

Maize Variety Portfolio 2023

Your guide to selecting the right
KWS maize variety for **your field**



www.kws-uk.com

SEEDING
THE FUTURE
SINCE 1856

KWS



Welcome!

The KWS Maize portfolio is designed to help you select the right hybrids for your farming situation.

The guide is divided into 3 key sections:

- **Ultra Early FAO 150-160**
Ultra early hybrids, for maximum drilling or harvest security.
- **Early / Maincrop FAO 170-190**
For all mainstream growing areas & maximum starch yield.
- **Energy FAO 200-260**
Maximum DM yield, and lowest cost per tonne for biogas production.

† CCM (Corn Cob Mix) and Crimped Grain are highlighted.

The FAO number is a relative index of maturity. The lower the number, the fewer heat units that are required to reach harvest time. You can check your farm's heat units and FAO suitability on the KWS website.

Key to Variety Uses...



= Forage



= Grain




= Biogas

KWS Maize Variety List

Below are our key variety selections for next season. They are arranged in maturity order and by market sector. Other varieties are available – for more advice please contact a member of the KWS team.

FAO  Forage  Grain  Biogas

ULTRA EARLY				
14	CITO KWS	150	✓	✓
15	AUGUSTUS KWS	160	✓	
16	RUBIERA KWS	160	✓	
17	SERGIO KWS	160	✓	✓
18	PEREZ KWS	160	✓	✓

EARLY/MAINCROP				
20	AVITUS KWS	160/170	✓	✓
21	KWS CALVINI	170	✓	✓
22	DEBALTO	170	✓	✓
23	AUTENS KWS	170	✓	✓
24	KWS RESOLVO	170	✓	
25	EDGARD KWS	170	✓	
26	KWS EXELON	170	✓	✓
27	RODRIGUEZ KWS	180	✓	✓
28	KWS PASCO	170/180	✓	✓
29	AURELIUS KWS	180	✓	✓
30	KWS ANASTASIO	180/190	✓	✓
31	PAPEGENO* 	190	✓	✓

ENERGY/BIOGAS				
35	KWS KAMPINOS*	200/210	✓	✓
36	KEOPS	210/220	✓	✓
37	KWS CURACAO	220/230		✓
38	BENEFITO*	230	✓	✓
39	AMAROC	240		✓
40	KILOMERIS	260		✓

*Proposed name. Hybrid subject to a Pre NL Marketing Agreement.

A virtual experience

Maize 360

Maize 360 gives an online virtual experience of our KWS Maize Demonstrate site at Lydney.

View the crop, walk the trial field and listen to our experts as they take you through all of our commercial hybrids and breeding demonstration.

Visit our website or scan the QR code to experience Maize 360!



Tips for choosing maize varieties based on end use



Maize for Forage

- High dry matter
- 30% + starch
- Limit choice to a maximum of 180-190 FAO (maturity rating) range
- For TMR diets, ultra-early hybrids help to ensure an all-year-round supply, by bringing harvest forward into early September

Maize for AD

- Use a range of FAO varieties to spread drilling and harvest workload
- Target high freshweight yield and good disease resistance



Maize for Corn Cob Mix (CCM)

- Requires a compact or semi-compact hybrid with an FAO of 150-210, as well as a grain:stover ratio of 50% + and good standing power

Maize for Crimping

- Ultra-earlies are not recommended, due to the risk of brackling
- As with CCM, a grain:stover ratio of 50% + is desirable, together with good standing power



Maize Selection

Ultra Early

The earliest – maturing hybrids

Characteristics and suitability

- Fewest days to harvest – as little as 130 days
- Early sowing provides greater harvest security, and increased options for subsequent autumn drilled crops
- Excellent for later sowing on heavier soils or following early harvested forage crops
- Where conditions restrict growth e.g. altitude or more northern areas maturity and starch laydown is earlier
- Rapid dry down characteristics
- For sites with increased yield potential consider early/maincrop varieties

Crop and animal performance

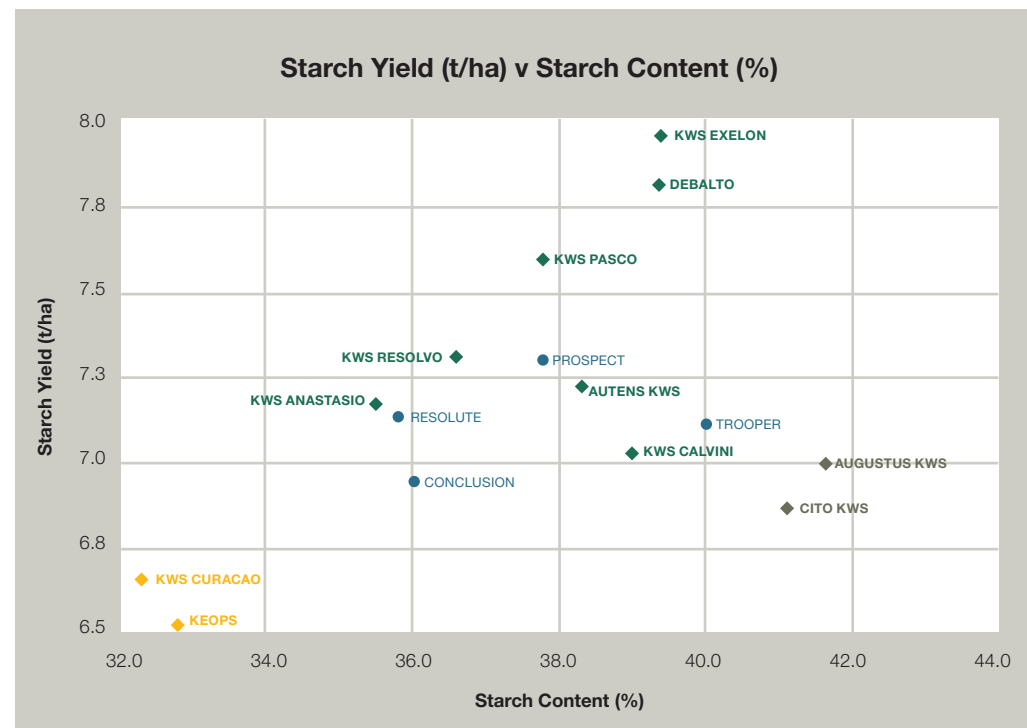
- Superb energy density, typically 11.5-12 + MJ/kg DM
- Provides maximum opportunity to boost overall ration density for milk or meat production
- Highest starch content, typically 36-40%+ for increased milk yield and protein, and reducing days to finish
- Increases rumen stability and overall animal health when compared to grass only based rations
- Highly suited to TMR rations where maize inclusion is 50% or less



How do these varieties compare?

