane Production (litres/kg DM)	Calculated Methane Production (l/ha)
P7326	1	6	40.2%	15.401	100.9%	71.2%	36.7%	3.8%	38.3%	11.8	318	4,891,221
Glory*			40.7%	15.257	100.0%	71.8%	35.8%	3.5%	38.3%	11.9	319	4,864,372
P7326	1	6	40.2%	15.401	99.2%	71.2%	36.7%	4.0%	38.3%	11.8	318	4,891,221
Avitus kws*			39.1%	15.523	100.0%	70.1%	34.6%	4.1%	40.7%	11.6	314	4,875,537
P7326	4	27	38.7%	16.977	97.0%	70.1%	34.1%	5.2%	39.3%	11.6	314	5,331,989
Ambition*			39.3%	17.504	100.0%	70.6%	34.9%	4.6%	39.3%	11.7	316	5,536,188
P7326	2	14	39.0%	16.732	100.2%	69.8%	34.3%	4.7%	38.3%	11.5	313	5,231,237
Agiraxx*			36.8%	16.702	100.0%	70.2%	34.2%	4.3%	38.7%	11.6	313	5,248,542
P7326	2	16	39.1%	16.827	100.0%	69.7%	34.1%	4.7%	38.1%	11.5	312	5,250,310
P7034			39.8%	17.409	103.5%	72.8%	36.9%	4.3%	35.7%	12.0	321	5,586,814
P7326	4	29	38.8%	17.012	94.7%	70.0%	34.0%	5.0%	39.1%	11.6	313	5,335,563
P7892 (C)			37.0%	17.965	100.0%	70.4%	32.5%	5.5%	39.6%	11.7	315	5,660,833
P7326	4	28	38.8%	16.968	100.0%	70.0%	34.0%	5.0%	39.1%	11.6	313	5,320,593
P7524			35.6%	18.410	108.5%	68.8%	31.3%	6.2%	40.5%	11.4	310	5,729,031

* = Competitor hybrid C = Control Hybrid



P7034

- » Very Early Maturity, FAO 180
- » Primary End Use: Forage, Grain and Biogas

P7034 is a very early maturity hybrid with dent grain texture. P7034 is the first Pioneer hybrid of this maturity that has dent type grain and has been bred specifically for the cool maritime locations found in the UK, Ireland and Scandinavia. This hybrid flowers early and produces silage with a very high starch content and starch yield. P7034 is typical of dent hybrids which invariably yield more starch than traditional flint type hybrids. Dent type starch degrades at a significantly faster rate in the rumen than flint type starch, especially just after ensiling (see page 10). Due to its faster ruminal starch degradation rate silage crops of P7034 should be clamped last and fed first thereby improving the feeding transition from any old to new crop maize silage.



Hybrid Characteristics

- Dent grain texture with fast ruminal starch degradability
- Very high whole plant digestibility
- Very high starch content
- Early flowering

Grown In The Open

- Widely adapted to all but the coldest maize growing areas of the UK, Ireland, Denmark and Sweden.
- Ensile last and feed first

Grown Using The Samco System

- P7034 will produce silage of a very high starch content and a very high starch yield
- P7034 can be grown in southern Finland using the Samco System
- On favourable sites where a high starch yield and content is sought and on less favourable sites where earliness is required

Hybrid Specific Agronomic Advice

	Grown In The Open	Samco System
Early Vigour	Good	Good
Lodging Resistance ¹	8.2	
Eyespot Resistance Score ¹	5.7	
Stover Dry-Down Rate	Fast	Very Fast
Forage Seeding Rate ² (seeds/ha)	103 000 to 110 000	110 000
Film Penetration Ability ³	Not Applicable	Average ³

¹ Based on 1- 9 scale where 9 = good and 1 = poor

² Assumes plant establishment losses of less than 5%

³ Film penetration varies with conditions and film type; use films approved by Samco and Maizetech

P7034 Quality Profile

Hybrid	FAVOURABLE SITES				LESS FAVOURABLE SITES			
	Number of Sites	Starch	Relative Ruminant Starch Degradability	Whole Plant Digestibility	Number of Sites	Starch	Relative Ruminant Starch Degradability	Whole Plant Digestibility
P7034	4	36.2%	81.1%	73.1%	8	32.3%	81.5%	71.6%
P7892 (C)	4	32.5%	73.6%	70.4%	8	28.3%	69.0%	70.2%
P7326	4	34.0%	71.7%	70.0%	8	32.7%	75.5%	70.8%
Competitor Hybrid	4	33.3%	63.1%	69.7%	7	33.5%	64.1%	72.2%
Competitor Hybrid	4	33.6%	62.9%	70.5%	8	29.2%	56.1%	69.7%
Competitor Hybrid	4	35.0%	62.7%	70.6%	8	33.7%	63.2%	71.1%
Competitor Hybrid	4	34.5%	61.7%	71.4%	8	32.5%	63.2%	71.9%

C = Control Hybrid; Data based on samples and tests carried out on selected hybrids from a limited number of PACTS Trials 2018

These results confirm the dent type hybrid P7034 is fully adapted to typical cool maritime maize growing areas. On favourable locations P7034 has produced forage with a very high starch content and on less favourable locations it has also given a high starch content. The ruminal starch degradability of P7034 was outstanding on both favourable and less favourable locations (see table above). The whole plant digestibility of P7034 was outstanding on favourable sites and high on less favourable sites.

Selected Multiple Year Paired Comparison Results

» Favourable Sites – Selected P7034 Paired Comparisons

	No. of Years Tested	No. of Sites	Dry Matter DM (%)	Yield (Tonnes DM/ha)	Yield Index (%)	Wholeplant Organic Matter Digestibility (%)	Starch (%)	Sugar (%)	Neutral Detergent Fibre (%)	Megajoules Metabolisable Energy /kg Dry Matter	Calculated Methane Production (litres/kg DM)	Calculated Methane Production (l/ha)
P7034	1	6	39.8%	15.758	103.3%	75.1%	37.5%	4.2%	37.0%	12.4	329	5,188,415
Glory*			40.7%	15.257	100.0%	71.8%	35.8%	3.5%	38.3%	11.9	319	4,864,372
P7034	2	14	40.0%	17.281	99.4%	72.9%	36.8%	4.3%	36.0%	12.1	322	5,554,348
Ambition*			39.8%	17.377	100.0%	70.2%	35.2%	4.0%	38.3%	11.6	315	5,466,868
P7034	1	6	39.8%	15.758	101.5%	75.1%	37.5%	4.6%	37.0%	12.4	329	5,188,415
Avitus kws*			39.1%	15.523	100.0%	70.1%	34.6%	4.1%	40.7%	11.6	314	4,875,537
P7034	2	14	40.0%	17.281	103.5%	72.9%	36.8%	4.3%	36.0%	12.1	322	5,554,348
Agiraxx*			36.8%	16.702	100.0%	70.2%	34.2%	4.3%	38.7%	11.6	313	5,248,542
P7034	2	16	39.8%	17.409	98.0%	72.8%	36.9%	4.3%	35.7%	12.0	321	5,586,814
P7892 (C)			37.7%	17.768	100.0%	70.1%	33.1%	4.7%	38.6%	11.6	313	5,571,233
P7034	2	16	39.8%	17.409	103.5%	72.8%	36.9%	4.3%	35.7%	12.0	321	5,586,814
P7326			39.1%	16.827	100.0%	69.7%	34.1%	4.7%	38.1%	11.5	312	5,250,310
P7034	2	16	39.8%	17.409	100.0%	72.8%	36.9%	4.3%	35.7%	12.0	321	5,586,814
P7524			36.2%	18.139	104.2%	68.8%	32.1%	5.7%	39.6%	11.4	310	5,642,410

» Less Favourable Sites – Selected P7034 Paired Comparisons

	No. of Years Tested	No. of Sites	Dry Matter DM (%)	Yield (Tonnes DM/ha)	Yield Index (%)	Wholeplant Organic Matter Digestibility (%)	Starch (%)	Sugar (%)	Neutral Detergent Fibre (%)	Megajoules Metabolisable Energy /kg Dry Matter	Calculated Methane Production (litres/kg DM)	Calculated Methane Production (l/ha)
P7034	1	6	40.8%	15.728	112.5%	72.6%	37.9%	2.7%	36.8%	12.0	322	5,082,639
Glory*			40.3%	13.978	100.0%	69.3%	33.5%	2.0%	41.4%	11.5	310	4,375,820
P7034	2	16	39.2%	16.648	104.2%	71.1%	34.9%	3.4%	37.7%	11.8	316	5,263,957
Ambition*			41.0%	15.980	100.0%	71.0%	35.6%	2.9%	38.7%	11.8	317	5,089,335
P7034	1	7	40.4%	15.802	111.3%	74.7%	40.8%	2.8%	35.0%	12.4	329	5,180,767
Avitus kws*			40.4%	14.197	100.0%	73.3%	39.5%	2.2%	37.0%	12.1	326	4,604,172
P7034	2	17	39.0%	16.310	108.4%	71.5%	35.6%	3.4%	37.2%	11.8	318	5,173,473
Agiraxx*			37.1%	15.042	100.0%	69.6%	32.2%	3.2%	40.6%	11.5	311	4,690,731
P7034	2	15	39.3%	16.335	100.0%	71.4%	35.8%	3.4%	36.9%	11.8	317	5,170,866
P7378			40.1%	15.957	97.7%	70.1%	34.2%	4.1%	38.7%	11.6	315	5,016,342
P7034	2	15	40.1%	16.443	100.0%	71.6%	35.9%	3.5%	37.0%	11.8	318	5,219,672
P7524			36.3%	16.341	99.4%	69.8%	32.1%	5.2%	39.1%	11.6	314	5,136,718
P7034	2	17	39.0%	16.310	104.2%	71.5%	35.6%	3.4%	37.2%	11.8	318	5,173,473
P7892 (C)			35.5%	15.651	100.0%	70.0%	31.2%	4.4%	40.2%	11.6	313	4,932,219

P7378

- » Very Early Maturity, FAO 180
- » Primary End Use: Forage and Biogas

P7378 is a very early maturity Pioneer hybrid that has given high yields of very high starch content silage over four years of PACTS Trials and many locations. P7378 is a tall, large stature hybrid. It is most adapted to lighter soils where growers seek a high energy silage for feeding or where an early maturity hybrid is required that will maximise biogas production.



