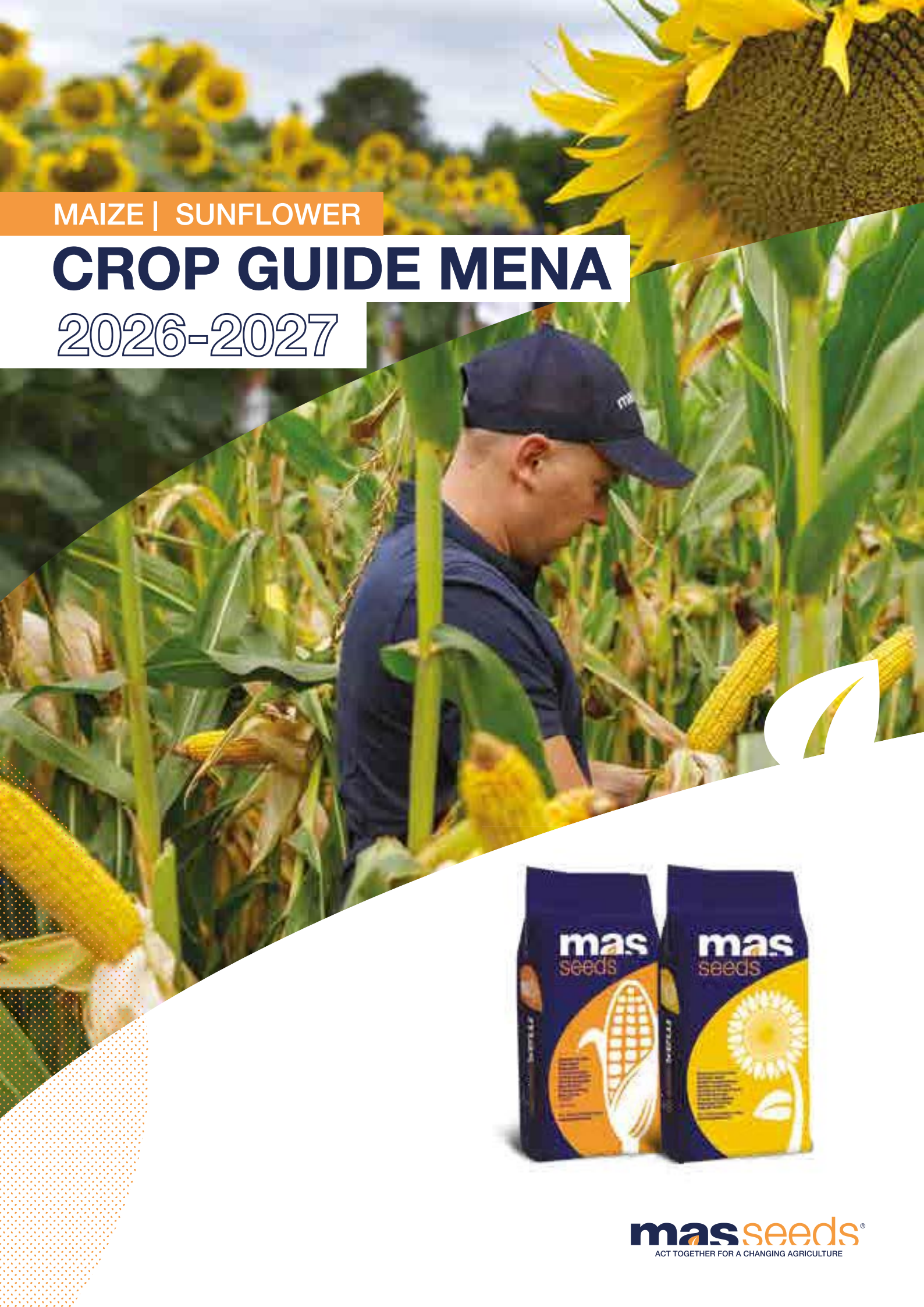


MAIZE | SUNFLOWER

CROP GUIDE MENA

2026-2027



Middle East and North Africa area at MAS Seeds®

Across the Middle East and North Africa, we’ve partnered with distributors and growers for more than 20 years — actively contributing to regional food security with reliable genetics and service.

MENA hybrid maize and sunflower portfolio is purpose-built for our region: coherent and well-adapted to local soils and increasingly extreme climates, **combining stress resilience with the yield and quality your markets demand**. In maize, we offer a diversified maturity range from mid-late to very late to match planting windows and heat units, with clear use-case options in silage, grain and grain for waxy — so you can configure the right product for every client need.

Our R&D pipeline continues to push practical solutions such as **GREEN+ technology, designed to enhance field performance under water and heat stress while safeguarding standability and harvestability**. Proven in multi-year regional trials and backed by dependable supply and technical support, these hybrids help you plan with confidence, grow your business, and deliver consistent results from field to market.

Beyond genetics, our digital services connect planning to harvest. Pre-season hybrid placement and population tools help you design the right plan by zone; in-season follow-up, and end-of-season reports. **From field notes to silo follow-up, our tools create a clear, traceable flow of information** — improving logistics, quality control, and ROI for distributors, processors, and growers alike.

Our commercial footprint spans the MENA region through trusted local partners who bring proximity, agronomy, and after-sales support to every customer. We continue to invest in trials, demo networks, and technical training to strengthen this ecosystem. In additional markets, **we are exploring tailored go-to-market models with qualified distributors — from co-marketing to portfolio integration** — so more customers can access the right hybrid solution for their conditions.



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North Africa & Middle East

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AFNOR Certification attests having assessed the contribution to sustainable development according to ISO 26000 within GROUPE COOPERATIF MAISADOUR.



Visit
masseeds.com
website

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Act together for a changing agriculture



We offer a comprehensive portfolio of crops and services, designed for rotations centered on maize and sunflower. Aligned with regenerative agriculture principles, our solutions help farmers to address four key challenges in modern agriculture:

- **Soil fertility and carbon management** – Improving soil health while reducing the carbon footprint.
- **Protein and feed autonomy** – Supporting self-sufficiency in livestock nutrition.
- **Climate and water resilience** – Developing crops that perform under climate variability and optimise water use.
- **Biodiversity preservation** – Promoting agricultural practices that sustain agroecosystems.

The MAS Seeds® signature reflects our strong commitment to supporting farmers in an ever-evolving agricultural landscape. Our goal is to help build a sustainable agricultural model that not only protects the environment but also boosts yields and productivity and ensure the long-term viability of farms.



1. SOIL FERTILITY & CARBON

Soil is the most essential non-renewable resource for crop production, and it plays a central role in biodiversity, carbon fixation and storage. At MAS Seeds® we support farmers to implement protective measures:

- Providing **MAS4 COVER (cover crops) portfolio** to generate carbon sinks and improve soil fertility.
- Helping field producers to optimise crop operations with our **AGROPLUS®** services.

BREEDING INNOVATIONS FOR MAIZE & SUNFLOWER PORTFOLIO

We create genetic innovations to help our customers improve their production and face an increasingly difficult climate and economic environment.



2. PROTEIN & FEED AUTONOMY

Increasing protein and feed autonomy helps minimise environmental impacts, mitigate economic and climatic risks, therefore improving the sustainability of the farms.

We support farmers to improve feed efficiency of their forages, from sowing to storage in silos by:

- Developing high energy and high protein species, varieties and mixtures as silage maize **GREEN+**, special alfalfa varieties and **MAS4 NUTRI** (forage mixtures) products.
- Proposing **NUTRIPLUS®** services to cultivate, harvest and store the forages in the most efficient way.