We have compiled the results below showing starch yield (t/ha) and starch content (%) – these are key targets in the ultra early hybrids.

A high starch yield makes maize extremely economical to grow in marginal areas or shorter growing windows, when combined with the protein and sugar from grass silage.



Data source: KWS LP250 2020 Average of all Sites.
Ultra Early (FAO 150-160) Early/Maincrop (FAO 170-190) Energy/Biogass (FAO 200-260)



Maize Selection

Early/Maincrop

High-yielding hybrids for all mainstream growing areas

Characteristics and suitability

- Typically, 140–150 days to harvest
- Suitable for all mainstream sites, and higher heat unit areas
- High yields reduce costs per tonne of dry matter
- Superb options for crimped maize, and corn cob maize (CCM)
- Excellent for biogas and large growers seeking to stagger the harvest date
- Slow dry down provides a wide harvest window

Crop and animal performance

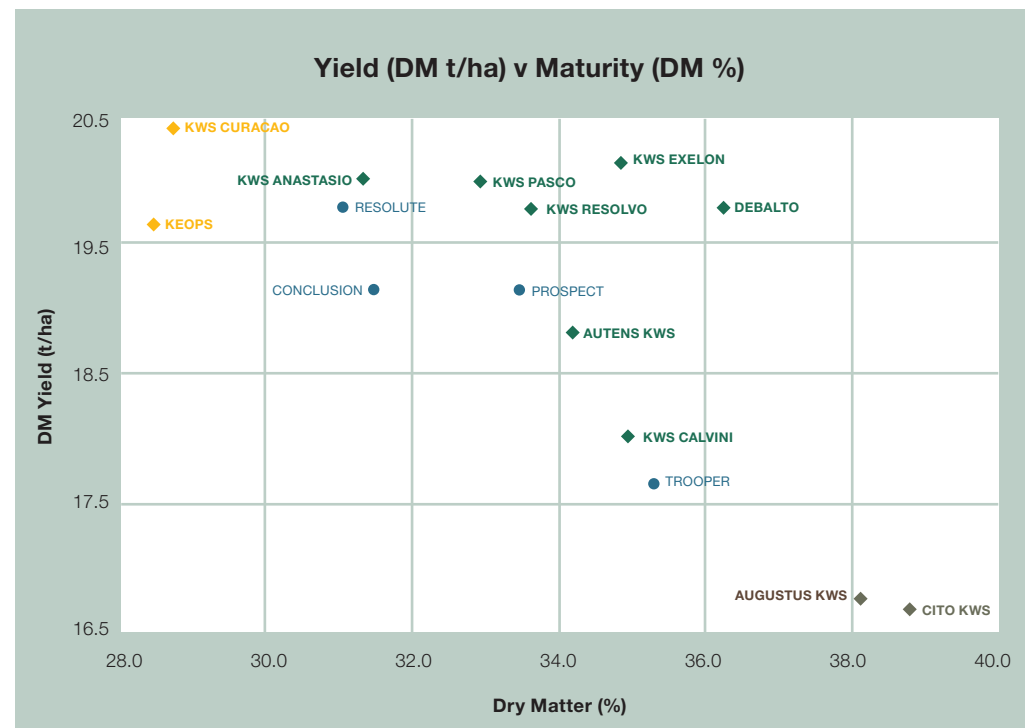
- Crops can exceed 18t/ha DM
- Highly suited to TMR diets up to 70% maize inclusion, promoting total DMI
- Provides an energy dense silage typically 11.5+ MJ/kg DM
- Starch is balanced for total higher inclusion rates, typically 31-37% starch, for improved rumen health



How do these varieties compare?

We have compiled the results below to show DM yield (t/ha) and DM content (%) – these are key targets to consider when looking at early /maincrop hybrids.

An economic yield of dry matter and early maturity are the priorities for the mainstream grower.



Data source: KWS LP250 2020 Average of all Sites.
Ultra Early (FAO 150-160) Early/Maincrop (FAO 170-190) Energy/Biogas (FAO 200-260)



Maize Selection

CCM and Crimped

Provide increased levels of valuable bypass starch!

CCM (Corn Cob Mix)

Characteristics and suitability

- ME average 13.0 MJ/kg DM
- Requires later harvesting for riper grain – typically 3-4 weeks later than for silage
- Comprises the complete maize ear (grain, spindle and sheath)
- Row-dependent grain maize header and forage harvester a pre-requisite
- Storage requirement 50% of maize silage
- Options for clamp or ag-bag storage
- Almost zero effluent risk, as higher DM (45-55%)