Hybrid Characteristics

- Very high dry matter yields for this maturity
- Tall, very good early vigour
- High starch content silage with good whole plant digestibility

Grown In The Open

- On favourable sites avoiding heavy soils
- Less favourable sites with shelter and a light soil



Grown Using The Samco System

- P7378 has given extremely high starch yields and starch contents when grown under film. Being a very early maturing hybrid however it is essential that harvest takes place once maturity is reached to avoid over maturity.

Hybrid Specific Agronomic Advice

	Grown In The Open	Samco System
Early Vigour	Very Good	Very Good
Lodging Resistance ¹	7.4	
Eyespot Resistance Score ¹	3.9	
Stover Dry-Down Rate	Very Fast	Extremely Fast
Forage Seeding Rate ² (seeds/ha)	100 000 to 105 000	110 000 to 105 000
Film Penetration Ability ³	Not Applicable	Good ³

¹ Based on 1- 9 scale where 9 = good and 1 = poor

² Assumes plant establishment losses of less than 5%

³ Film penetration varies with conditions and film type; use films approved by Samco and Maizetech

Selected Multiple Year Paired Comparison Results

» Favourable Sites – Selected P7378 Paired Comparisons

	No. of Years Tested	No. of Sites	Dry Matter DM (%)	Yield (Tonnes DM/ha)	Yield Index (%)	Wholeplant Organic Matter Digestibility (%)	Starch (%)	Sugar (%)	Neutral Detergent Fibre (%)	Megajoules Metabolisable Energy /kg Dry Matter	Calculated Methane Production (litres/kg DM)	Calculated Methane Production (l/ha)
P7378	1	6	40.0%	15.422	101.1%	71.1%	34.5%	4.6%	39.5%	11.8	318	4,899,426
Glory*			40.7%	15.257	100.0%	71.8%	35.8%	3.5%	38.3%	11.9	319	4,864,372
P7378	4	27	39.1%	17.838	101.9%	71.1%	34.8%	5.7%	38.8%	11.8	318	5,686,085
Ambition*			39.3%	17.504	100.0%	70.6%	34.9%	4.6%	39.3%	11.7	316	5,536,188
P7378	1	6	40.0%	15.422	99.4%	71.1%	34.5%	5.1%	39.5%	11.8	318	4,899,426
Avitus kws*			39.1%	15.523	100.0%	70.1%	34.6%	4.1%	40.7%	11.6	314	4,875,537
P7378	2	14	39.2%	16.812	100.7%	70.5%	35.2%	4.6%	38.1%	11.7	316	5,316,144
Agiraxx*			36.8%	16.702	100.0%	70.2%	34.2%	4.3%	38.7%	11.6	313	5,248,542

P7892 is a very early maturity hybrid launched in 2012. In 2016 P7892 became the Control hybrid for the PACTS trials due to its consistency and adaptation to many different types of locations. P7892 has very good early vigour and no major agronomic weaknesses. Growers planting in the open and looking for high yields with good reliability often choose P7892 and those growing under film in cold locations, or planting late, have also found it to be a successful choice.



Hybrid Characteristics

- Large stature hybrid
- Very good early vigour
- Very fast stover dry down at maturity

Grown In The Open

- Suitable for favourable sites or less favourable sites with light soil

Grown Using The Samco System

- P7892 is suitable for growing under film in the least favourable locations e.g. Northern Ireland, South West Scotland and West Wales or other sites when planting is delayed.

Hybrid Specific Agronomic Advice

	Grown In The Open	Samco System
Early Vigour	Very Good	Very Good
Lodging Resistance ¹	8.3	
Eyespot Resistance Score ¹	5.5	
Stover Dry-Down Rate	Very Fast	Very Fast
Forage Seeding Rate ² (seeds/ha)	103 000 to 110 000	110 000
Film Penetration Ability ³	Not Applicable	Good ³

¹ Based on 1- 9 scale where 9 = good and 1 = poor

² Assumes plant establishment losses of less than 5%

³ Film penetration varies with conditions and film type; use films approved by Samco and Maizetech

Selected Multiple Year Paired Comparison Results

» Favourable Sites – Selected P7892 Paired Comparisons

	No. of Years Tested	No. of Sites	Dry Matter DM (%)	Yield (Tonnes DM/ha)	Yield Index (%)	Wholeplant Organic Matter Digestibility (%)	Starch (%)	Sugar (%)	Neutral Detergent Fibre (%)	Megajoules Metabolisable Energy /kg Dry Matter	Calculated Methane Production (litres/kg DM)	Calculated Methane Production (l/ha)
P7892 (C)	4	27	36.8%	17.887	102.2%	70.5%	32.4%	5.6%	39.8%	11.7	315	5,639,466
Ambition*			39.3%	17.504	100.0%	70.6%	34.9%	4.6%	39.3%	11.7	316	5,536,188
P7892 (C)	1	6	38.4%	16.229	104.5%	70.8%	33.8%	4.6%	39.5%	11.7	316	5,133,511
Avitus kws*			39.1%	15.523	100.0%	70.1%	34.6%	4.1%	40.7%	11.6	314	4,875,537
P7892 (C)	2	14	37.4%	17.590	105.3%	70.1%	33.1%	4.8%	38.8%	11.6	314	5,517,225
Agiraxx*			36.8%	16.702	100.0%	70.2%	34.2%	4.3%	38.7%	11.6	313	5,248,542
P7892 (C)	2	16	37.7%	17.768	102.1%	70.1%	33.1%	4.7%	38.6%	11.6	313	5,571,233
P7034			39.8%	17.409	100.0%	72.8%	36.9%	4.3%	35.7%	12.0	321	5,586,814

P7524

- » Early Maturity, FAO 200
- » Primary End Use: Forage and Biogas

P7524 is a striking early maturity hybrid which combines very good early vigour with a tall growth habit. P7524 has given very high dry matter yields of good starch content. It will suit growers seeking to produce a large quantity of early to mature silage, and also those aiming to maximise biogas production. P7524 has a notable level of resistance to Eyespot (*Aureobasibium zeae*).



Hybrid Characteristics

- Tall, large stature
- Very good early vigour
- Good comparative resistance to Eyespot (*Aureobasibium zeae*)

Grown In The Open

- On good to favourable sites where higher dry matter yields are sought

Grown Using The Samco System

- On less favourable sites in the UK
- On good sites in southern and midland counties of Ireland, and also favourable, sheltered sites in more northerly counties.

Hybrid Specific Agronomic Advice

	Grown In The Open	Samco System
Early Vigour	Very Good	Very Good
Lodging Resistance ¹	8.3	
Eyespot Resistance Score ¹	7.3	
Stover Dry-Down Rate	Moderate	Fast
Forage Seeding Rate ² (seeds/ha)	93 000 to 103 000	98 000 to 103 000
Film Penetration Ability ³	Not Applicable	Good ³

¹ Based on 1- 9 scale where 9 = good and 1 = poor

² Assumes plant establishment losses of less than 5%

³ Film penetration varies with conditions and film type; use films approved by Samco and Maizetech

Selected Multiple Year Paired Comparison Results

» Favourable Sites – Selected P7524 Paired Comparisons

	No. of Years Tested	No. of Sites	Dry Matter DM (%)	Yield (Tonnes DM/ha)	Yield Index (%)	Wholeplant Organic Matter Digestibility (%)	Starch (%)	Sugar (%)	Neutral Detergent Fibre (%)	Megajoules Metabolisable Energy / kg Dry Matter	Calculated Methane Production (litres/ kg DM)	Calculated Methane Production (l/ha)
P7524	4	26	35.4%	18.246	104.4%	68.7%	31.2%	6.2%	40.9%	11.4	310	5,673,550
Ambition*			39.3%	17.484	100.0%	70.8%	35.1%	4.5%	39.1%	11.7	317	5,537,066
P7892 (C)	1	6	38.4%	16.229	104.5%	70.8%	33.8%	4.6%	39.5%	11.7	316	5,133,511
Avitus kws*			39.1%	15.523	100.0%	70.1%	34.6%	4.1%	40.7%	11.6	314	4,875,537
P7524	2	14	36.0%	17.797	106.6%	68.7%	32.0%	5.5%	40.1%	11.4	310	5,527,000
Agiraxx*			36.8%	16.702	100.0%	70.2%	34.2%	4.3%	38.7%	11.6	313	5,248,542
P7524	4	28	35.6%	18.410	102.6%	68.8%	31.3%	6.2%	40.5%	11.4	310	5,729,031
P7892 (C)			37.0%	17.942	100.0%	70.5%	32.6%	5.4%	39.5%	11.7	315	5,657,704

* = Competitor Hybrid; C = Control Hybrid

P8200

- » Intermediate Maturity, FAO 230
- » Primary End Use: Forage

P8200 is a tall, large stature, intermediate maturity hybrid ideally suited to cultivation on a wide range of sites under film. It is also suitable for sowing on favourable sites in the open. P8200 has given very high dry matter yields of silage with good starch content. A helpful feature of P8200 is that the stover dries down quickly once it reaches physiological maturity. P8200 has shown performance consistency in the UK and Ireland over the last 5 years.