3. CLIMATE & WATER RESILIENCE

The biggest agricultural challenge of the future will be to increase food production while facing water scarcity. We started our agroecological transition by providing several agronomical solutions:

- Breeding resilient genetics against drought like our **GREEN+** and **WATERLOCK** for maize.
- Selecting adaptable varieties with an earlier relative maturity.
- Developing a tropical germplasm to improve our temperate maize.

4. BIODIVERSITY

Biodiversity is key to maintain agroecosystems therefore promoting biodiversity helps farmers reduce reliance on synthetic fertilisers and crop protection products, thanks to the natural interactions between plants, soil, and animals.

MAS Seeds® actively contributes to this approach **by providing diversified crops** such as sunflower, alfalfa, cover crops and forage mixtures to enhance pollinators and landscape biodiversity.

We are continually improving genetic disease tolerance through innovations like **HelioSMART** and **NORUST** for sunflower, reducing farmers' need for fungicides.

COMPREHENSIVE SEED OFFER TAILORED FOR ROTATION BASED ON MAIZE AND SUNFLOWER

We continually develop an attractive portfolio of maize, sunflower, alfalfa, oilseed rape, soybean, cover crops, forage and specialised mixtures that helps build a regenerative crop rotation, improve soil fertility & feed protein autonomy.



AGRO-SERVICES TO SUPPORT GROWERS IN OPTIMISING THEIR PRODUCTION & RESOURCE USE

We design agro-services to support growers:

NUTRIPLUS® services for dairy farms to increase nutrition efficiency.

AGROPLUS® services for better decision making in field crop management.



Tailoring Seed Solutions for Regenerative Agriculture

Our ambition is to support farmers and contribute to the transition towards a sustainable and efficient agricultural model by offering seeds tailored for Regenerative Agriculture practices.



RESPECTING EARTH'S TRUE CYCLE
Understanding long-term processes to enrich soils and enhance farms.



RESPECTING NATURE'S TRUE CYCLE
Integrating crop rotations and diversity to develop synergies.



INCREASING YIELD SUSTAINABLY
Affirming our original role as seed breeders through research and varietal innovation.



INCREASING FARMER PROFITABILITY
Ensuring the economic sustainability of farms.



HIGH-PERFORMANCE AND RESILIENT MAIZE AND SUNFLOWER HYBRIDS FOR MULTI-SPECIES ROTATIONS

Our global network of 250 test sites and 300,000 micro-plots enables us to collect millions of data points using advanced phenotyping technics.

This data is complemented by genotypic information from our biomolecular laboratory, allowing us to predict the performance of new varieties even before field trials.

We analyse all these data using advanced scientific models to identify the best maize and sunflower varieties based on criteria such as performance, resilience, and stability.

The selected varieties are adapted to regenerative practices thanks to their resilience and stable performance, ensuring high performance under various conditions:



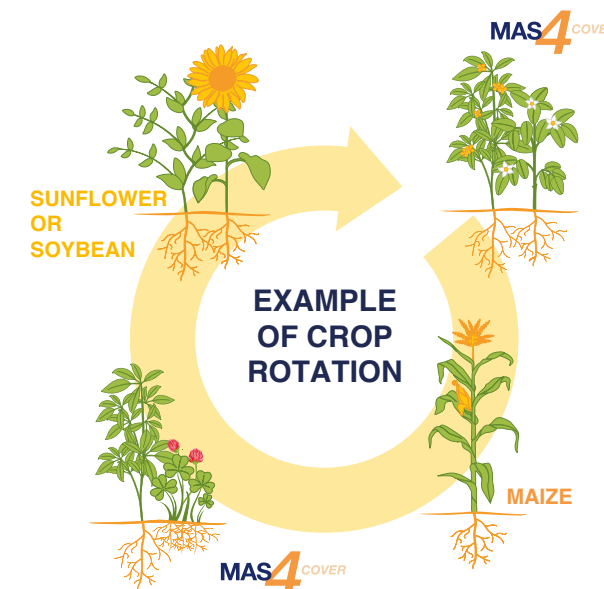
In addition, our breeders ensure that the varieties are adapted to multi-crop rotations:

- Earlier maize varieties, securing the establishment of the following crops.
- Dual-purpose maize hybrids (grain or silage), offering more flexibility.

INNOVATIVE COVER CROPS AND COMPLEMENTARY CROPS FOR MAIZE AND SUNFLOWER ROTATIONS

Complementing our hybrid offerings, we develop cover crops, forage mixtures, and other crops specifically adapted to maize and sunflower-based rotations.

- The **MAS4 COVER** solutions, composed of legume, grass, and brassica, play a crucial role in soil protection and improvement, weed management, and soil fertility enhancement.
- Oilseed rape, alfalfa and soybeans** allow producers to enrich, diversify and enlarge their rotations around corn and sunflower.



SUSTAINABLE SEED PRODUCTION WITH REGENERATIVE AGRICULTURE PRACTICES

Our ambition is to reduce the carbon footprint of seed production while optimizing the performance and profitability of our producers.

We have defined a **specification document outlining regenerative agriculture practices tailored specifically for seed production**, through experimentation on a pilot farms network.

The document defines three levels of commitment, each with specific milestones. The main areas of focus include:

- enhancing **cover crops**;
- reducing **soil tillage**;
- modulating **nitrogen fertilisers**;
- optimizing **irrigation**.

We aim for 100% of farms to be engaged at level 1 by 2028 in France and then progress them to levels 2 and 3. The experience acquired in the French network will facilitate the transition of the Spanish and Ukrainian networks thereafter.

The first seeds from producers engaged in regenerative agriculture will be sown in 2025.



High quality seeds for higher yield

Throughout the process from the harvest until the packaging, between each production step, seed samples are taken and tested 6 times as quality indicators to **ensure the best quality** possible.

MAS Seeds® AND SEED PRODUCTION:

- For MAS Seeds® the hybrid production has always been a strategic activity.
- With more than 75 years of experience, we are a European leader in hybrid seed production.



Reception



Each variety arrives at the factories and go through a multiple-step preparation including: sorting, drying, shelling, calibration and treatment.

Drying



At MAS Seeds® we use strict production protocols and high-tech facilities to combine great genetics with seed enhancement to give your crop the best possible start.

Shelling & pre-cleaning



Calibration



Calibration methods guarantee that all seeds are of the best quality possible in each bag.

Standard grading

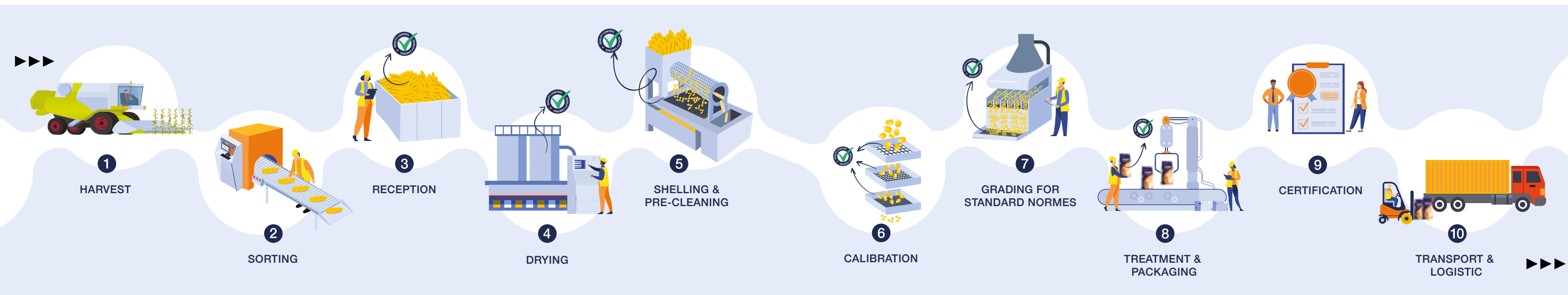


Seeds are carefully selected to deliver the best results, boosting germination vigour for a quicker plant development.