Crimped Maize

Characteristics and suitability

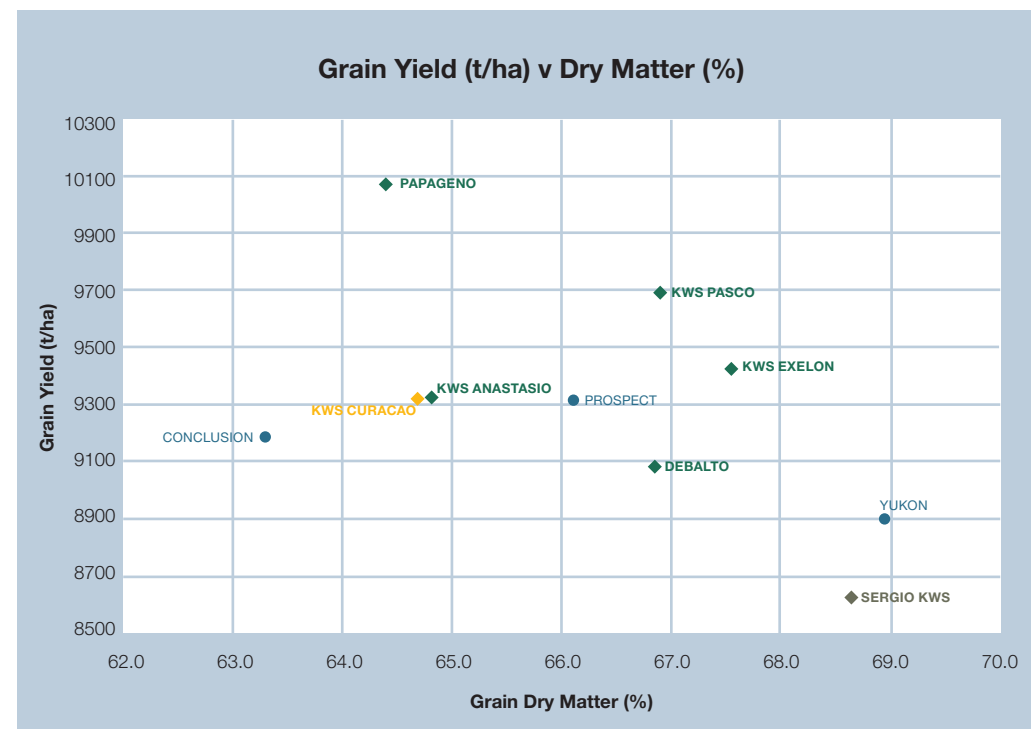
- ME Average 14.5+ MJ/kg DM
- Requires later harvesting for riper grain – typically 3-4 weeks later than for silage
- Only the cobs are harvested, the stover is left on the ground
- The stover on the ground significantly helps the later harvest conditions by increasing vehicle float and cleanliness
- Combine with maize picker header required for harvest
- Lowest storage requirement
- Options for clamp or ag-bag storage
- Almost zero effluent risk, as higher DM (65-70%)



How do these varieties compare?

We have compiled the results below to show grain yield (t/ha) and DM content (maturity) – these are key traits we look for in our grain maize hybrids

Candidate varieties are trialled extensively to ensure they are suitable, with standing power, grain yield and threshability being key characters.



Data source: KWS 248 2021 Average of all sites.
Ultra Early (FAO 150-160) Early/Maincrop (FAO 170-190) Energy/Biogass (FAO 200-260)



Maize Selection

Energy/Biogas

Maximise your energy yield per hectare with our varieties

Characteristics and suitability

- Typically, 150+ days to harvest
- KWS Energy / Biogas varieties maximise total yield & energy yields/ha
- Ideal for all mainstream and highly favourable sites, high heat unit areas, and sandy soils
- Lowest £/t production costs
- Where drought tolerance is a factor, lower seed rates can help preserve yield
- Consider maincrop varieties as part of your strategy, depending on total harvest area and site suitability

Crop and digester performance

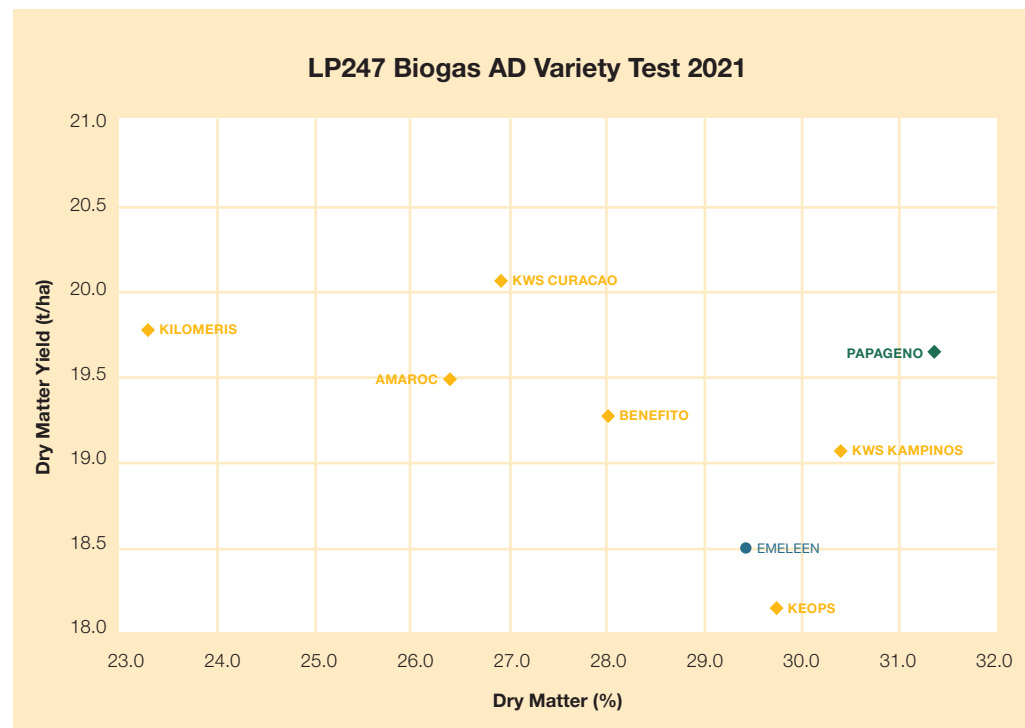
- Exceptional sites can exceed yields of 24t DM/ha or over 70t/ha fresh
- Stay green characteristics provide the widest harvest window
- Prolonged biogas plant retention times, due to maximised cellulose and hemicellulose properties, maximise gas yields



How do these varieties compare?