Hybrid Characteristics

- Tall, large stature hybrid
- Usually double cobs when grown under film

Grown In The Open

- On favourable locations

Grown Using The Samco System

- On all but the least favourable sites in UK & Ireland
- Switch to an earlier hybrid if planting is delayed past second week in May

Hybrid Specific Agronomic Advice

	Grown In The Open	Samco System
Early Vigour	Good	Good
Lodging Resistance ¹	7.8	
Eyespot Resistance Score ¹	7.9	
Stover Dry-Down Rate	Moderate	Fast
Forage Seeding Rate ² (seeds/ha)	98 000	98 000 to 103 000
Film Penetration Ability ³	Not Applicable	Good ³

¹ Based on 1- 9 scale where 9 = good and 1 = poor

² Assumes plant establishment losses of less than 5%

³ Film penetration varies with conditions and film type; use films approved by Samco and Maizetech

Selected Multiple Year Paired Comparison Results

» Samco System Sites – Selected P8200 Paired Comparisons

	No. of Years Tested	No. of Sites	Dry Matter DM (%)	Yield (Tonnes DM/ha)	Yield Index (%)	Wholeplant Organic Matter Digestibility (%)	Starch (%)	Sugar (%)	Neutral Detergent Fibre (%)	Megajoules Metabolisable Energy /kg Dry Matter	Calculated Methane Production (litres/kg DM)	Calculated Methane Production (l/ha)
P8200	5	25	31.3%	17.534	109.5%	68.2%	31.1%	4.1%	42.5%	11.3	308	5,384,827
P7905 (C)			34.1%	16.013	100.0%	71.1%	28.1%	8.3%	41.5%	11.8	317	5,081,872
P8200	4	14	31.1%	16.821	100.0%	69.2%	31.0%	4.0%	42.0%	11.5	311	5,231,822
P8201			31.0%	17.066	101.5%	70.5%	30.9%	5.2%	41.6%	11.7	316	5,416,834
P8200	3	7	32.9%	16.857	100.0%	69.6%	32.5%	3.3%	40.2%	11.5	312	5,246,540
P7932			33.8%	16.971	100.7%	71.6%	31.3%	4.8%	41.0%	11.9	320	5,420,893
P8200	5	17	30.2%	16.906	100.0%	66.8%	29.3%	3.3%	44.4%	11.1	302	5,094,617
P7892			34.1%	15.171	89.7%	70.5%	31.4%	4.5%	41.9%	11.7	316	4,795,259
P8200	5	16	31.0%	17.179	100.0%	66.7%	29.2%	4.1%	44.1%	11.0	303	5,177,161
P7524			34.3%	14.926	86.9%	70.1%	32.2%	5.8%	41.0%	11.6	316	4,710,013

* = Competitor Hybrid; C = Control Hybrid

P8201

- » Early Maturity, FAO 230
- » Primary End Use: Forage and Biogas

P8201 has given extremely high dry matter yields when grown under film on good to favourable sites in the UK & Ireland, and on the most favourable sites grown in the open in England. This very tall large stature hybrid produces silage of a good starch content. P8201 penetrates film easily.



Hybrid Characteristics

- Very tall, large stature, forage hybrid
- Very good early vigour and good standing power
- Very high dry matter yields, good starch contents for such a yield

Grown In The Open

- Only on the most favourable sites in the UK & Ireland

Grown Using The Samco System

- Suitable for good to favourable locations under film
- Plant in the normal sowing period

Hybrid Specific Agronomic Advice

	Grown In The Open	Samco System
Early Vigour	Very Good	Very Good
Lodging Resistance ¹	8.1	
Eyespot Resistance Score ¹	6.9	
Stover Dry-Down Rate	Moderate	Fast
Forage Seeding Rate ² (seeds/ha)	93 000	98 000 to 103 000
Film Penetration Ability ³	Not Applicable	Very Good ³

¹ Based on 1– 9 scale where 9 = good and 1 = poor

² Assumes plant establishment losses of less than 5%

³ Film penetration varies with conditions and film type; use films approved by Samco and Maizetech

Selected Multiple Year Paired Comparison Results

» Samco System Sites – Selected P8201 Paired Comparisons

	No. of Years Tested	No. of Sites	Dry Matter DM (%)	Yield (Tonnes DM/ha)	Yield Index (%)	Wholeplant Organic Matter Digestibility (%)	Starch (%)	Sugar (%)	Neutral Detergent Fibre (%)	Megajoules Metabolisable Energy /kg Dry Matter	Calculated Methane Production (litres/kg DM)	Calculated Methane Production (l/ha)
P8201	4	15	30.6%	17,079	115.3%	70.3%	30.8%	5.1%	41.7%	11.6	315	5,405,061
P7905 (C)			31.4%	14,808	100.0%	70.6%	30.6%	5.3%	41.2%	11.7	315	4,685,246
P8201	4	14	31.0%	17,066	101.5%	70.5%	30.9%	5.2%	41.6%	11.7	316	5,416,834
P8200			31.1%	16,821	100.0%	69.2%	31.0%	4.0%	42.0%	11.5	311	5,231,822
P8201	3	6	33.7%	18,111	100.0%	72.5%	34.8%	4.8%	38.1%	12.0	323	5,840,744
P7932			33.6%	17,036	94.1%	71.2%	30.2%	5.3%	41.8%	11.8	318	5,421,379
P8201	4	10	30.3%	16,399	100.0%	69.1%	29.4%	4.3%	43.8%	11.4	311	5,123,314
P7892			34.3%	15,430	94.1%	71.4%	31.9%	4.5%	41.4%	11.8	319	4,939,843
P8201	4	10	30.7%	17,124	100.0%	70.3%	31.0%	4.8%	41.6%	11.6	315	5,431,106
P7326			38.0%	14,248	83.2%	71.9%	35.6%	3.8%	39.1%	11.9	321	4,573,635

* = Competitor Hybrid; C = Control Hybrid

P7932 was first sold in 2018. It is a very tall, stiff strawed, large stature hybrid that produces high dry matter yields of an average starch content. P7932 can be grown under film in good to favourable locations if it is planted in the normal sowing window but needs a very favourable site for cultivation in the open.



Hybrid Characteristics

- Tall, large stature, forage hybrid
- Good early vigour and very good standing power
- High dry matter yields

Grown In The Open

- Only on the most favourable sites in England

Grown Using The Samco System

- Suitable favourable locations under film
- Suitable for less favourable locations unless planting is delayed

Hybrid Specific Agronomic Advice

	Grown In The Open	Samco System
Early Vigour	Very Good	Very Good
Lodging Resistance ¹	8.2	
Eyespot Resistance Score ¹	7.0	
Stover Dry-Down Rate	Moderate	Fast
Forage Seeding Rate ² (seeds/ha)	98 000	98 000 to 103 000
Film Penetration Ability ³	Not Applicable	Very Good ³

¹ Based on 1– 9 scale where 9 = good and 1 = poor

² Assumes plant establishment losses of less than 5%

³ Film penetration varies with conditions and film type; use films approved by Samco and Maizetech

Selected Multiple Year Paired Comparison Results

» Samco System Sites – Selected P7932 Paired Comparisons

	No. of Years Tested	No. of Sites	Dry Matter DM (%)	Yield (Tonnes DM/ha)	Yield Index (%)	Wholeplant Organic Matter Digestibility (%)	Starch (%)	Sugar (%)	Neutral Detergent Fibre (%)	Megajoules Metabolisable Energy /kg Dry Matter	Calculated Methane Production (litres/kg DM)	Calculated Methane Production (l/ha)
P7932	3	9	34.8%	16.304	100.0%	70.8%	31.9%	4.4%	41.9%	11.7	316	5,165,591
P7905 (C)			35.0%	15.312	93.9%	72.3%	35.3%	4.5%	37.8%	12.0	321	4,900,545
P7932	3	7	33.8%	16.971	100.0%	71.6%	31.3%	4.8%	41.0%	11.9	320	5,420,893
P8200			32.9%	16.857	99.3%	69.6%	32.5%	3.3%	40.2%	11.5	312	5,246,540
P7932	3	6	33.6%	17.036	100.0%	71.2%	30.2%	5.3%	41.8%	11.8	318	5,421,379
P8201			33.7%	18.111	106.3%	72.5%	34.8%	4.8%	38.1%	12.0	323	5,840,744
P7932	3	6	31.6%	16.268	100.0%	71.6%	32.0%	4.4%	40.7%	11.9	319	5,197,557
P7326			40.8%	14.034	86.3%	73.5%	38.6%	3.6%	35.8%	12.2	326	4,569,594

* = Competitor Hybrid; C = Control Hybrid

P7905

- » Intermediate Maturity
- » Primary End Use: Forage and Biogas

Over many PACTS locations **P7905** has consistently produced very high forage dry matter yields made up of a high dry matter and high starch content. P7905 is an intermediate maturity hybrid that has given high yields on favourable sites grown in the open.

**Hybrid Characteristics**

- Tall, large stature hybrid
- Consistent high dry matter and starch yields

Grown In The Open

- Favourable locations in the south of England

Grown Using The Samco System

- On a wide range of sites in south and north England
- On sites in southern and midland counties of Ireland, and also favourable, sheltered sites in more northerly counties
- Not suited for planting outside the normal planting period

Hybrid Specific Agronomic Advice

	Grown In The Open	Samco System
Early Vigour	Good	Good
Lodging Resistance ¹	8.0	
Eyespot Resistance Score ¹	3.2	
Stover Dry-Down Rate	Moderate	Fast
Forage Seeding Rate ² (seeds/ha)	98 000 to 103 000	103 000
Film Penetration Ability ³	Not Applicable	Good ³

P8000

- » Late Maturity
- » Primary End Use: Forage and Grain

P8000 is a high yielding, large stature and late maturing hybrid. P8000 has a very high genetic yield potential, very good lodging resistance and stay-green. It is suitable for forage and grain production.