Treatment & packaging



Each seed variety is conditioned by its bag size and treatment type. Each factory is equipped with printing and labelling machines and certified by local officials. This process guarantees high-quality only.



1-HIGH QUALITY SEEDS

- Production protocols adapted to each variety.
- High-tech industrial capacities.
- Required quality controls at each step of the process.
- Custom calibration methods to guarantee the best seed homogeneity in each bag.



2-SEED APPLIED SOLUTIONS

- A department of experts dedicated to creating and experimenting with solutions applied to the seed.
- A high-tech coating process in our 4 factories.
- A full seed protection.
- A real boost to the germination vigour for quicker plant development.



A DIRECT IMPACT ON YIELD

- Better thanks to reduced plant losses.
- Quicker emergence.
- Plants grow at the same rate and are less prone to size disproportions.
- Better soil prospection allows a more efficient use of water and nutrients.

+2 to 7%
higher yield
depending on
emergence
conditions*



* Source: MAS Seeds® database.



AGROSTART®** MAIZE SEED APPLIED SOLUTION

INNOVATIVE MAIZE SEED CARE
FOR BETTER FIELD ESTABLISHMENT
AND YIELD SAFETY



Biostimulant



Fungicide

AGROSTART®**

More than a seed treatment, it is
an innovative technology!

INNOVATIVE FORMULATION
TO BOOST
AND PROTECT PLANTS
IN ALL ENVIRONMENTS

The innovative AGROSTART® standard
formulation for stronger and well protected
seedlings.

Two advanced formulations for environments
with higher pest pressure.



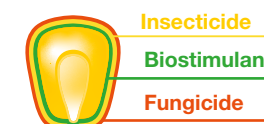
STANDARD FORMULATION



- **Biostimulants:** a new humic acid formulation to improve the absorption of nutrients available around seedlings.
- **Fungicide:** prevents damage during the early growth phase from fungi and secures emergence.



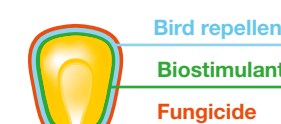
ADVANCED FORMULATION
FOR SOIL INSECT PRESSURE



- **Biostimulant and fungicide** standard formulation.
- **Insecticide** (FORCE® 20 CS): protects against major soil insects as wireworms.



ADVANCED FORMULATION
FOR BIRD PRESSURE



- **Biostimulant and fungicide** standard formulation.
- **Bird repellent** (KORIT®).

BENEFITS IN FIELD ESTABLISHMENT AND HARVEST



Boost and protect the seedlings for a better emergence:

- Quicker and more regular emergence.
- Higher emergence rate in cold conditions (+ 5% of raised plants).
- Better root exploration and nutrient absorption.



Improve yield in all situations, especially in cold
conditions at emergence:

- + 3% Yield in average*.
- + 11% Yield in cold conditions at emergence*.

* Compared to standard treatment. Source: MAS Seeds® research in seed production data.
** Subject to approval in your countries.

MAIZE

Varieties and advices 2026-27



VARIETIES	MATURITY	FAO	USE AND CHARACTERISTICS			AGRONOMY					
			Type of grain	Use		Heat tolerance	Harvest lodging	Helmintho-sporium	Fusarium	Cephalo-sporium	
GRAIN MAIZE											
NEW	MAS 582D	Mid-early	540	Dent	Grain		8	7	6	7	6
	MAS 59K	Mid-early	570	Dent	Grain		8	7	6	7	7
	ASTON	Mid-early	540	Dent	Grain		8	8	6	7	6
	MAS 400D	Very early	400	Dent	Grain		6	8	8	8	8
WAXY MAIZE											
	MAS 541WX	Mid-early	580	Dent	Grain		8	7	6	7	7
MIXT MAIZE											
BESTSELLER	MAS 78T	Late	700	Dent	Grain & Silage		8	8	9	8	9
NEW	SHANIYA	Late	700	Dent	Grain & Silage		8	8	8	8	9
	KAPORAL	Mid-late	650	Dent	Grain & Silage		7	8	7	8	7
	MAS 576N	Mid-early	590	Dent	Grain & Silage		8	8	8	8	8
SILAGE MAIZE											
NEW	KALZIO	Very late	730	Dent	Silage		8	7	6	7	6
	MASTROP 103	Very late	800	Flint	Silage		8	8	7	7	8
	MASTROP 143	Very late	800	Flint	Silage		8	8	7	8	8

1-3 bad | 4-6 average – good | 7-9 excellent



MID-EARLY | FAO 540

MAS 582D

THE STRONG START,
RELIABLE HARVEST



- HIGH AND STABLE GRAIN YIELD
- STRONG PLANT STRUCTURE WITH LOW EAR INSERTION
- EXCELLENT EARLY VIGOUR FOR FAST ESTABLISHMENT

CHARACTERISTICS

Plant height:	Low
Ear insertion:	Low
Type of grain:	Yellow - Dent
Nr of rows:	16 - 18
Nr of grains per row:	34 - 38
Nb of days:	
until silage maturity	65 - 70
until grain maturity	83 - 87

AGRONOMY

Stay green:	7
Dry down:	7
Heat tolerance:	8
Helminthosporium:	6
Fusarium:	7
Cephalosporium:	6
Smut - Common:	8
Lodging:	7

1-3 sensitive | 4-6 medium – good | 7-9 excellent

RECOMMENDATIONS

	Yield objective	Sowing sensity
GRAIN	9 - 12 t/ha	75 - 80 000
	12 - 15 t/ha	85 - 90 000
	> 15 t/ha	90 - 95 000

NEW

MID-EARLY | FAO 570

MAS 59K

YIELD PERFORMER
IN ALL GROWING CONDITIONS



- STABLE IN DIFFERENT CONDITIONS
- WELL BALANCED PLANT
- STRONG & STABLE COBS

CHARACTERISTICS

Plant height:	Low
Ear insertion:	Low
Type of grain:	Yellow - Dent
Nr of rows:	16 - 18
Nr of grains per row:	43 - 45
Nb of days:	
until silage maturity	65 - 70
until grain maturity	83 - 87

AGRONOMY

Stay green:	7
Dry down:	8
Heat tolerance:	8
Helminthosporium:	6
Fusarium:	7
Cephalosporium:	7
Smut - Common:	8
Lodging:	7

1-3 sensitive | 4-6 medium – good | 7-9 excellent

RECOMMENDATIONS

	Yield objective	Sowing sensity
GRAIN	9 - 12 t/ha	75 - 80 000
	12 - 15 t/ha	85 - 90 000
	> 15 t/ha	90 - 95 000



MID-EARLY | FAO 540

ASTON

SMALL PLANT,
BIG HARVEST

- HIGH GRAIN YIELD POTENTIAL
- COMPACT AND PRODUCTIVE PLANT
- GOOD STARTING VIGOUR

CHARACTERISTICS

Plant height:	Low
Ear insertion:	Low
Type of grain:	Yellow - Dent
Nr of rows:	16 - 18
Nr of grains per row:	36 - 38
Nb of days:	
until silage maturity	65 - 70
until grain maturity	83 - 87