We have compiled the results below to show DM yield (t/ha) and DM content (%) – these are key targets to consider when looking at energy/biogas hybrids.

A high DM yield is directly linked to methane yield. A key target for farmers looking to optimise their feedstock cost and achieve an adequate DM content suitable for anaerobic digestion.



Data source: KWS LP247 2021 Average of all Sites.
Ultra Early (FAO 150-160) Early/Maincrop (FAO 170-190) Energy/Biogas (FAO 200-260)



CITO KWS FAO 150

Ultra Early



AUGUSTUS KWS FAO 160

Ultra Early



In Your Field...

CITO KWS gives you options for early feedout, or later sowing after spring forage crops. As an added bonus maximum starch content is achievable in more challenging maize growing areas.

Step up your forage performance!

Characteristics / Quality

- Earliest maturing hybrid available – fewest days to harvest
- Great yield performance in the ultra-early segment – (94%)
- Rapid early vigour (6.8). ideal for early or late drilling
- Leading starch (39.2%) and exceptional energy value (11.98 MJ/kg DM) to boost ration energy density, and quality
- KWS top selling ultra-early hybrid
- Early option for CCM

Data source:
NIAB Forage Maize Descriptive List. First choice for less favourable sites (2023).



Scan this code to watch
our video review of
CITO KWS



In Your Field...

AUGUSTUS KWS delivers you high starch content silage ideal for all TMR systems, for both dairy and beef finishing, where short season maturity is essential.

A born leader!

Characteristics / Quality

- Leading DM yield in its segment – (93%) across all marginal sites
- Rapid early vigour (6.9) gets crop established quickly on more challenging sites
- Excellent starch (37.7%)
- Great ME content (11.80 MJ/kg DM) to boost animal performance
- Rapid dry down at harvest

Data source:
NIAB Forage Maize Descriptive List. First choice for less favourable sites (2023).



Scan this code to watch
our video review of
AUGUSTUS KWS





RUBIERA KWS FAO 160

Ultra Early



SERGIO KWS FAO 160

Ultra Early



In Your Field...

RUBIERA KWS provides a high kernel content, and is noted for its ripening stability, particularly at higher altitudes.

The silage athlete!

Characteristics / Quality

- Class leading DM yield – (93%) across all sites; both favourable and less favourable
- Rapid early vigour (7.0)
- Semi dry down provides lower effluent risk
- Leading starch content (37.3%)
- Fantastic ME content (11.86 MJ/kg DM) increases ration energy density
- Stable at altitude
- Provides rapid dry down on favourable sites

Data source:
NIAB Forage Maize Descriptive List. First choice varieties for less favourable sites (2022).



Scan this code to watch our video review of RUBIERA KWS



In Your Field...

Sergio KWS provides rapid early vigour, early maturity and proven ripening stability.

Exceptional ME and early vigour!

Characteristics / Quality

- Above average DM yield for its maturity – (95%) across all sites
- High early vigour (7.5) gives rapid establishment for early and late drilling
- Ideal for heavier soils due to early vigour performance
- Above average starch (36.7%)
- Exceptional ME (11.79 MJ/kg DM) to boost ration density and animal performance
- Delivers great consistency year after year

Data source:
NIAB Forage Maize descriptive list. Second choice varieties for less favourable sites (2020).



Scan this code to watch our video review of SERGIO KWS





PEREZ KWS FAO 160

Ultra Early

myKWS Your FREE online maize tools

Sign up to **myKWS** to gain access to free online tools to help with the cultivation of your maize crop throughout the year. You can also download the myKWS app straight to your phone, available on both Apple and Android devices.



www.kws-uk.com/mykws

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In Your Field...

PEREZ KWS rewards you with an early harvest – with dual use for forage or biogas production.

Gain higher yields faster!

Characteristics / Quality

- Strong DM yield for an ultra early – (98%)
- High early vigour (7.2)
- Suited to both heavy and light land
- Ideal for late drilling on favourable sites, providing a great early feed out option
- Our earliest variety recommended for biogas production – increases harvest date flexibility
- Elevated starch content (35.5%)
- High ME (11.58 MJ/kg DM) boosts ration performance

Data source:
NIAB Forage Maize Descriptive List. First choice varieties for less favourable sites (2022).



Scan this code to watch
our video review of
PEREZ KWS



Maize Seed Service

offers you a 50% discount towards the cost of re-sowing any KWS **INITIO BIRD PROTECT** treated seed that suffers damage excluding wire worm and drought.



Soil Temperature Tool

provides you with a clear indication of soil temperature changes to help select the right sowing window to ensure strong germination and emergence.



Seed Requirement Calculator

assists you on seed rates, row spacing and seed volume requirements.



Heat Unit Tool

allows you to check predicted harvest date based on FAO number and your location's average heat units.



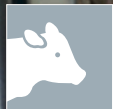
Variable Seed Rate Calculator

defines the ideal planting density for maize on the basis of specific field conditions, using satellite images and breeder knowledge.



Field Vitality Check

Tracks crop development throughout the season. Highlights areas of disease, compaction and other plant stress factors. Uses satellite imagery to pinpoint any in-field differences.



AVITUS KWS

FAO 160/170

Early



KWS CALVINI

FAO 170

Early



In Your Field...

AVITUS KWS delivers high DM and starch output, plus rapid early vigour. Seed rate management is advised on exposed sites to maximise harvest security.

Forage performance to reign supreme!