**Hybrid Characteristics**

- Tall, large stature hybrid
- Consistent high dry matter and starch yields

Grown In The Open

- Only on the most favourable sites in southern England

Grown Using The Samco System

- On good to favourable sites in UK and Ireland planted in the normal planting period

Hybrid Specific Agronomic Advice

	Grown In The Open	Samco System
Early Vigour	Average	Average
Lodging Resistance ¹	8.2	
Eyespot Resistance Score ¹	8.6	
Stover Dry-Down Rate	Moderate	Fast
Forage Seeding Rate ² (seeds/ha)	98 000	98 000 to 103 000
Film Penetration Ability ³	Not Applicable	Good ³

¹ Based on 1- 9 scale where 9 = good and 1 = poor

² Assumes plant establishment losses of less than 5%

³ Film penetration varies with conditions and film type; use films approved by Samco and Maizetech

Arnold Dare Results



Fresh Yield (t/ha)	Dry Matter (%)	Hybrid	Yield (Tonnes Dry Matter/Hectare)	Whole Plant Digestibility (%)	Starch Yield Converted to Grain at 15% Moisture (t/ha)
48.305	40.6%	X80K190	38% Starch, 1% Sugar, 115% Stover	69%	11.282
47.708	40.0%	P8307	44% Starch, 1% Sugar, 112% Stover	76%	12.971
46.491	40.8%	P8200	39% Starch, 0% Sugar, 112% Stover	71%	11.278
48.111	38.0%	P8201 (98K)	32% Starch, 2% Sugar, 108% Stover	65%	8.850
39.076	45.4%	Asgaard*	42% Starch, 2% Sugar, 104% Stover	74%	11.464
47.692	36.3%	P7932	38% Starch, 3% Sugar, 102% Stover	74%	9.953
45.499	38.0%	P8201 (93K)	38% Starch, 1% Sugar, 102% Stover	71%	10.066
39.686	43.5%	P7326	41% Starch, 2% Sugar, 102% Stover	72%	10.951
40.382	42.4%	P7524	37% Starch, 1% Sugar, 101% Stover	71%	9.803
39.545	43.0%	P7892 (C)	40% Starch, 1% Sugar, 100% Stover	72%	10.419
47.484	35.5%	P8171	39% Starch, 2% Sugar, 99% Stover	74%	10.054
38.168	44.1%	P7378	38% Starch, 4% Sugar, 99% Stover	72%	9.721
41.595	40.3%	Agiraxx*	38% Starch, 2% Sugar, 99% Stover	71%	9.789
37.847	44.3%	Avitus kws*	38% Starch, 3% Sugar, 99% Stover	71%	9.850
36.885	45.0%	P7034	38% Starch, 2% Sugar, 98% Stover	71%	9.651
44.067	37.6%	P8201 (88K)	33% Starch, 1% Sugar, 98% Stover	68%	8.471
37.447	42.6%	Ambition*	41% Starch, 1% Sugar, 94% Stover	71%	9.885
36.527	43.0%	Glory*	40% Starch, 1% Sugar, 92% Stover	71%	9.595

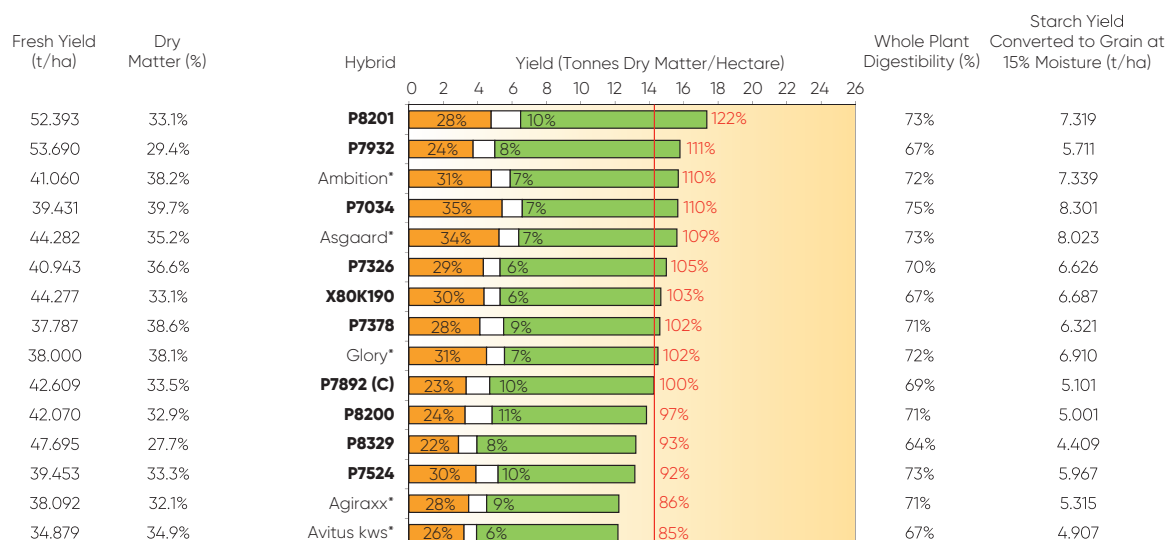
Angus Dart Results



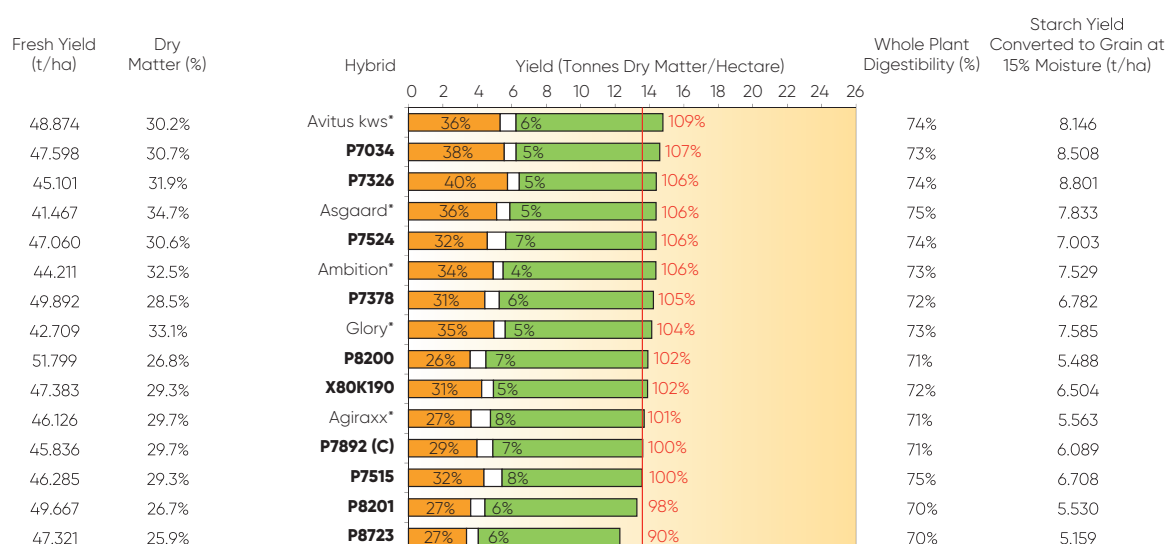
Fresh Yield (t/ha)	Dry Matter (%)	Hybrid	Yield (Tonnes Dry Matter/Hectare)	Whole Plant Digestibility (%)	Starch Yield Converted to Grain at 15% Moisture (t/ha)
42.469	40.9%	Avitus*	35% Starch, 2% Sugar, 101% Stover	71%	9.311
44.285	38.9%	P7892 (C)	34% Starch, 2% Sugar, 100% Stover	69%	8.863
43.855	39.2%	Asgaard*	35% Starch, 1% Sugar, 100% Stover	68%	9.090
38.761	43.4%	Ambition*	40% Starch, 3% Sugar, 98% Stover	74%	10.375
53.736	31.2%	P7932	34% Starch, 2% Sugar, 97% Stover	70%	8.652
40.788	40.6%	P7034	40% Starch, 3% Sugar, 96% Stover	74%	10.047
54.218	30.5%	P8171	29% Starch, 3% Sugar, 96% Stover	66%	7.236
50.801	32.5%	P8201	31% Starch, 2% Sugar, 96% Stover	67%	7.883
45.212	35.9%	P7524	30% Starch, 3% Sugar, 94% Stover	66%	7.573
39.649	40.7%	P7378	39% Starch, 2% Sugar, 94% Stover	74%	9.654
46.906	34.1%	P8200	29% Starch, 2% Sugar, 93% Stover	65%	7.046
43.776	35.8%	X80K190	34% Starch, 3% Sugar, 91% Stover	70%	8.252
42.175	36.7%	Agiraxx*	32% Starch, 2% Sugar, 90% Stover	68%	7.514
35.498	42.8%	P7326	34% Starch, 2% Sugar, 88% Stover	68%	7.897
37.539	40.3%	Glory*	34% Starch, 2% Sugar, 88% Stover	71%	7.894

■ Starch Yield & %
 ■ Sugar Yield & %
 ■ Stover Yield
 ■ Relative Dry Matter Yield Index (C=100%)
 C = Control Hybrid; * = Competitor hybrid, ** = Hybrid trade name following registration in an EU country in 2018
 88K = 88,000 Seeds/Ha, 93K = 93,000 Seeds/Ha, 98K = 98,000 Seeds/Ha; All other hybrids sown at 104,000 Seeds/Ha

Kingspool Holsteins Results



Spencer Mogridge Results



■ Starch Yield & %
 ■ Sugar Yield & %
 ■ Stover Yield
 ■ Relative Dry Matter Yield Index (C=100%)
 C = Control Hybrid; * = Competitor hybrid, ** = Hybrid trade name following registration in an EU country in 2018

Jamie Montgomery Results



Fresh Yield (t/ha)	Dry Matter (%)	Hybrid	Yield (Tonnes Dry Matter/Hectare)	Whole Plant Digestibility (%)	Starch Yield Converted to Grain at 15% Moisture (t/ha)
43.482	43.0%	P8200	38% 4% 109%	70%	10.800
36.860	48.4%	X80M498	32% 3% 104%	67%	8.862
36.640	46.8%	P7892 (C)	38% 3% 100%	70%	10.042
43.482	39.3%	P8358	32% 6% 100%	70%	8.352
37.743	44.6%	P8201	37% 3% 98%	68%	9.398
34.283	48.6%	Avitus kws*	37% 4% 97%	70%	9.353
34.423	47.2%	P7326	38% 5% 95%	71%	9.366
36.750	44.2%	Asgaard*	35% 4% 95%	68%	8.735
32.676	48.8%	Glory*	37% 4% 93%	70%	8.947
42.855	36.3%	Agiraxx*	29% 6% 91%	65%	6.778
33.201	46.6%	Ambition*	37% 2% 90%	68%	8.634
35.536	43.3%	X80K190	31% 5% 90%	67%	7.363
33.928	44.7%	P7034	33% 6% 89%	68%	7.726
31.436	48.2%	P7378	34% 4% 88%	67%	7.967
37.298	36.7%	P7524	25% 5% 80%	58%	5.169