AGRONOMY

Stay green:	7
Dry down:	7
Heat tolerance:	8
Helminthosporium:	6
Fusarium:	7
Cephalosporium:	6
Smut - Common:	8
Lodging:	8

1-3 sensitive | 4-6 medium – good | 7-9 excellent



RECOMMENDATIONS

	Yield objective	Sowing sensity
GRAIN	9 - 12 t/ha	75 - 80 000
	12 - 15 t/ha	85 - 90 000
	> 15 t/ha	90 - 95 000

VERY EARLY | FAO 400

MAS 400D

RELIABILITY, HARVEST
AFTER HARVEST

- RELIABLE PERFORMANCE,
especially in fresh/cool areas.
- HEALTHY PLANT WITH STRONG
STANDABILITY
- SHORTEST CYCLE IN THE FAMILY

CHARACTERISTICS

Plant height:	Low
Ear insertion:	Low
Type of grain:	Yellow - Dent
Nr of rows:	18 - 20
Nr of grains per row:	32 - 34
Nb of days:	
until silage maturity	52 - 57
until grain maturity	70 - 74

AGRONOMY

Stay green:	8
Dry down:	7
Heat tolerance:	6
Helminthosporium:	8
Fusarium:	8
Cephalosporium:	8
Smut - Common:	7
Lodging:	8

1-3 sensitive | 4-6 medium – good | 7-9 excellent



RECOMMENDATIONS

	Yield objective	Sowing sensity
GRAIN	9 - 12 t/ha	75 - 80 000
	12 - 15 t/ha	85 - 90 000
	> 15 t/ha	90 - 95 000



Waxy maize

Market and portfolio

MAIN CHARACTERISTICS

Waxy maize is a variety of maize whose starch is composed of 100% amylopectin, thanks to the presence of “waxy” gene. When the maize kernel is cut, the endosperm appears shiny and wax-like. Thus differentiating it from standard maize which contains between 70% and 75% amylopectin and 25% to 30% amylose.

Due to its varied industrial applications, waxy maize offers interesting economic opportunities for farmers, with a bonus price per ton.

HIGH QUALITY SUPPLY CHAIN

- Seeds quality: seeds are checked at several stages to ensure the purity and waxy quality of all our seed lots.
- Purity in the fields: to ensure the purity of waxy maize, farmers must isolate their fields by at least 200 meters from conventional maize crops and check for contamination before harvest using an iodine test.
- Harvest and drying: the optimal harvest moisture content for waxy maize is between 25% and 32% Drying must also be carefully controlled to avoid deteriorating the quality of the starch.

MAIN OUTLETS



COSMETIC PRODUCTS



DRUGS



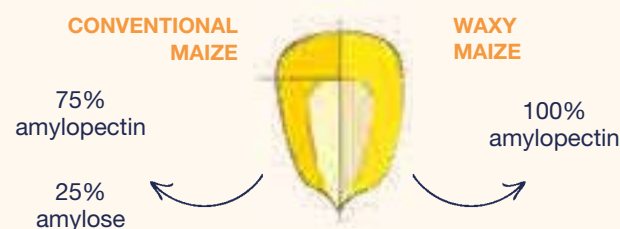
STATIONERY



PAINTINGS



BABY FOOD COMPOSITION



MARKET

The cultivation of waxy maize is subject to contracts between farmers and starch companies, ensuring market opportunities for producers. These contracts allow for advantageous purchase prices (a bonus per ton compared to conventional maize) and ensure product quality, meeting the requirements of processors.

In France the waxy market represents 30 000 ha and 76 000 ha in all Europe. Cultivation of waxy maize is rapidly expanding, with more and more land being allocated to this specific crop.

MID-EARLY | FAO 580

MAS 541WX

YOUR N°1 CHOICE FOR WAXY



- SECURED HARVEST PERFORMANCE
- HEALTHY AND BALANCED PLANT
- EXCEPTIONAL COBS

CHARACTERISTICS

Plant height:	Low
Ear insertion:	Low
Type of grain:	Yellow - Dent
Nr of rows:	16 - 18
Nr of grains per row:	42 - 44
Nb of days:	
until silage maturity	68 - 72
until grain maturity	86 - 100

AGRONOMY

Stay green:	7
Dry down:	8
Heat tolerance:	8
Helminthosporium:	6
Fusarium:	7
Cephalosporium:	7
Smut - Common:	8
Lodging:	7

1-3 sensitive | 4-6 medium – good | 7-9 excellent

RECOMMENDATIONS

	Yield objective	Sowing sensity
GRAIN	9 - 12 t/ha	75 - 80 000
	12 - 15 t/ha	85 - 90 000
	> 15 t/ha	90 - 95 000
SILAGE	50 - 70 t/ha	85 - 90 000
	70 - 90 t/ha	95 - 100 000
	> 90 t/ha	100 - 105 000





HYBRIDS TO SECURE FEED EFFICIENCY IN A CHANGING CLIMATE

- HARVEST FLEXIBILITY
- BETTER CONSERVATION
- MORE ENERGY AND DIGESTIBILITY

KEY RESEARCH AXES OF MAS Seeds® SILAGE R&D PROGRAM:

- DM yield/ha
- Feed value (starch & digestibility)
- **GREEN+***
- Starting vigour

*Green+ is defined as the genetic ability of a variety to delay leaf and stem maturity, therefore maintain their photosynthetic area active for longer period.

Breeding criterias

GREEN+ varieties have the genetic capacity to improve the quality of foliage and to extend the harvest window from 5 to 10 days.

Harvesting high-quality silage at correct maturity is a major objective for the farmers in order to ensure the feeding of their dairy cows. Milk production is closely linked to the **quality of harvested and stored silage**.

In addition to dry matter (DM) yield, feed value and starting vigour, **MAS Seeds® maize silage R&D has worked for 15 years on the drought tolerance** of plants. **GREEN+ portfolio** is the result of this research.

CHARACTERISTICS AND ADVANTAGES OF GREEN+ HYBRIDS

HARVEST



- Good **stay-green** of the plant.
- More **flexibility to harvest +5 to 10 days***.
- Better organisation of **harvest planning**.

STORAGE IN SILO



- More **soluble sugars** in the plant.
- Better silo **conservation +3% of green forage grain***.
- Fermentation and **pH decrease start quicker**.

FEEDING



- Slower evolution of **grain dry matter**.
- Higher **valorisation of starch +5% digestible starch***.
- Grains easier to crash.



*Source: MAS Seeds® trial results in mini clamps – 2017 & 2018.

LATE | FAO 700

MAS 78T

OUR TRUSTED BESTSELLER
FOR DUAL PURPOSE

- STRONG YIELD STABILITY
in diverse conditions.
- STANDS STRONG UNTIL
HARVEST
- LONG LASTING STAY GREEN
for consistent feed value.