Characteristics / Quality

- High DM yield in the early segment – (18.4t/ha DM) on the NIAB 2023 list
- Top early vigour (7.0)
- Very high starch (36.1%) and leading starch yields/ha
- Fantastic energy content (11.81 MJ/Kg DM) driving animal performance
- Dual use forage and AD for harvest spread
- Also suitable for CCM
- Moderate stay green for faster ripening
- On exposed sites recommended seed rate should not exceed 100,000 seeds/ha

Data source:
NIAB Forage Maize Descriptive List.
First Choice varieties for favourable sites (2023).



Scan this code to watch our video review of AVITUS KWS



In Your Field...

KWS CALVINI is suitable for all maize growing areas, Drive your ration performance – maturity, yield and starch in one.

Drive your ration performance – maturity, yield and starch in one!

Characteristics / Quality

- Top DM yield in its class – (18.3t/ha DM) across all NIAB sites
- Excellent early vigour (7.3)
- Very high starch content (34.9%)
- High starch yield potential of over 7t/ha underlines yield performance
- Great energy values (11.70 MJ/kg DM)
- High kernel content and ripening stability

Data source:
NIAB Forage Maize Descriptive List. First choice varieties for less favourable sites (2023).



Scan this code to watch our video review of KWS CALVINI





DEBALTO FAO 170

Early



AUTENS KWS FAO 170

Early



In Your Field...

DEBALTO offers leading starch yields, high grain density & lower ear insertion height.

Push your starch yield, keep your harvest on track

Characteristics / Quality

- Strong yield performance (18.9t/ha DM) across all sites
- High grain:stover ratio provides an energy dense silage
- Starch content (34.2%)
- Energy content (11.58 MJ/kg DM)
- Ideally suited for moderate to high (50-70%) TMR dairy or beef finishing rations
- Excellent vigour across all soil types (7.5)
- Multi-use variety for forage, CCM and biogas – spreads harvest window

Data source:
NIAB Forage Maize Descriptive list.
Second choice varieties for favourable sites (2023).



Scan this code to watch our video review of DEBALTO



In Your Field...

AUTENS KWS offers stable yield performance & high kernel content, for proven starch yield in favourable areas.

Outstanding yield performance!

Characteristics / Quality

- Stable yield performance (18.1t/ha DM)
- Faster dry down with great standing power
- Outstanding early vigour (7.5) on all soil types
- High starch content (34.3%)
- Excellent energy content (11.74 MJ/kg DM)
- Provides an excellent early harvest option on lighter land
- Multi-use – forage, grain, & biogas

Data source:
NIAB Forage Maize descriptive list. Second choice varieties for favourable sites (2022).



Scan this code to watch our video review of AUTENS KWS





KWS RESOLVO FAO 170

Early



EDGARD KWS FAO 170

Early



In Your Field...

KWS RESOLVO is an exciting new hybrid with all-round agronomic stability. It delivers high starch output, early ripening and high dry matter yields for your benefit.

The key to unlocking higher starch yields!

Characteristics / Quality

- Great DM yield (19.8t/ha DM)
- High grain:stover ratio provides an energy dense silage
- Balanced starch content (31.4%) ideal for moderate to high (50-70%) ration inclusion for both dairy and beef finishing
- Excellent vigour (7.1) for all soil types allows an excellent start to the growing season

Data source: NIAB Forage Maize National List Trials (2021).



Scan this code to watch our video review of KWS RESOLVO



In Your Field...

EDGARD KWS has given stable yield performance in KWS and NL screening trials in both the UK and Denmark since its introduction and continues to deliver on farm.

Good early vigour, DM yields and feed value...

Characteristics / Quality

- High DM yield in its class – across NIAB trials (2014: 106% relative DM yield)
- Good early vigour on all soils types (2014: 7.6)
- Very high starch (2014: 34.3%)
- Great ME content (2014: 11.36MJ/kg DM)
- Provides early silage production across the UK

Data source(s): FERA NL Trials for Forage Maize – All sites (2014).



Scan this code to watch our video review of EDGARD KWS





KWS EXELON FAO 170

Early



RODRIGUEZ KWS FAO 170

Early



In Your Field...

KWS EXELON has a lower ear insertion height resulting in greater stability. The potential to carry 20 grains per ring provides you with superb grain quality, leading to high starch yields. This is combined with excellent DM yield and maturity providing a complete variety.

Drive your silage output!

Characteristics / Quality

- Leading DM Yield (18.9t/ha)
- Excellent starch content (34.6%)
- Fantastic energy values produces superb silage (11.74MJ/kg DM)
- Highly suited to moderate to high (50-70%) inclusion in dairy and finishing rations
- Excellent vigour (7.1) on all soils allows your crop to get up and away – fast.
- Multi-use variety, forage, grain and biogas

Data source:
NIAB Forage Maize Descriptive List. First Choice varieties for favourable sites (2023).



Scan this code to watch
our video review of
KWS EXELON



In Your Field...

RODRIGUEZ KWS is a true dual purpose variety for either silage or grain production. A stable, repeatable crop which grows consistently well, even at higher altitudes or on heavier soils.

Versatile for silage or grain!

Characteristics / Quality

- Produces high DM yields in the field (18.2 t/ha DM)
- Balanced starch content (35.9%) makes an ideal variety for high maize inclusion diets
- High energy content (11.80 MJ/kg DM) increases ration energy density
- Performs very well for CCM to produce a higher energy feed suitable for dairy or enhanced finishing
- Great early vigour (6.6) on all soils provides a solid start

Data source:
NIAB Forage Maize Descriptive List. First Choice varieties for favourable sites (2023).