Irwin Morrow Results



Fresh Yield (t/ha)	Dry Matter (%)	Hybrid	Yield (Tonnes Dry Matter/Hectare)	Whole Plant Digestibility (%)	Starch Yield Converted to Grain at 15% Moisture (t/ha)
59.887	35.4%	P8333	40% 2% 113%	76%	12.936
54.691	38.1%	P8201	37% 2% 111%	73%	11.674
54.577	37.3%	X80K190	39% 2% 109%	72%	12.136
61.823	31.0%	P8723	38% 2% 102%	72%	11.173
47.908	40.0%	Asgaard*	39% 2% 102%	73%	11.515
43.487	43.9%	Ambition*	39% 3% 102%	73%	11.470
47.233	39.6%	P7892 (C)	38% 2% 100%	73%	10.933
56.407	32.1%	P8200	30% 1% 97%	66%	8.318
48.501	36.4%	P7524	34% 2% 94%	68%	9.147
53.097	32.1%	P7515	36% 2% 91%	72%	9.305
45.451	36.9%	Agiraxx*	35% 1% 90%	69%	8.883
39.510	42.2%	Glory*	38% 2% 89%	73%	9.688
42.274	38.9%	P7034	41% 2% 88%	90%	10.403
39.185	41.0%	P7378	36% 2% 86%	70%	8.938
43.412	36.6%	Avitus kws*	35% 0% 85%	68%	8.514
36.845	40.1%	P7326	38% 2% 79%	72%	8.604

■ Starch Yield & %
 ■ Sugar Yield & %
 ■ Stover Yield
 ■ Relative Dry Matter Yield Index (C=100%)
 C = Control Hybrid; * = Competitor hybrid, ** = Hybrid trade name following registration in an EU country in 2018

Richard Anthony Results



Fresh Yield (t/ha)	Dry Matter (%)	Hybrid	Yield (Tonnes Dry Matter/Hectare)	Whole Plant Digestibility (%)	Starch Yield Converted to Grain at 15% Moisture (t/ha)
48.907	31.8%	P7326	31% 2% 108%	69%	7.480
46.095	33.5%	Ambition*	39% 2% 107%	72%	9.153
46.564	32.7%	Glory*	36% 2% 105%	73%	8.354
51.564	29.2%	P7034	36% 3% 104%	73%	8.243
46.095	32.7%	Pinnacle*	33% 1% 104%	67%	7.695
48.126	31.0%	Avitus kws*	31% 1% 103%	66%	7.033
47.345	31.3%	Avitus kws* + Take Off	35% 1% 103%	70%	8.040
54.689	26.4%	P7892 (C)	31% 1% 100%	68%	6.938
51.564	27.8%	Agiraxx*	28% 2% 99%	67%	6.210

Keith Blenkiron Results



Fresh Yield (t/ha)	Dry Matter (%)	Hybrid	Yield (Tonnes Dry Matter/Hectare)	Whole Plant Digestibility (%)	Starch Yield Converted to Grain at 15% Moisture (t/ha)
41.140	43.0%	P7034	35% 2% 119%	70%	9.359
38.222	40.8%	Agiraxx*	33% 3% 105%	70%	7.930
38.222	38.9%	P7892 (C)	36% 3% 100%	72%	8.106
31.754	46.4%	P7326	33% 3% 99%	69%	7.358
30.578	45.8%	P7378	34% 2% 94%	69%	7.244
40.471	34.4%	P7524	33% 2% 94%	68%	6.990
32.889	41.9%	Glory*	31% 1% 93%	68%	6.617
29.122	39.2%	Ambition*	38% 2% 77%	73%	6.575
25.481	41.4%	Avitus kws*	42% 2% 71%	74%	6.699

■ Starch Yield & %
 ■ Sugar Yield & %
 ■ Stover Yield
 ■ Relative Dry Matter Yield Index (C=100%)
 C = Control Hybrid; * = Competitor hybrid; ** = Hybrid trade name following registration in an EU country in 2018

Clayton Partnership Results



Fresh Yield (t/ha)	Dry Matter (%)	Hybrid	Yield (Tonnes Dry Matter/Hectare)	Whole Plant Digestibility (%)	Starch Yield Converted to Grain at 15% Moisture (t/ha)
35.261	49.1%	P7034	44% 4% 118%	78%	11.760
39.958	43.2%	X80M498	38% 4% 117%	72%	9.930
33.170	50.1%	P7378	40% 4% 113%	75%	10.178
30.758	52.6%	P7326	44% 4% 110%	77%	10.906
34.039	47.0%	Ambition*	37% 3% 109%	73%	9.070
36.074	42.9%	P7524	39% 6% 105%	74%	9.276
34.900	42.1%	P7892 (C)	36% 6% 100%	74%	8.146
31.825	45.2%	Avitus*	43% 3% 98%	77%	9.392
30.562	46.6%	Glory*	40% 3% 97%	76%	8.638
33.899	40.4%	Agiraxx*	33% 4% 93%	71%	6.887

Richard Dickins Results



Fresh Yield (t/ha)	Dry Matter (%)	Hybrid	Yield (Tonnes Dry Matter/Hectare)	Whole Plant Digestibility (%)	Starch Yield Converted to Grain at 15% Moisture (t/ha)
32.221	42.1%	P7326	40% 3% 103%	76%	8.296
33.359	39.9%	Ambition*	37% 2% 101%	73%	7.430
37.711	35.0%	P7892 (C)	32% 3% 100%	71%	6.549
32.061	40.8%	P7378	37% 2% 99%	73%	7.400
31.734	41.1%	Avitus*	41% 2% 99%	77%	8.182
33.416	39.0%	P7034	43% 3% 99%	78%	8.624
36.155	35.3%	X80K190	33% 2% 97%	71%	6.526
35.509	35.8%	P7524	34% 4% 96%	71%	6.611
31.278	39.3%	Glory*	36% 1% 93%	72%	6.695
34.620	33.8%	Agiraxx*	34% 3% 89%	72%	6.040

Neville Kirkham Results



Fresh Yield (t/ha)	Dry Matter (%)	Hybrid	Yield (Tonnes Dry Matter/Hectare)	Whole Plant Digestibility (%)	Starch Yield Converted to Grain at 15% Moisture (t/ha)
41.271	41.0%	Ambition*	38% 2% 110%	72%	9.714
38.440	42.4%	P7034	41% 1% 105%	74%	10.276
42.844	37.2%	Agiraxx*	39% 2% 103%	73%	9.501
39.204	40.5%	Glory*	40% 2% 103%	73%	9.584
41.342	38.4%	P7524	35% 3% 103%	72%	8.498
42.800	36.1%	P7892 (C)	32% 3% 100%	70%	7.656
35.472	43.0%	P7326	41% 4% 99%	76%	9.686
37.023	40.7%	P7378	36% 3% 98%	72%	8.299
37.702	39.5%	Avitus*	35% 1% 96%	69%	7.987

■ Starch Yield & %
 ■ Sugar Yield & %
 ■ Stover Yield
 ■ Relative Dry Matter Yield Index (C=100%)
 C = Control Hybrid; * = Competitor hybrid, ** = Hybrid trade name following registration in an EU country in 2018

Gareth Powell Results



Fresh Yield (t/ha)	Dry Matter (%)	Hybrid	Yield (Tonnes Dry Matter/Hectare)	Whole Plant Digestibility (%)	Starch Yield Converted to Grain at 15% Moisture (t/ha)
27.530	42.9%	Avitus kws*	47% 2% 107%	78%	8.531
32.155	36.5%	P7524	38% 5% 107%	76%	6.742
36.195	32.4%	Agiraxx*	34% 3% 107%	75%	6.163
29.877	36.8%	P7378	42% 5% 100%	78%	7.055
34.238	32.1%	P7892 (C)	32% 4% 100%	73%	5.384
30.125	36.2%	P7034	47% 4% 99%	79%	7.768
30.336	35.5%	P7326	38% 3% 98%	74%	6.263
29.927	36.0%	Perez*	39% 1% 98%	74%	6.341

Tim Russon Results



Fresh Yield (t/ha)	Dry Matter (%)	Hybrid	Yield (Tonnes Dry Matter/Hectare)	Whole Plant Digestibility (%)	Starch Yield Converted to Grain at 15% Moisture (t/ha)
59.989	39.7%	P8201	41% 4% 124%	74%	14.767
61.254	37.7%	P8171	41% 4% 120%	75%	14.600
59.866	38.1%	P7932	34% 5% 119%	72%	12.007
55.174	39.6%	P8200	38% 5% 114%	73%	12.701
51.867	41.0%	P7326	37% 5% 111%	71%	12.098
50.565	40.5%	P7524	36% 6% 107%	71%	11.360
46.580	43.6%	P7034	40% 3% 106%	72%	12.328
44.627	44.3%	P7378	35% 3% 103%	69%	10.696
47.765	41.4%	Avitus kws*	38% 3% 103%	72%	11.610
48.917	39.2%	P7892 (C)	34% 5% 100%	70%	9.860
46.228	41.4%	Asgaard*	37% 4% 100%	71%	10.799
42.366	43.3%	Ambition*	39% 4% 96%	74%	11.061
42.943	42.4%	Glory*	34% 2% 95%	70%	9.532
46.092	38.5%	Agiraxx*	31% 5% 93%	71%	8.291