CHARACTERISTICS

Plant height:	Medium - High
Ear insertion:	Medium
Grain Type:	Yellow - Dent/flint-dent
Nr of rows:	16 - 18
Nr of grains per row:	34 - 38
Nb of days:	
until silage maturity	75 - 80
until grain maturity	93 - 97

AGRONOMY

Stay green:	9
Dry down:	6
Heat tolerance:	8
Helminthosporium:	9
Fusarium:	8
Cephalosporium:	9
Smut - Common:	8
Lodging:	8

1-3 sensitive | 4-6 medium – good | 7-9 excellent

FEED VALUE

Starch:	■ ■ ■ ■ ■ ■ ■ ■ ■ ■
dNDF:	■ ■ ■ ■ ■ ■ ■ ■ ■ ■
Energy:	■ ■ ■ ■ ■ ■ ■ ■ ■ ■



RECOMMENDATIONS

	Yield objective	Sowing sensity
GRAIN	9 - 12 t/ha	75 - 80 000
	12 - 15 t/ha	85 - 90 000
	> 15 t/ha	90 - 95 000
SILAGE	50 - 70 t/ha	85 - 90 000
	70 - 90 t/ha	95 - 100 000
	> 90 t/ha	100 - 105 000

NEW

LATE | FAO 700

SHANIYA

ADVANCED HYBRID
FOR MODERN FARMS

- HIGH GRAIN & SILAGE YIELD
- UNBEATABLE STAY-GREEN
- DESIGNED FOR OPTIMIZED RATIONS
in dairy and meat production.

CHARACTERISTICS

Plant height:	Medium - High
Ear insertion:	Medium
Grain Type:	Yellow - Dent/flint-dent
Nr of rows:	16 - 18
Nr of grains per row:	38 - 42
Nb of days:	
until silage maturity	75 - 80
until grain maturity	93 - 97

AGRONOMY

Stay green:	9
Dry down:	7
Heat tolerance:	8
Helminthosporium:	9
Fusarium:	8
Cephalosporium:	9
Smut - Common:	8
Lodging:	8

1-3 sensitive | 4-6 medium – good | 7-9 excellent

FEED VALUE

Starch:	■ ■ ■ ■ ■ ■ ■ ■ ■ ■
dNDF:	■ ■ ■ ■ ■ ■ ■ ■ ■ ■
Energy:	■ ■ ■ ■ ■ ■ ■ ■ ■ ■

RECOMMENDATIONS

	Yield objective	Sowing sensity
GRAIN	9 - 12 t/ha	75 - 80 000
	12 - 15 t/ha	85 - 90 000
	> 15 t/ha	90 - 95 000
SILAGE	50 - 70 t/ha	85 - 90 000
	70 - 90 t/ha	95 - 100 000
	> 90 t/ha	100 - 105 000



MID-EARLY | FAO 590

MAS 576N

STABLE HARVEST,
SEASON AFTER SEASON

- HIGH YIELD STABILITY ACROSS ENVIRONMENTS
- STRONG DISEASE RESISTANCE
- SECURE FOR BOTH GRAIN AND SILAGE

CHARACTERISTICS

Plant height:	Medium
Ear insertion:	Medium
Grain Type:	Yellow - Dent
Nr of rows:	16 - 18
Nr of grains per row:	40 - 42
Nb of days:	
until silage maturity	70 - 75
until grain maturity	86 - 100

AGRONOMY

Stay green:	8
Dry down:	7
Heat tolerance:	8
Helminthosporium:	9
Fusarium:	8
Cephalosporium:	8
Smut - Common:	7
Lodging:	8

1-3 sensitive | 4-6 medium – good | 7-9 excellent

FEED VALUE

Starch:	
dNDF:	
Energy:	



RECOMMENDATIONS

	Yield objective	Sowing sensity
GRAIN	9 - 12 t/ha	75 - 80 000
	12 - 15 t/ha	85 - 90 000
	> 15 t/ha	90 - 95 000
SILAGE	50 - 70 t/ha	85 - 90 000
	70 - 90 t/ha	95 - 100 000
	> 90 t/ha	100 - 105 000

MID-LATE | FAO 650

KAPORAL

HEAVY COBS, SOLID IN FIELDS

- HIGH GRAIN YIELD AND POTENTIAL
- FLEX COBS ADAPTED TO DENSITY
- SECURE AGRONOMY WITH STRONG PLANTS

CHARACTERISTICS

Plant height:	Medium
Ear insertion:	Medium
Grain Type:	Yellow - Dent
Nr of rows:	16 - 18
Nr of grains per row:	40 - 44
Nb of days:	
until silage maturity	70 - 75
until grain maturity	88 - 92

AGRONOMY

Stay green:	7
Dry down:	7
Heat tolerance:	7
Helminthosporium:	7
Fusarium:	8
Cephalosporium:	7
Smut - Common:	8
Lodging:	8

1-3 sensitive | 4-6 medium – good | 7-9 excellent

FEED VALUE

Starch:	
dNDF:	
Energy:	



RECOMMENDATIONS

	Yield objective	Sowing sensity
GRAIN	9 - 12 t/ha	75 - 80 000
	12 - 15 t/ha	85 - 90 000
	> 15 t/ha	90 - 95 000
SILAGE	50 - 70 t/ha	85 - 90 000
	70 - 90 t/ha	95 - 100 000
	> 90 t/ha	100 - 105 000

Silage maize

Nutritional quality & energy profile

SELECT A SILAGE VARIETY SUITABLE FOR YOUR CATTLE'S DIET

The nutritional quality of silage varieties is at the heart of our silage maize breeding program. The energy in the maize silage comes from the starch and the fiber digestibility of the stem and leaves. MAS Seeds® has determined two different energy types to categorise maize silage varieties, depending on the dominant source of energy:

- **Balanced energy varieties.**
- **Starchy energy varieties.**

REASONING BEHIND THE APPROACH

All MAS Seeds® silage varieties are analysed for their nutritional quality and the ratio of their fiber and starch energy at harvest between 32% and 35% DM. We then categorise varieties by their energy profile and we recommend them depending on the diet put in place by the cattle farmers.



PRACTICED DIET	MAIZE SILAGE DOMINANT	GRASS AND ALFALFA DOMINANT
Maize ratio	More than 70% maize	Less than 70% maize
Recommended maize silage profile	• Need fiber digestibility in maize • No excess starch • Acidosis risk management	• Need energy concentration • Quick available energy • High level of starch
Feeding period	Late autumn – winter	Spring – summer – early autumn

Silage Energy profile		
	Use advices Can be supplemented with energy concentrates: • Grain or cereal • Maize cob mix	• It combines excellently with our alfalfa varieties and forage mixtures. • Limit additional source of starch (acidosis risk).

NEW

VERY LATE | FAO 730



KALZIO

BUILT FOR GROWTH,
MADE FOR FEED

- **BIG COBS AND LEAFY BIOMASS**
- **STRONG STAY GREEN**
for flexible harvest.
- **EXCELLENT STARTING VIGOUR**

CHARACTERISTICS

Plant height:	High
Ear insertion:	High
Grain Type:	Yellow - Dent
Nr of rows:	16 - 18
Nr of grains per row:	34 - 36
Nb of days:	
until silage maturity	78 - 82
until grain maturity	98 - 102

AGRONOMY

Stay green:	9
Dry down:	7
Heat tolerance:	8
Helminthosporium:	6
Fusarium:	7
Cephalosporium:	6
Smut - Common:	7
Lodging:	7

1-3 sensitive | 4-6 medium – good | 7-9 excellent

FEED VALUE

Starch:	
dNDF:	
Energy:	



RECOMMENDATIONS

	Yield objective	Sowing sensity
SILAGE	50 - 70 t/ha	77 - 83 000
	70 - 90 t/ha	83 - 88 000
	> 90 t/ha	85 - 90 000

VERY LATE | FAO 800



MASTROP 143

ADAPTED TO HEAT,
STRONG IN FEED

- HIGH PLANT STATURE WITH ABUNDANT LEAFY VOLUME
- VERY GOOD DISEASE TOLERANCE
- EXCELLENT SILAGE QUALITY WITH DIGESTIBLE FIBER AND STARCH