Scan this code to watch
our video review of
RODRIGUEZ KWS





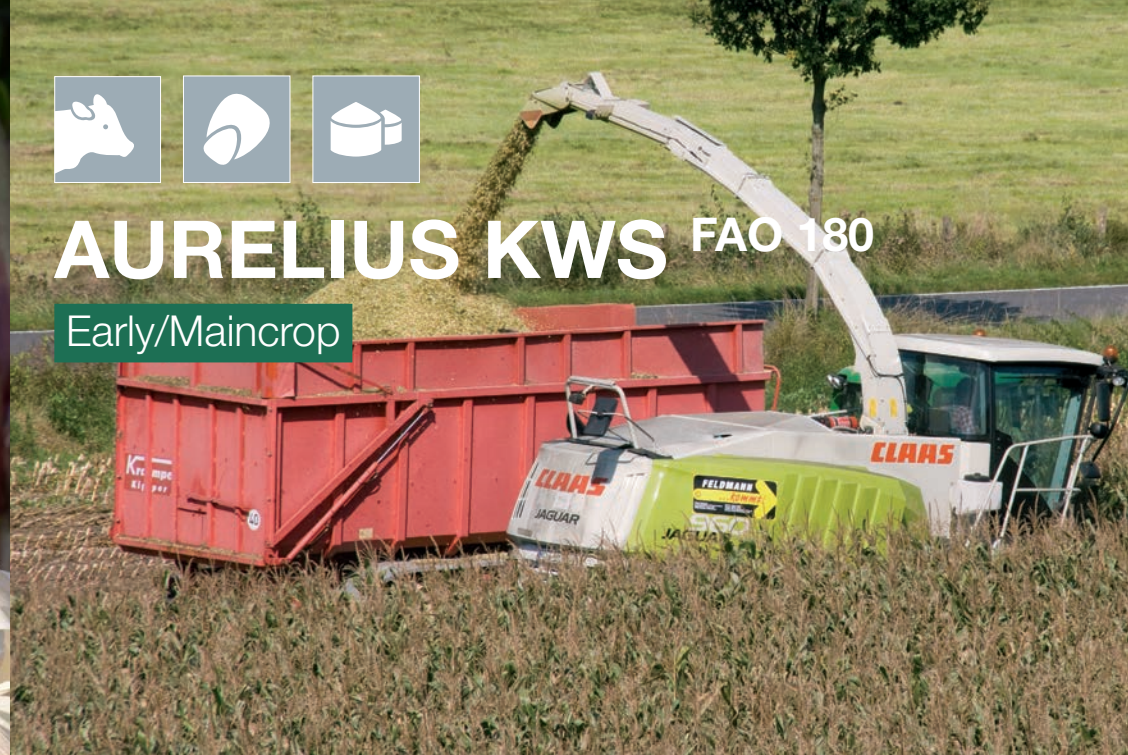
KWS PASCO FAO 170/180

Early



AURELIUS KWS FAO 180

Early/Maincrop



In Your Field...

KWS PASCO is a flexible variety for forage and CCM. This is an all-round variety that will not disappoint, and is suited to high maize inclusion diets - boosting your animal performance.

Excellent yield performance for silage or CCM!

Characteristics / Quality

- Produces high DM yields in the field (19.3 t/ha DM - 105%)
- Balanced starch content (34.5%) makes an ideal variety for high maize inclusion diets
- High energy content (11.77 MJ/kg DM) increases ration energy density
- Performs very well for CCM to produce a higher energy feed suitable for dairy or enhanced finishing
- Great early vigour (7.2) on all soils provides a solid start

Data source:
NIAB Forage Maize Descriptive List. First Choice varieties for favourable sites (2023).



Scan this code to watch
our video review of
KWS PASCO



In Your Field...

AURELIUS KWS is a consistent yield performer. Particularly suited to high maize inclusion in modern TMR rations. A highly flexible variety to meet the needs of all growers.

A dynasty in maize growing!

Characteristics / Quality

- Consistent DM yield (101% DM yield)
- Rapid early vigour (7.5) for a flying start
- Suitable for high maize inclusion in diets (60%+) due to balanced starch content (32.7%)
- High energy content (11.67 MJ/kg DM) drives ration performance
- Can help stagger harvest window for biogas growers
- Multi-use variety suitable for forage, grain, & biogas

Data source:
NIAB Forage Maize Descriptive List. Second Choice Varieties for favourable sites (2022).



Scan this code to watch
our video review of
AURELIUS KWS





KWS ANASTASIO FAO 180/190

Early/Maincrop



NEW PAPAGENO* FAO 190

Early/Maincrop

In Your Field...

KWS ANASTASIO

provides you with a high level of harvest flexibility, and is suited to all your needs, be it forage, CCM, crimped or dried grain, and also for biogas.

Maincrop silage and grain hybrid for every season!

Characteristics / Quality

- High DM yields (19.6t/ha DM - 106%) to fill your clamps, forage or biogas
- Great starch content (32%) for high maize diets
- High energy content (11.57 MJ/kg DM) to deliver ration performance
- Highly suitable for CCM and grain cropping
- Leading early vigour (7.4) on all soils type provides a rapid establishment
- Suitable for forage, grain and biogas systems

Data source:
NIAB Forage Maize Descriptive List. First Choice varieties for favourable sites (2023).



Scan this code to watch
our video review of
KWS ANASTASIO



In Your Field...

PAPAGENO adds more options for AD or silage growers looking for a wider drilling window, and high yield performance.

High starch, yield & field performance from day one!

Characteristics / Quality

- Excellent dry matter yields – 21.1t/ha in 2021 DL
- Starch (32.8%) exceptionally well balanced for the highest maize inclusion rates in a ration.
- Great energy (11.40 MJ/kg DM) content to drive animal performance
- High early vigour (6.8)
- Dual use in both forage and biogas
- Ideal variety to aid the spread of drilling and harvest

-Data source: NIAB National list trials (2021).

* Hybrid is subject to a Pre NL marketing agreement. Initial seed availability is limited.

Scan this code to watch
our video review of
PAPAGENO



Sign up to myKWS today...