Allan Simonsen Results



Fresh Yield (t/ha)	Dry Matter (%)	Hybrid	Yield (Tonnes Dry Matter/Hectare)	Whole Plant Digestibility (%)	Starch Yield Converted to Grain at 15% Moisture (t/ha)
37.215	29.1%	P7326	20% 2% 142%	61%	3.305
36.896	27.0%	P7524	16% 3% 131%	56%	2.450
34.924	27.8%	P7034	24% 0% 127%	63%	3.588
30.274	31.3%	Glory*	21% 0% 124%	57%	2.978
34.254	27.2%	P7378	23% 3% 122%	63%	3.296
32.189	26.4%	Agiraxx*	17% 1% 111%	58%	2.157
25.552	32.3%	Ambition*	27% 0% 108%	59%	3.388
33.210	23.0%	P7892 (C)	14% 2% 100%	51%	0.524

■ Starch Yield & %
 ■ Sugar Yield & %
 ■ Stover Yield
 ■ Relative Dry Matter Yield Index (C=100%)
 C = Control Hybrid; * = Competitor hybrid, ** = Hybrid trade name following registration in an EU country in 2018

Stuart Cole Results



Fresh Yield (t/ha)	Dry Matter (%)	Hybrid	Yield (Tonnes Dry Matter/Hectare)	Whole Plant Digestibility (%)	Starch Yield Converted to Grain at 15% Moisture (t/ha)
53.918	31.5%	P7892	35% 9% 109%	78%	9.105
56.122	28.7%	P8201	31% 9% 103%	75%	7.552
54.469	29.4%	Isanto*	30% 9% 103%	75%	7.331
50.084	31.4%	P7034	38% 6% 101%	75%	9.120
50.584	30.9%	P7524	32% 10% 100%	75%	7.596
54.418	28.6%	P7905 (C)	31% 10% 100%	76%	7.465
54.763	27.7%	P8200	28% 10% 98%	72%	6.486
47.110	31.4%	P7326	36% 8% 95%	76%	8.031
41.834	34.7%	Perez kws*	40% 4% 93%	76%	8.788
40.334	25.7%	Perez kws* (O)	23% 9% 67%	71%	3.672

Richard Phillips Results



Fresh Yield (t/ha)	Dry Matter (%)	Hybrid	Yield (Tonnes Dry Matter/Hectare)	Whole Plant Digestibility (%)	Starch Yield Converted to Grain at 15% Moisture (t/ha)
47.823	34.7%	P7932	38% 2% 115%	74%	9.588
39.560	41.0%	P7034	41% 3% 112%	74%	10.227
44.982	35.9%	P8000	43% 1% 112%	74%	10.548
42.346	34.2%	P7905 (C)	36% 2% 100%	71%	7.853
37.406	38.3%	P7524	36% 3% 99%	72%	7.813
41.573	34.2%	P8329	38% 2% 98%	71%	8.192
37.525	37.8%	P7892	37% 4% 98%	75%	8.057
45.361	30.5%	P8171	33% 3% 96%	69%	6.936
42.804	31.7%	P8358	35% 2% 94%	69%	7.168
31.600	42.2%	P7326	38% 3% 92%	73%	7.790
39.205	33.9%	P8200	37% 3% 92%	73%	7.585
36.649	35.3%	X80K190	41% 3% 89%	75%	8.072
27.273	39.3%	Aurelius kws*	38% 2% 74%	73%	6.268

■ Starch Yield & %
 ■ Sugar Yield & %
 ■ Stover Yield
 ■ Relative Dry Matter Yield Index (C=100%)

C = Control Hybrid; * = Competitor hybrid, O = Grown in the Open; ** = Hybrid trade name following registration in an EU country in 2018

Newton Rigg College Results



Fresh Yield (t/ha)	Dry Matter (%)	Hybrid	Yield (Tonnes Dry Matter/Hectare)	Whole Plant Digestibility (%)	Starch Yield Converted to Grain at 15% Moisture (t/ha)
42.563	33.3%	P8333	35% 4% 131%	72%	7.487
45.188	27.5%	P7932	28% 3% 115%	67%	5.348
28.813	40.1%	P7326	44% 3% 107%	77%	7.733
31.501	34.4%	P7524	31% 4% 100%	67%	5.099
35.688	30.2%	P7905 (C)	39% 4% 100%	75%	6.370
29.626	36.0%	P7034	40% 2% 99%	74%	6.594

Samuel J. Shine Results

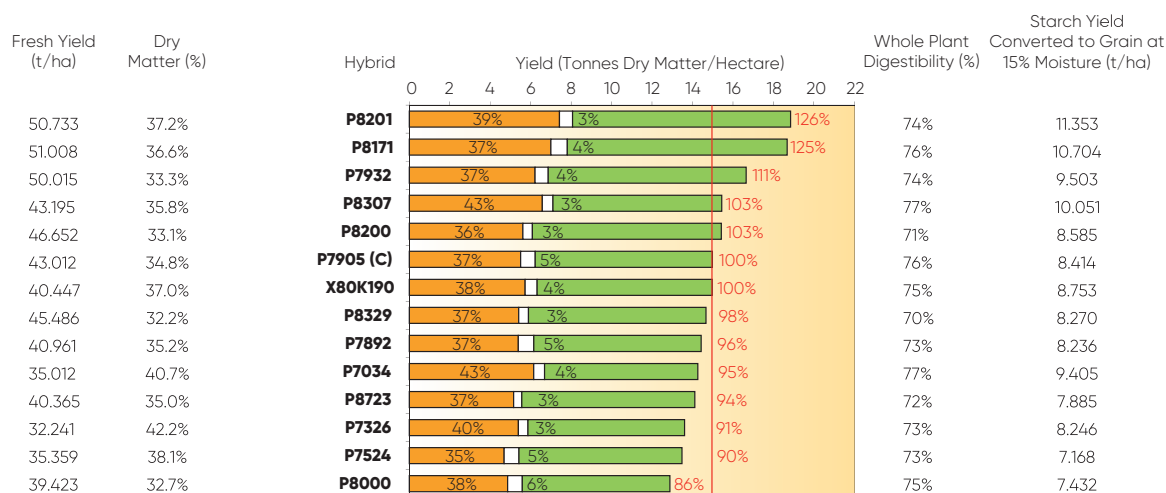


Fresh Yield (t/ha)	Dry Matter (%)	Hybrid	Yield (Tonnes Dry Matter/Hectare)	Whole Plant Digestibility (%)	Starch Yield Converted to Grain at 15% Moisture (t/ha)
50.668	32.8%	P8201	37% 5% 114%	76%	9.367
48.334	33.0%	P8333	36% 6% 110%	76%	8.733
49.001	31.9%	P8171	35% 5% 107%	74%	8.392
52.834	29.5%	P8329	30% 9% 107%	73%	7.080
39.334	38.1%	P7892	36% 7% 103%	77%	8.234
47.501	31.2%	P8200	31% 6% 102%	72%	7.116
49.334	30.0%	P7932	31% 9% 102%	76%	7.051
43.668	33.6%	P8000	39% 5% 101%	77%	8.819
43.668	33.3%	P7905 (C)	37% 7% 100%	78%	8.219
35.667	39.1%	P7524	42% 5% 96%	79%	9.028
36.167	37.5%	X80M498 (P7948**)	40% 4% 93%	76%	8.225
42.168	31.2%	P7515	37% 5% 91%	77%	7.494
38.501	34.0%	P8307	40% 2% 90%	75%	8.045
36.501	35.8%	X80K190	39% 6% 90%	78%	7.779
41.834	31.1%	P8134	37% 7% 89%	77%	7.323
40.501	29.9%	P8723	34% 2% 83%	72%	6.265
30.501	39.5%	P7378	44% 4% 83%	77%	8.108
30.667	38.3%	P7034	46% 3% 81%	80%	8.257
29.667	39.4%	P7326	35% 3% 80%	73%	6.179

■ Starch Yield & %
 ■ Sugar Yield & %
 ■ Stover Yield
 ■ Relative Dry Matter Yield Index (C=100%)

C = Control Hybrid; * = Competitor hybrid, O = Grown in the Open; ** = Hybrid trade name following registration in an EU country in 2018

Ranald Fowler Results

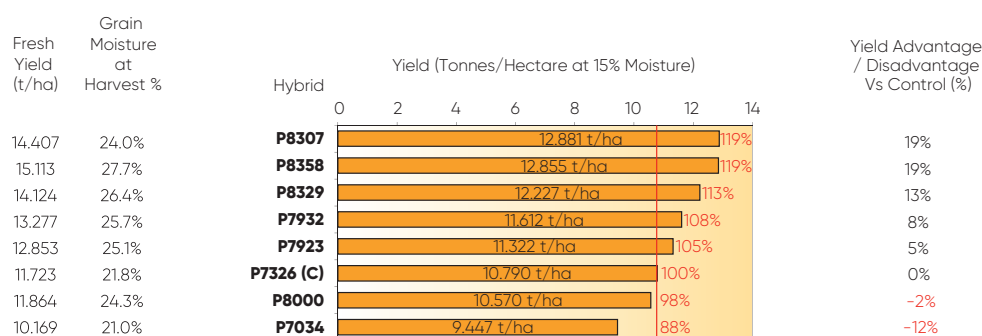


■ Starch Yield & %
 ■ Sugar Yield & %
 ■ Stover Yield
 ■ Relative Dry Matter Yield Index (C=100%)

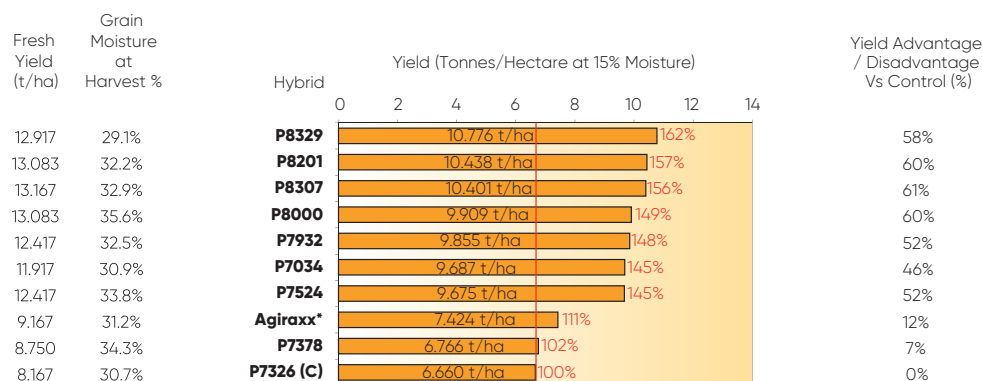
C = Control Hybrid; * = Competitor hybrid, O = Grown in the Open; ** = Hybrid trade name following registration in an EU country in 2018