CHARACTERISTICS

Plant height:	Medium - High
Ear insertion:	Medium
Grain Type:	Yellow - Flint
Nr of rows:	14 - 18
Nr of grains per row:	35 - 38
Nb of days:	
until silage maturity	82 - 87
until grain maturity	103 - 107

AGRONOMY

Stay green:	9
Dry down:	8
Heat tolerance:	8
Helminthosporium:	7
Fusarium:	8
Cephalosporium:	8
Smut - Common:	7
Lodging:	8

1-3 sensitive | 4-6 medium – good | 7-9 excellent



FEED VALUE

Starch:	
dNDF:	
Energy:	

VERY LATE | FAO 800



MASTROP 103

CONSISTENCY YOU CAN
COUNT ON

- STABLE AND HOMOGENEOUS PERFORMANCE
- STRONG LEAFY VOLUME FOR SILAGE TONNAGE
- GOOD GRAIN QUALITY AS A BONUS

CHARACTERISTICS

Plant height:	Very high
Ear insertion:	Medium
Grain Type:	Orange - Flint
Nr of rows:	16 - 18
Nr of grains per row:	38 - 40
Nb of days:	
until silage maturity	86 - 90
until grain maturity	106 - 110

AGRONOMY

Stay green:	8
Dry down:	8
Heat tolerance:	8
Helminthosporium:	7
Fusarium:	7
Cephalosporium:	8
Smut - Common:	7
Lodging:	7

1-3 sensitive | 4-6 medium – good | 7-9 excellent



FEED VALUE

Starch:	
dNDF:	
Energy:	



SUNFLOWER

Varieties and advices 2026-27



VARIETIES	HARVEST MATURITY	FLOWERING MATURITY	USE AND CHARACTERISTICS					AGRONOMY			
			Oil type	Oil content	Oleic acid content	Herbicide tolerance	ORO	Early Vigor	Water stress tolerance	Lodging	Mildew
MAS 86OL	Mid Early	Mid Late-Late	Hight Oleic	46 - 47%	84 - 87%		E	8	8	7	RM9
MAS 920CP	Mid Late	Mid Early	Linoleic	43 - 45%		Clearfield® Plus	E	8	8	9	RM9
NEW MAS 900SU	Mid Late	Mid Late	Linoleic	44 - 45%		Express®	E	7	8	9	RM9+
MAS 804G	Early	Early	Linoleic	44 - 45%			G	7	9	9	RM9

1-3 bad | 4-6 average – good | 7-9 excellent

Sunflower has existed for centuries, but it only reached Europe in the **16th century**, brought back by the Spanish after the conquest of the Americas. From the 1960s onward, its cultivation spread rapidly across Europe, especially in **Mediterranean regions** and around the **Black Sea**. Today the main production zones are in **Eastern Europe** (Russia, Ukraine, Kazakhstan) and **Southern Europe** (Romania, Bulgaria, Spain, the Balkans, Turkey).

Sunflower has expanded thanks to several agronomic advantages:

Well adapted to stressful conditions. Its deep **taproot** anchors easily and accesses resources at depth, allowing it to tolerate high temperatures and drought—ideal for Mediterranean climates.

Modest water needs. Over a full cycle it requires roughly **420 mm** of water; even **about 75%** of that can be enough to secure a satisfactory yield. This makes it attractive where irrigation is limited or absent.

Flexible across farming contexts. It performs from **high-input systems** (good water-holding soils, irrigation, optimal fertilization) to **low-input** situations (poor soils, rainfed, light fertilization). Its relatively **low fertilizer demand** helps reduce costs and improve economic returns.

Short growing season. Depending on the variety, the cycle lasts **90–120 days**, enabling early harvest and timely preparation of the next crop (e.g., cereals).

Rotation benefits. The taproot contributes to natural soil structuring; sunflower helps **lower weed and disease pressure** for following crops, and its blooms **attract pollinators**, supporting local biodiversity.

To help farmers maximize their fields and income, **MAS Seeds®** has selected and developed a portfolio of sunflower varieties that are particularly well suited to the demanding conditions of **Mediterranean** climates as well as the **arid and semi-arid** environments of the **Middle East**. This range enables each farmer to choose the solution best adapted to their operation (earliness, weed management, field potential), **securing yield** despite challenging soil and climate conditions.





NEW GENERATION

AGROSTART® SUNFLOWER SEED APPLIED SOLUTION

A NEW INNOVATIVE
SUNFLOWER SEED CARE
FOR BETTER FIELD ESTABLISHMENT
AND YIELD SAFETY



Biostimulant



Fungicide

MAS Seeds® launches its new generation of AGROSTART®** for sunflower

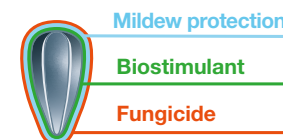
A NEW FORMULA FOR
MORE PLANT PROTECTION
AND MORE EFFICIENCY
IN ALL ENVIRONMENTS

The innovative AGROSTART® standard formula
for stronger and well protected seedlings.

Two advanced formulas for environments with
higher pest pressure, made up with the standard
formula and complementary solutions.



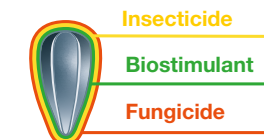
STANDARD FORMULATION



- Biostimulants:** a new cocktail of multiple components (algae extracts, vitamins, biocomponents, chelated molybdenum and manganese) to improve the absorption of nutrients available around the seedlings and ensuring the best performance of your crops.
- Fungicide:** prevents damage during the early growth phase from fungi and secure the emergence.
- Mildew protection:** Mildew protection is also available in accordance with the local regulation, to support genetic protection.



ADVANCED FORMULATION FOR SOIL
INSECT PRESSURE



- Biostimulant and fungicide** standard formula.
- Insecticide:** protects against major soil insects such as wireworms.

BENEFITS FOR FIELD ESTABLISHMENT AND HARVEST



Boosts and protects the seedling for a better emergence:

- Assists in germination, root and shoot development.
- Leads to nutrients mineralization.
- Ensures great seedling development.



Improve yield in all situations, especially in heat and drought conditions:

- Healthier and stronger plants during establishment: +5% germination improvement*.
- Reduces environmental stress damage: + 6% Yield under heat or drought stress*.

* Compared to standard treatment. Source: MAS Seeds® research in seeds production data.

** Subject to approval in your countries.

High oleic sunflowers

High value crop from grower to end-user

An extra price for farmers, a healthier oil, an useful oil composition for companies, **High Oleic (HO) sunflowers** have all qualities to seduce the protagonists of the sunflower market.

HIGH OLEIC SUNFLOWERS

HO sunflowers are different in oil composition. Contrary to linoleic sunflowers, the oil transformation chain is blocked by enzymes before the full transformation. The transformation from oleic acid to linoleic acid is stopped and the concentration of oleic acid increases and surpasses easily 80% (vs. 20% for linoleic sunflowers).

In the field, there are no differences in cultivation practices between the two types of sunflower and the oil content is also the same.

For a HO sunflower, the **30 days following the flowering are particularly important** to establish the oil content and the oleic acid content.

BENEFITS OF HIGH OLEIC SUNFLOWERS CULTIVATION



Health

HO oil contains a high percentage of monounsaturated fatty acid. This fatty acid family allows cholesterol levels to decrease easier and helps fight high blood pressure. HO oil is also rich in vitamin E and antioxidants which protect our cells.