- Free App and online tools to help you get the best from your farm
- Technical e-newsletters and notifications based on your own personal crop preferences
- Maize and Beet Seed Services – financial help towards the cost of resowing (subject to terms & conditions)
- Enhanced daily weather data



Cereals Maize Beet



TOOL	CROP TYPE	STAGE	TOOL DESCRIPTION
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Seed Rate Calculator

		Seed selection	Calculate seed rates, row spacing and seed volume requirements
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Variety Comparison Tool

		Seed selection	Neutrally compare KWS cereal varieties against others on the AHDB Recommended List to help you select the right variety for your farming situation
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Beet Seed Service*

		Preparation	Receive digital field-specific advice and financial support if you require seed for re-sowing on all KWS EPD 2.0 sugar beet varieties
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Maize Seed Service*

		Preparation	Financial support towards the cost of re-sowing any KWS Maize seed, treated with Initio Bird Protect suffering damage excluding wire worm and drought
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TOOL	CROP TYPE	STAGE	TOOL DESCRIPTION
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Variable Seed Rate*

		Preparation	Adjust and define the ideal seed rates for cereals and maize based on specific field conditions, using satellite images and breeder knowledge
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Soil Temperature

		Preparation	Provides maize growers with a clear indication of soil temperature, to help select the right sowing window to ensure strong germination and emergence
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Field Vitality Checker*

		Mid-season	Track crop development throughout the season. Highlight areas of disease, compaction and other plant stress factors, such as blackgrass, using satellite imagery to pick out any differences within the field and help you plan accordingly
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Damage Finder

		Mid-season	Get a comprehensive overview of the most important damage and disease images throughout the season
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Field Scout

		Mid-season	Create important geo-based notes for site specific observations and reminders on your fields
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Heat Unit Tool

		Harvest	Allows growers to check predicted harvest date based on FAO and average heat units
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* field registration required for this tool

With you throughout the year...



myKWS **MAIZE** is our quarterly newsletter, keeping you up to date on topical issues during the growing season, varietal selection and other related subjects.

To sign up for a postal copy of myKWS **MAIZE** newsletter scan the QR code.
For a digital copy, sign up for myKWS at www.kws-uk.com (select the maize option).



www.kws-uk.com



KWS
ENERGY



KWS KAMPINOS FAO 200/210

Energy/Biogas

In Your Field...

KWS KAMPINOS adds more options for AD and silage growers to fill clamps. Allows a wider drilling window/harvest in suitable conditions.

Continental yields with cold tolerance...silage or AD use!

Characteristics / Quality

- Heavy yield potential on favourable sites (21.5t/ha DM)
- Ideal hybrid for spreading drilling window
- High grain:stover ratio for stable ripening
- Excellent starch content for maturity (34.1%)
- Significant energy density (11.63 MJ/Kg DM) for animal or AD performance
- Seed at 42,000 seeds/acre (103,000 seeds/ha) in most areas
- In low rainfall areas reduce to 38,000 seeds/acre (94,000 seeds/ha) to protect yield

Data source:
KWS LP251 2019. Average of all sites.
* Hybrid is subject to a Pre NL marketing agreement. Initial seed availability is limited.



Scan this code to watch
our video review of
KWS KAMPINOS





KEOPS FAO 210/220

Energy/Biogas



KWS CURACAO FAO 220/230

Energy/Biogas



In Your Field...

KEOPS combines exceptionally high yields and agronomically stable for your silage or AD on favourable sites.

Multi-use silage or biogas

Characteristics / Quality

- Significant yield potential on favourable sites (23.3t/ha DM)
- Can be used to spread drilling
- Wide harvest window due to stay green nature
- Strong early vigour gets early sowing up and away
- Seed at 42,000 seeds/acre (103,000 seeds/ha) in most areas
- In low rainfall areas reduce to 38,000 seeds/acre to (94,000 seeds/ha) protect yield

Data source: KWS LP251 2019. Average of all sites.



Scan this code to watch our video review of KEOPS



In Your Field...

KWS CURACAO is a clear winner for yield, stability, and breeding innovation. The hybrid delivers top yields for CCM and grain in the energy/biogase segment.

Grain and energy maize hybrid for maritime climates!

Characteristics / Quality

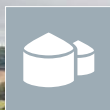
- Huge yields in excess 22t/ha DM
- High energy content (2020: 11.39MJ/Kg) aiding digester performance
- Good early vigour (2020: 7.5) for all soil types
- Ideal for CCM

Data source: NIAB national list trial (2021), KWS LP250 (2021).



Scan this code to watch our video review of KWS CURACAO





KWS BENEFITO FAO 230

Energy/Biogas



AMAROC FAO 240

Energy/Biogas



In Your Field...

KWS BENEFITO is a single cross main crop silage and grain hybrid. Ideal for growers looking for added harvest security in the later AD segment.

Benefit from greater harvest security in the later maturity segment

Characteristics / Quality

- Huge yield potential with a long growing season (21.5t/ha DM)
- Main crop hybrid with high silage potential on very favourable sites
- Approx. 2-3 days earlier maturity than Amaroc
- Reduce chop length to 7-9mm to ensure optimal clamp and AD performance
- Seed at 42,000 seeds/acre (103,000 seeds/ha) in most areas
- In low rainfall areas reduce to 38,000 seeds/acre (94,000/ha) to protect yield

Data source: NIAB national list trials (2021). Hybrid subject to a Pre NL Marketing Agreement. Initial seed is limited.



Scan this code to watch our video review of KWS BENEFITO



In Your Field...

AMAROC offers excellent DM yield for AD feedstock production, on favourable sites, and in high heat unit areas.

Heavy yield potential

Characteristics / Quality

- Heavy yield potential on favourable sites
- Ideal for spreading harvest and drilling windows on lighter land
- Rapid early vigour
- Reduce chop length to 7-9mm to ensure optimal AD performance
- Seed at 42,000 seeds/acre (103,000 seeds/ha) in most areas
- In low rainfall areas reduce to 38,000 seeds/acre (94,000/ha) to protect yield

Data source: KWS Agroservice 2015-2016.