INDIVIDUAL SITE RESULTS – FORAGE

Tim Farthing Results



Mark Pethick Results



■ Grain Yield, Tonnes/Hectare at 15 Moisture
 ■ Relative Yield Index (C=100%)

C = Control Hybrid; * = Competitor hybrid, ** = Hybrid trade name following registration in an EU country in 2018

INDIVIDUAL SITE RESULTS – GRAIN

NAME >	IRWIN MORROW	ARNOLD DARE	STUART COLE	JAMIE MONTGOMERY
TOWN	TRURO	AXMINSTER	WITHERIDGE	WINCANTON
COUNTY & COUNTRY	CORNWALL, GB	DEVON, GB	DEVON, GB	SOMERSET, GB
SITE CLASSIFICATION	FAVOURABLE	FAVOURABLE	LESS FAVOURABLE	FAVOURABLE
TRIAL TYPE	FORAGE, OPEN	FORAGE, OPEN	FORAGE, FILM	FORAGE, OPEN
YIELD OF CONTROL HYBRID **	18.138	17.000	15.554	17.142
SOIL TYPE	MEDIUM LOAM	MEDIUM LOAM	CLAY LOAM	MEDIUM LOAM
ASPECT/SLOPE (DEGREES)	5 DEGREES SOUTH	10 DEGREES EAST	5 DEGREES SOUTH	5 DEGREES WEST
ALTITUDE (METRES)	70	50	190	60
ANNUAL RAINFALL (MM)	1000	800	1100	700
PREVIOUS CROPPING 2017	GRASS	STUBBLE TURNIPS	FODDER BEET	WHEAT
SOIL pH	6.2	6.3	5.4	7.0
SOIL PHOSPHATE (P) INDEX	3	4	3	2
SOIL POTASSIUM (K) INDEX	2+	4	1	2-
SOIL MAGNESIUM (MG) INDEX	3	3	3	2
SLURRY TYPE & VOLUME (L/HA)	DILUTE CATTLE / 110,000	-	6% DM DIGESTATE / 35,000	CATTLE / 40,000
MANURE TYPE & QUANTITY (T/HA)	CATTLE / 40	CATTLE / 50	-	-
FERT 1 - TYPE/RATE (KG/HA)/DATE	0-46-0 / 80 / 16-05	UREA / 125 / 15-05	EFFICIE-N-T 28 / 20 L / 20-07	-
FERT 2 - TYPE/RATE (KG/HA)/DATE	-	-	-	-
FERT 3 - TYPE/RATE (KG/HA)/DATE	-	-	-	-
SPRAY 1 - NAME/RATE/DATE	CALARIS / 1.25 / 15-06	CAMIX / 1.25 / 06-05	MOST MICRO / 1.1 / 11-05	STOMP AQUA / 3.3 / 14-04
SPRAY 2 - NAME/RATE/DATE	MAIZE BOOST / 5.0 / 15-06	MOST MICRO / 3.0 / 06-05	WING-P / 3.6 / 11-05	HUDSON 200 / 1.0 / 21-06
SPRAY 3 - NAME/RATE/DATE	-	CALLISTO / 0.4 / 25-05	ROSAN / 0.3 Kg / 20-06	-
SUB SOILED/PLOUGHED DATE	- / 02-05	- / 01-05	-	-
SOWING DATE/HARVEST DATE	16-05 / 28-09	04-05 / 26-09	11-05 / 11-10	09-05 / 09-10
SEEDING RATE - SEEDS/HA	94,000	104,000	104,000	104,000
CROP CONDITION AT HARVEST	GREEN	YELLOW	YELLOW	STRAWLIKE
COMMENTS ABOUT TRIAL	-	-	-	LODGING PRESSURE
NAME >	KINGSPOL HOLSTEINS	SPENCER MOGRIDGE	ANGUS DART	RICHARD ANTHONY
TOWN	BRISTOL	STURMINSTER NEWTON	DIDCOT	BRIDGEND
COUNTY & COUNTRY	AVON, GB	DORSET, GB	OXON, GB	GLAMORGAN, GB
SITE CLASSIFICATION	FAVOURABLE	FAVOURABLE	FAVOURABLE	LESS FAVOURABLE
TRIAL TYPE	FORAGE, OPEN	FORAGE, OPEN	FORAGE, NO FILM	FORAGE, NO FILM
YIELD OF CONTROL HYBRID **	14.264	13.602	17.227	14.433
SOIL TYPE	MEDIUM LOAM	CLAY LOAM	GREENSAND	MEDIUM LOAM
ASPECT & SLOPE (DEGREES)	5 DEGREES EAST	LEVEL	NONE	10 DEGREES SOUTH WEST
ALTITUDE (METRES)	60	55	55	75
ANNUAL RAINFALL (MM)	800	650	660	1125
PREVIOUS CROPPING 2017	WINTER WHEAT	GRASS	-	GRASS
SOIL pH	7.4	7.0	7.0	6.1
SOIL PHOSPHATE (P) INDEX	5	3	3	3
SOIL POTASSIUM (K) INDEX	3	2+	4	2+
SOIL MAGNESIUM (MG) INDEX	3	3	2	2
SLURRY TYPE & VOLUME (L/HA)	CATTLE / 70,000	CATTLE / 30,000	DIRTY WATER / 35,000	DIGESTATE / 12,000
MANURE TYPE & QUANTITY (T/HA)	-	-	CATTLE / 15	TURKEY / 7.5
FERT 1 - TYPE/RATE (KG/HA)/DATE	-	34.5-0-0 / 123 / 05-05	DAP // / 10-05	0-46-0 / 62 / 29-05
FERT 2 - TYPE/RATE (KG/HA)/DATE	-	-	-	-
FERT 3 - TYPE/RATE (KG/HA)/DATE	-	-	-	-
SPRAY 1 - NAME/RATE/DATE	PROGRAM / 2.5 L / 27-05	ACTIVATOR 90 / 0.2 L / 14-06	DUAL GOLD / 1.2 / 10-05	RODEO / 3.0 / 09-05
SPRAY 2 - NAME/RATE/DATE	PAMPA 4SC / 0.8 L / 04-06	PEAK / 20 GM / 14-06	STOMP AQUA / 2 / 10-05	MAISTER / 0.15kg / 21-06
SPRAY 3 - NAME/RATE/DATE	EVOLYA / 1.0 L / 04-06	MAYA / 0.75 L / 14-06	CALARIS / 1.0 / 07-06	CALLISTO / 0.75L / 25-05
SUB SOILED/PLOUGHED DATE	04-05 / 04-05	18-05 / 18-05	KUHN 6M	CATTLE / 40,000
SOWING DATE/HARVEST DATE	06-05 / 10-09	22-05 / 12-09	10-05 / 15-09	29-05 / 27-09
SEEDING RATE - SEEDS/HA	104,000	105,000	-	105,000
CROP CONDITION AT HARVEST	GREEN / YELLOW	GREEN	GREEN / YELLOW	GREEN
COMMENTS ABOUT TRIAL	LODGING PRESSURE	-	-	CLEAN / CONSISTENT
NAME >	TIM RUSSON	GARETH POWELL	NEVILLE KIRKHAM	RICHARD DICKINS
TOWN	LINCOLN	OSWESTRY	LOUGHBOROUGH	TOWCESTER
COUNTY & COUNTRY	LINCOLNSHIRE, GB	POWYS, GB	LEICESTERSHIRE, GB	NORTHAMPTONSHIRE, GB
SITE CLASSIFICATION	LESS FAVOURABLE	LESS FAVOURABLE	LESS FAVOURABLE	LESS FAVOURABLE
TRIAL TYPE	FORAGE, NO FILM	FORAGE, NO FILM	FORAGE, NO FILM	FORAGE, NO FILM
YIELD OF CONTROL HYBRID **	19.178	10.988	15.447	13.192
SOIL TYPE	SANDY LOAM	LOAM OVER GRAVEL	MEDIUM LOAM	SANDY CLAY LOAM
ASPECT & SLOPE (DEGREES)	FLAT	SOUTH / SOUTH	FLAT	EAST / 5
ALTITUDE (METRES)	10	85	60	130
ANNUAL RAINFALL (MM)	635	840	630	620
PREVIOUS CROPPING 2017	MAIZE	MAIZE	SHORT TERM GRASS	MAIZE
SOIL pH	6.0	6.6	5.7	7.5
SOIL PHOSPHATE (P) INDEX	3	5	3	3
SOIL POTASSIUM (K) INDEX	3	3	3	3
SOIL MAGNESIUM (MG) INDEX	3	3	5	1
SLURRY TYPE & VOLUME (L/HA)	-	CATTLE / 25000L /	CATTLE / 40T	-
MANURE TYPE & QUANTITY (T/HA)	CATTLE / 15 / 04-05	-	-	-
FERT 1 - TYPE/RATE (KG/HA)/DATE	0-46-0 / 100 KG / 05-08	0-46-0 / 240KG / 05-05	0-34.5-0 / 125KG / 20-05	33N30S/108 & UREA/180
FERT 2 - TYPE/RATE (KG/HA)/DATE	100N-20P-120K / 03-05	0-46-0 / 240KG / 10-06	-	0-0-60 / 290KG / <14-05
FERT 3 - TYPE/RATE (KG/HA)/DATE	-	-	-	20N-8P-12K-7S/125KG/14-05
SPRAY 1 - NAME/RATE/DATE	SPOOK / 0.3L / 26-05	FAIZE / 1.5L / 10-06	ELUMIS / 1.0L / 23-06	MASTERGLY/2.0/PREPLANT
SPRAY 2 - NAME/RATE/DATE	PROLEAF MN / 3.0L / 26-5	KIBO / 0.015KG / 10-06	H'LND ZEAMA / 5.0L / 23-06	CALARIS / 1.0 / 15-06
SPRAY 3 - NAME/RATE/DATE	CALARIS / 1.0L / 16-06	WARRIOR (ADJ) / 0.15L/10-06	-	20N-8-12K-7S/60KG/3RD LF
SUB SOILED/PLOUGHED DATE	-	PLOUGHED, LATE SPRING	02/05	MINIMUM TILLAGE
SOWING DATE/HARVEST DATE	08-05 / 22-09	05-05 / 21-09	16-05 / 05-10	14-05 / 27-09
SEEDING RATE - SEEDS/HA	-	105,000	-	105,000
CROP CONDITION AT HARVEST	GREEN	LIGHT GREEN	LIGHT GREEN	GREEN
COMMENTS ABOUT TRIAL	-	-	-	-
n/a = not applicable; n/k = not known				
** Tonnes/Hectare of Forage Dry Matter OR Tonnes/Hectare of Grain at 15% Moisture - according to the trial type				