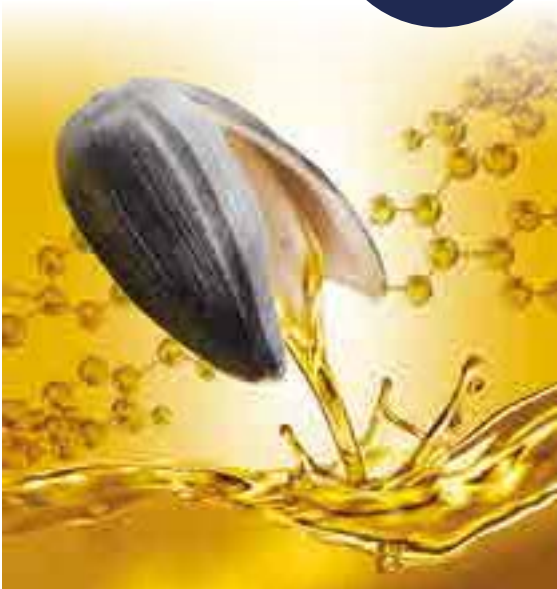
Industry

HO oil has a better stability for cooking compared to classic oils, therefore HO oil is very sought after by agribusiness companies. HO oil is also frequently used in green chemistry companies and **can be used as bio lubricant, green ester and biofuel.**

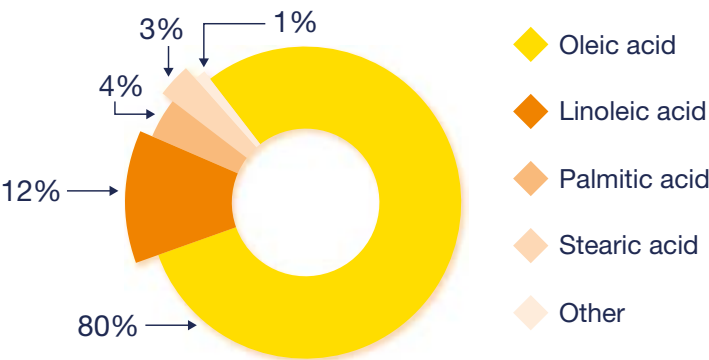


Environment

Contrary to palm oil, which comes from far away countries and increases their deforestation problems, **HO oil is produced in Europe** and doesn't require the destruction of forests. Today, more and more farmers are launching in organic sunflower cultivation to answer a new demands from customers.



High oleic sunflower composition



MID EARLY | HIGH OLEIC

MAS 86OL

THE HYBRID WITH
A 5 TONS/HA POTENTIAL!

- OVER 5 TONS/HA OF YIELD POTENTIAL**
new genetic family for maximum yield.
- HIGHEST MILDEW TOLERANCE**
for agronomic security.
- ADAPTED TO ALL CONDITIONS**
fit for all types of soils and climate.

PRODUCT ID

Maturity: Mid Early
Oil Type: High Oleic

CHARACTERISTICS

Flowering: Mid late - Late
Plant height: High
Head shape: Flat
Head position: Inclined
TKW: 49 - 57 g
Oil content: 45 - 47%
Oil acid content: 84 - 87%

AGRONOMY

Early vigour: 8
Lodging: 7
Drought tolerance: 8
Broomrape: E
Mildew: RM9
Phomopsis: 7
Sclerotinia (head): 8
Sclerotinia (stem): 7
Verticillium: 9

1-3 sensitive | 4-6 medium – good | 7-9 excellent



GROWING RECOMMENDATIONS

	Optimal conditions	Limited conditions
Adaptation	++++	+++
Density (Grain Pl/ha)	70 000	65 000

MAS 86.OL is the new Maisadour Semences genetic for our HO portfolio. It had the best french official registration 2015 with 111 % of yield compared to checks. Its VERY HIGH POTENTIAL good adaptation ability allows to position everywhere without restriction.



Sunflower hybrids with herbicide tolerance

Weed control is a key point in the growing process. Large amounts of weeds use up water meant for crops, reducing the yield (by 10% to 20% depending on the situation).

MECHANICAL WEED CONTROL

Hoeing, while decompacting compacted soils is a useful complement to chemical weed control. The synergy between chemical and mechanical weed control increases yield by an average of 9%. This can be done, according to the height of the crop, up to the 4-5 leaf pair stage.

CHEMICAL WEED CONTROL

In most cases, pre-emergence weed control programs combine a broad spectrum graminicide product with a broad-leaf herbicide product.



COMBINE DIFFERENT STRATEGIES TO OPTIMISE EFFICIENCY

PRE-EMERGENCE APPLICATION

You can use it on all types of sunflower. It is recommended to apply it in situations with low weed pressure.

POST EMERGENCE APPLICATION

Hybrids with tolerance to tribenuron-methyl:

It is important to sow an Express® tolerant hybrid in this case. Very efficient in case of pressure of Datura, Bindweed hedges, Bidens, Xanthium, Cirsium and wild sunflower. No action on grass (support with a pre-emergence application).



Hybrids with tolerance to imidazolinone:

It is important to sow a hybrid certified Clearfield® or Clearfield® Plus. Full spectrum grass, dicots and also against broomrape.



All Hybrids: It is now possible to use an herbicide containing Arylex™, which is selective to sunflower plants. This type of herbicide is efficient against some dicots (ammi majus, mercurialis, goosefoot, ambrosia) but the action against grass is limited.

It is important to use an adapted hybrid to your strategy to avoid the total destruction of the field.

MID EARLY | LINOLEIC

MAS 920CP

MISTER YIELD



YIELDY
to increase harvests.

VERY YIELDY
to fill silos.

VERY VERY YIELDY
to earn more money.

PRODUCT ID

Maturity: Mid Early
Oil Type: Linoleic

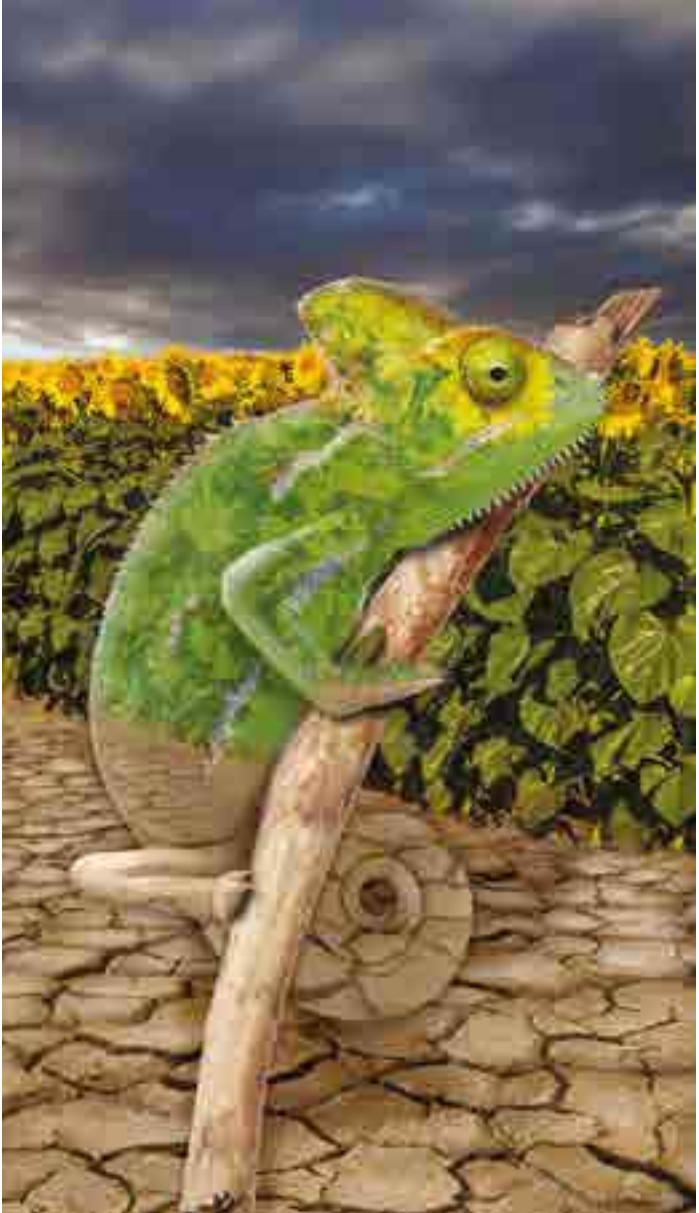
CHARACTERISTICS

Flowering: Mid Early
Plant height: High
Head shape: Flat
Head position: Straight
TKW: 55 - 65 g
Oil content: 43 - 45%