Scan this code to watch our video review of AMAROC





KILOMERIS FAO 260/270

Energy/Biogas

In Your Field...

KILOMERIS is suited to only the very best sites, where it can provide exceptional performance for your AD feedstock production, with huge DM yield potential.

The ultimate in feedstock yield – ideal for light soils!

Characteristics / Quality

- Enormous yield potential on the most favourable, high heat unit sites (24t/ha DM 2019)
- Ideal hybrid for drought-prone areas – yields exceed earlier hybrids
- Reduce chop length to 7-9mm to ensure optimal clamp and AD performance
- Seed at 40,000 seeds/acre (98,000 seeds/ha) in most areas
- In low rainfall areas reduce to 38,000 seeds/acre (94,000/ha) to protect yield

Data source: KWS LP251 2019 Average of all sites.



Scan this code to watch our video review of KILOMERIS



Drilling Tips

Optimum drill timing depends on **soil conditions**, **temperature** and **seedbed moisture**.

Modern hybrids have a high degree of cold tolerance but should not be drilled before soils have reached an **even temperature** for 3-4 days (8°C for light soils, 12°C for heavy soils) to give the best possible establishment.

Drilling considerations

- Soil type (heavy, medium or light soils), temperature and moisture availability
- Site and yield potential (eg warm site with light soils, cold site with heavy soils)
- Short-term weather forecast

Effects of premature drilling

- Slowed germination
- Uneven emergence, necessity to increase seed rates
- Reduced nutrient uptake (low soil temperature)

Effects of late drilling

- Delayed harvesting
- Requirement for earlier maturing varieties
- Increased risk of lodging



Recommended seed rates

Plants/ha (acre)	Units*/ha (acre)	Deposition distance (cm)	
		at 75cm (30")	at 50cm (19")
85,000 (34,000)	1.8 (0.72)	14.9	22.4
90,000 (36,000)	1.9 (0.76)	14.1	21.2
95,000 (38,000)	2.0 (0.81)	13.3	20.1
100,000 (40,000)	2.1 (0.85)	12.7	19.0
105,000 (42,000)	2.2 (0.89)	12.1	18.1
110,000 (44,500)	2.3 (0.93)	11.5	17.3
115,000 (46,500)	2.4 (0.98)	11.0	16.6





*1 Unit = 50,000 seeds

Harvesting Tips



The KWS UK portfolio focuses on offering farmers the flexibility of a wide harvest date range, demonstrated in two key areas:

- Avoiding rapid dry down of the leaf stover maintains a good level of stay green
- Early flowering and cob maturity

Grain maturity		Description	Cob DM (%)	Whole plant DM (%)
Milk		Grain immature Avoid premature harvesting	10-15	< 20
Soft dough		Grains become firmer. Husks remain green	20-28	20-27
Hard dough		Silage maturity reached at 'hard dough' stage. Reduced risk of clamp effluent	30-45	28-32
Hard ripe		Grain at 'hard ripe' stage. Crop ready for late cut silage or CCM	48-50	33-35
Fully ripe		Grain fully matured Husks died back Ready for crimped maize or late cut CCM	65-70	36-45

Effects of harvesting too early

- Lower yield
- Reduced energy, starch and ME which results in lower intake potential
- Higher risk of clamp effluent – requires a longer chop length
- Poor dry matter intake and palatability resulting in acidic silage

Effects of late harvesting

- Higher harvesting costs and increased field losses
- Low digestibility and palatability
- Excessive dry matter and poor clamp stability
- Difficult clamp consolidation will require a shorter chop length
- Soil damage/compaction

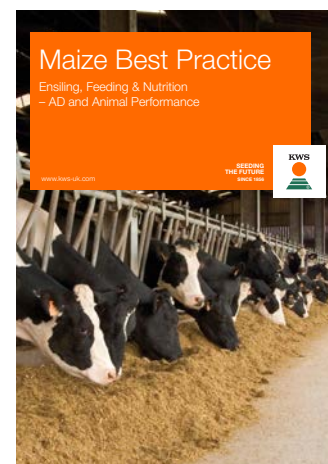
Our KWS maize publications...

KWS has published a wide range of free, up-to-date information on maize, including advice on all aspects of agronomy, clamp management, livestock feeding and crops for AD. All of the booklets are available online and some can be sent to you as paper copies by post.

Available online at www.kws.com/gb/en/products/maize or contact the office on 01594 528234 to request a printed copy.

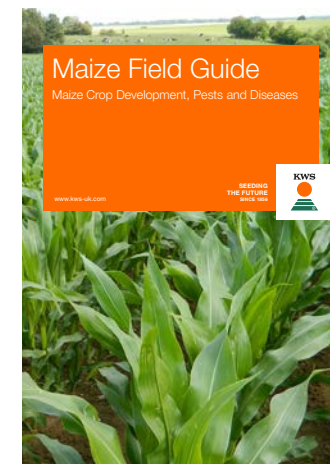
MAIZE BEST PRACTICE

Ensiling, Feeding & Nutrition



MAIZE FIELD GUIDE

Maize Crop Development, Pests & Diseases



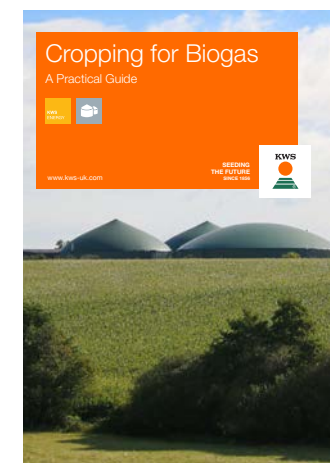
MAIZE BEST PRACTICE

Agronomy & Growing



CROPPING FOR BIOGAS

A Practical Guide



The importance of **a good start**

INITIO BirdProtect

**A KWS seed treatment offering maximum root health
and crop safety in maize**



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