NAME >	CLAYTON PARTNERSHIP	KEITH BLENKIRON	ALAN KJAER SIMONSEN	RICHARD PHILLIPS
TOWN	MALPAS	NORTHALLERTON	AALBORG	CLARBESTON ROAD
COUNTY & COUNTRY	CHESHIRE, GB	YORKSHIRE, GB	JUTLAND, DENMARK	DYFFED, GB
SITE CLASSIFICATION	LESS FAVOURABLE	LESS FAVOURABLE	LESS FAVOURABLE	LESS FAVOURABLE
TRIAL TYPE	FORAGE, FILM	FORAGE, NO FILM	FORAGE, NO FILM	FORAGE, FILM
YIELD OF CONTROL HYBRID **	14.703	14.871	7.642	14.462
SOIL TYPE	MEDIUM LOAM	SANDY LOAM	-	MEDIUM LOAM
ASPECT/SLOPE (DEGREES)	FLAT	SOUTH / 5	-	5 DEGREES SOUTH
ALTITUDE (METRES)	65	46	-	80
ANNUAL RAINFALL (MM)	800	660	650	1,300
PREVIOUS CROPPING 2017	MAIZE	MAIZE	-	MAIZE
SOIL pH	7.1	6.6	5.2	5.5
SOIL PHOSPHATE (P) INDEX	3	5	4	3
SOIL POTASSIUM (K) INDEX	2+	2+	2-	4
SOIL MAGNESIUM (MG) INDEX	1	4	2	3
SLURRY TYPE & VOLUME (L/HA)	-	CATTLE / 40,000	-	CATTLE / 56,000
MANURE TYPE & QUANTITY (T/HA)	CATTLE / 15	-	CATTLE / 30 / 15-03	CATTLE / 25
FERT 1 - TYPE/RATE (KG/HA)/DATE	DAP / 30 / 12-05	34.5N / 80 / 01-06	N20-P9-S5 / 125 / 15-04	0 N.16 P. 32K / 100 / 03-05
FERT 2 - TYPE/RATE (KG/HA)/DATE	LIQUID N / 140 / 03-05	-	N27-S5 / 125 / 20-05	38 N. 19 S. / 125 / 03-05
FERT 3 - TYPE/RATE (KG/HA)/DATE	LIQUID K / 140 / 03-05	-	-	-
SPRAY 1 - NAME/RATE/DATE	PENDIMETHALIN / 1.5 / 17-05	CALARIS / 1.0L / 06-06	CALLISTO / 0.5 / 23-05	STOMP AQUA / 1.2 L / 05-05
SPRAY 2 - NAME/RATE/DATE	CALARIS / 1.0 / 03-06	NICOSULFURON / 0.75L/06-06	HARMONY SX / / 23-05	WING P / 4.0 L / 05-05
SPRAY 3 - NAME/RATE/DATE	-	-	-	SLITHER / 0.2 L / 05-05
SUB SOILED/PLOUGHED DATE	/ 29/04	/ 01/5	-	23-04 / 23-04
SOWING DATE/HARVEST DATE	12-05 / -1-10	12-05 / 27-09	04-05 / 27-08	05-05 / 27-09
SEEDING RATE - SEEDS/HA	105,000	-	-	104,000
CROP CONDITION AT HARVEST	LIGHT GREEN	LIGHT GREEN	-	YELLOW
COMMENTS ABOUT TRIAL	-	-	-	-
NAME >	NEWTON RIGG COLLEGE	RANALD FOWLER	SAMUEL J. SHINE	MARK PETHICK
TOWN	PENRITH	BARNSTAPLE	LIMERICK	CALLINGTON
COUNTY & COUNTRY	CUMBRIA, GB	DEVON, GB	CO. LIMERICK, ROI	CORNWALL, GB
SITE CLASSIFICATION	LESS FAVOURABLE	LESS FAVOURABLE	LESS FAVOURABLE	LESS FAVOURABLE
TRIAL TYPE	FORAGE, FILM	FORAGE, FILM	FORAGE, FILM	GRAIN, FILM
YIELD OF CONTROL HYBRID **	10.788	14.983	14.523	6.660
SOIL TYPE	MEDIUM LOAM	CLAY LOAM	CLAY	MEDIUM LOAM
ASPECT & SLOPE (DEGREES)	EAST 5	LEVEL	NON / FLAT	LEVEL
ALTITUDE (METRES)	130	90	9	160
ANNUAL RAINFALL (MM)	1,000	825	1,200	1,250
PREVIOUS CROPPING 2017	MAIZE	GRASS	MAIZE	MAIZE
SOIL pH	5.9	5.9	7.3	6.8
SOIL PHOSPHATE (P) INDEX	3	1	4	1
SOIL POTASSIUM (K) INDEX	2-	1	2	1
SOIL MAGNESIUM (MG) INDEX	2	3	-	2
SLURRY TYPE & VOLUME (L/HA)	CATTLE / 25,000 / 27/03	CATTLE / 13500	-	-
MANURE TYPE & QUANTITY (T/HA)	POULTRY / 5000 / 10/04	CATTLE / 25	-	-
FERT 1 - TYPE/RATE (KG/HA)/DATE	34.5N / 100 / 20-04	UREA / 210 / 25-04	-	0-12--12 / 300 / 28-04
FERT 2 - TYPE/RATE (KG/HA)/DATE	EVOLUTIONMX28/196L/25-07	MOP / 110 / 25-04	-	N / 150 / 28-04
FERT 3 - TYPE/RATE (KG/HA)/DATE	-	0.20.30 / 250 / 25-04	-	-
SPRAY 1 - NAME/RATE/DATE	DIME / 3.98L / 26-05	WING P / 3.5 L / 26-04	-	WING P / 2 L / 03-05
SPRAY 2 - NAME/RATE/DATE	STOMP AQUA / 1.25L / 26-05	MOST MICRO / 1.5 L / 26-04	-	MOST MICRO / 2.7 L / 03-05
SPRAY 3 - NAME/RATE/DATE	REMIX / 0.4L / 26-05	CALARIS / 1L + NICOPRO / 1	-	CALARIS / 1L + NICO PRO 1 L
SUB SOILED/PLOUGHED DATE	/ 12/04	26-04 / 26-04	-	- / 27-04
SOWING DATE/HARVEST DATE	26-05 / 28-09	26-04 / 17-09	07-05 / 05-10	03-05 / 10-10
SEEDING RATE - SEEDS/HA	105 000	104,000	-	104,000
CROP CONDITION AT HARVEST	GREEN	GREEN	DRY	STRAWLIKE
COMMENTS ABOUT TRIAL	-	-	-	-
NAME >	TIM FARTHING			
TOWN	MELKSHAM			
COUNTY & COUNTRY	WILTSHIRE, GB			
SITE CLASSIFICATION	FAVOURABLE			
TRIAL TYPE	GRAIN, NO FILM			
YIELD OF CONTROL HYBRID **	10.790			
SOIL TYPE	MEDIUM LOAM			
ASPECT & SLOPE (DEGREES)	LEVEL			
ALTITUDE (METRES)	60			
ANNUAL RAINFALL (MM)	800			
PREVIOUS CROPPING 2017	MAIZE			
SOIL pH	5.2			
SOIL PHOSPHATE (P) INDEX	3			
SOIL POTASSIUM (K) INDEX	4			
SOIL MAGNESIUM (MG) INDEX	3			
SLURRY TYPE & VOLUME (L/HA)	-			
MANURE TYPE & QUANTITY (T/HA)	CATTLE / 10			
FERT 1 - TYPE/RATE (KG/HA)/DATE	UREA / 230 / 07-04			
FERT 2 - TYPE/RATE (KG/HA)/DATE	40K-12S-1Mn-1B/250/07-04			
FERT 3 - TYPE/RATE (KG/HA)/DATE	DAP / 100 / 22-04			
SPRAY 1 - NAME/RATE/DATE	PDM / 2.5L / 24-04			
SPRAY 2 - NAME/RATE/DATE	CALARIS / 1 L / 28-05			
SPRAY 3 - NAME/RATE/DATE	-			
SUB SOILED/PLOUGHED DATE	- / 15-01			
SOWING DATE/HARVEST DATE	30-04 / 17-10			
SEEDING RATE - SEEDS/HA	104,000			
CROP CONDITION AT HARVEST	STRAWLIKE			
COMMENTS ABOUT TRIAL	-			

n/a = not applicable; n/k = not known

** Tonnes/Hectare of Forage Dry Matter OR Tonnes/Hectare of Grain at 15% Moisture - according to the trial type

Delivered by



POSTAGE PAID GB
HQ 8714



PIONEER[®]

Pioneer Hi-Bred Northern Europe Sales Division GmbH
United Kingdom Branch
Central Boulevard, Blythe Valley Business Park, Solihull B90 8AG
Telephone: 01604 858008