AGRONOMY

Early vigour: 8
Lodging: 9
Drought tolerance: 8
Broomrape: E
Mildew: RM9
Phomopsis: 8
Sclerotinia (head): 9
Sclerotinia (stem): 9
Verticillium: 8

1-3 sensitive | 4-6 medium – good | 7-9 excellent



GROWING RECOMMENDATIONS

	Optimal conditions	Limited conditions
Adaptation	++++	++++
Density (Grain Pl/ha)	65 000	60 000

MAS 920CP is the most successful hybrid with Clearfield® Plus technology. Its productivity will mark farmers who will sow it.
MAS 920CP is the MISTER YIELD of CLP sunflower market for next years

NEW

MID LATE | LINOLEIC

MAS 900SU

NO CHALLENGE CAN AFRAID IT



- N°1 FOR YIELD**
to target all potentials – even over 5 t/ha.
- ADAPTABILITY**
to perform in every farms.
- HELIOSMART**
to secure the yield.

PRODUCT ID

Maturity:	Mid Late
Oil Type:	Linoleic
Herbicide trait:	Express

CHARACTERISTICS

Flowering:	Mid Late
Plant height:	High
Head shape:	Slightly convex
Head position:	Mid erected
TKW:	Very High
Oil content:	44-45%

AGRONOMY

Early vigour:	7
Lodging:	9
Drought tolerance:	8
Broomrape:	E
Mildew:	RM9+
Phomopsis:	8
Sclerotinia (collar):	8
Sclerotinia (head):	9
Sclerotinia (stem):	8
Verticillium:	8

1-3 sensitive | 4-6 medium – good | 7-9 excellent



GROWING RECOMMENDATIONS

	Optimal conditions	Limited conditions
Adaptation	++++	++++
Density (Grain Pl/ha)	65-68 000	50-60 000

MAS 900SU is a new generation of hybrids able to perform in all situations. Its disease profile protects yield potential from sowing to harvest. Its results are impressive for 2 years in our R&D network. It's very often in TOP 3 of trials. No doubts, with **MAS 900SU** you will achieve highest yield objectives

EARLY | LINOLEIC

MAS 804G

A STAR IS BORN



- YIELD POTENTIAL**
in all conditions.
- EARLINESS**
at flowering and at maturity.
- BROOMRAPE TOLERANCE**
an ORO G profile.

PRODUCT ID

Maturity:	Early
Oil Type:	Linoleic

CHARACTERISTICS

Flowering:	Early
Plant height:	Medium - Short
Head shape:	Slightly Convex
Head position:	Slightly Inclined
TKW:	45 - 55 g
Oil content:	44 - 45%

AGRONOMY

Early vigour:	8
Lodging:	9
Drought tolerance:	9
Broomrape:	G
Mildew:	RM9
Phomopsis:	7
Sclerotinia (head):	7
Sclerotinia (stem):	9
Verticillium:	8

1-3 sensitive | 4-6 medium – good | 7-9 excellent



GROWING RECOMMENDATIONS

	Optimal conditions	Limited conditions
Adaptation	++++	++++
Density (Grain Pl/ha)	65 000	50 000

MAS 804G has been developed to deliver high and secure top yields for early sunflower areas under broomrape pressure. It has been tested for two years at all of MAS Seeds® R&D trial locations and the results are very impressive whatever the cultivation or weather conditions.

In addition, its ORO G presents an excellent disease and agronomic profile for maximum safety. **MAS 804G** is the best seller of early linoleic with broomrape tolerance market.

AGRO-SERVICES

- Measure
- Diagnose
- Advise

Through our ambition «**Act together for a changing agriculture**», MAS Seeds® aligned with the European Commission directives to reduce in 2023 greenhouse gases by at least 55%. The ambition for sustainability is not only translated by an evolution of the products we offer but also in regards to our agro-services offer.

Our agro-services offer aims to support farmers in the process of adapting their crop practices and make them more sustainable. Furthermore through agro-services, **we strengthen our relationship with our customers on the field to help them make the best decisions all along the campaign, optimising their crop practices and improving their profitability.**

New technologies in agriculture allows our models and services to be more precise, more accessible and easier to use for farmers. Our agro-services use this new technology to adapt to the different types of customers needs, whether they are farmers or distributors, if they grow maize or sunflower, or other crops from sowing to harvest.

The **AGROPLUS® report** consists of a complete analysis of your field with cultural advices in order to optimise your crop operations and reach the yield potential of MAS Seeds® varieties. The reports are created by your MAS Seeds® technician and sent to you by email 3 times during vegetation.

NUTRIPLUS® Silo is a service designed to enhance silo management practices by analysing your silo, identifying losses, and providing recommendations to optimise your next silo.

GET THE BEST OUT OF OUR VARIETIES WITH OUR AGRONOMIC EXPERTISE

The **AGROPLUS®** report consists of a complete analysis of your field with cultural advices in order to optimise your crop operations and reach the yield potential of MAS Seeds® varieties. The reports are created by your MAS Seeds® technician and sent to you by email 3 times during vegetation.



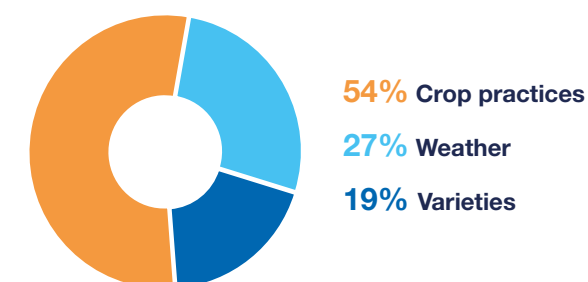
FOR FARMER
REPORT

REACH THE POTENTIAL OF OUR VARIETIES

Crop yield can be explained at **54%** by crop operations: sowing time or density, soil preparation, fertilisation, harvest, etc.

To optimise crop practices, it is necessary to understand and analyse the specific conditions of the field (soil, weather, constraints...) and make the most adapted crop practice choice.

Factors influencing yield*



* Source: University of Illinois Crop Physiology science

PERSONALISED AGRONOMIC REPORTS

Three agronomic reports are sent by email in a PDF file at three key periods of the crop cycle:

1. post-emergence;
2. post-flowering;
3. post-harvest.

These 3 reports combine field observations following your MAS Seeds® technician visit and agro-weather analyses taking into account the field conditions:



OBSERVATIONS

Notes and pictures of the field taken during your MAS Seeds® technician visits.



CROP OPERATIONS

A summary of the field crop operations: sowing date, density, treatment, etc.



AGRO-WEATHER INDICATORS

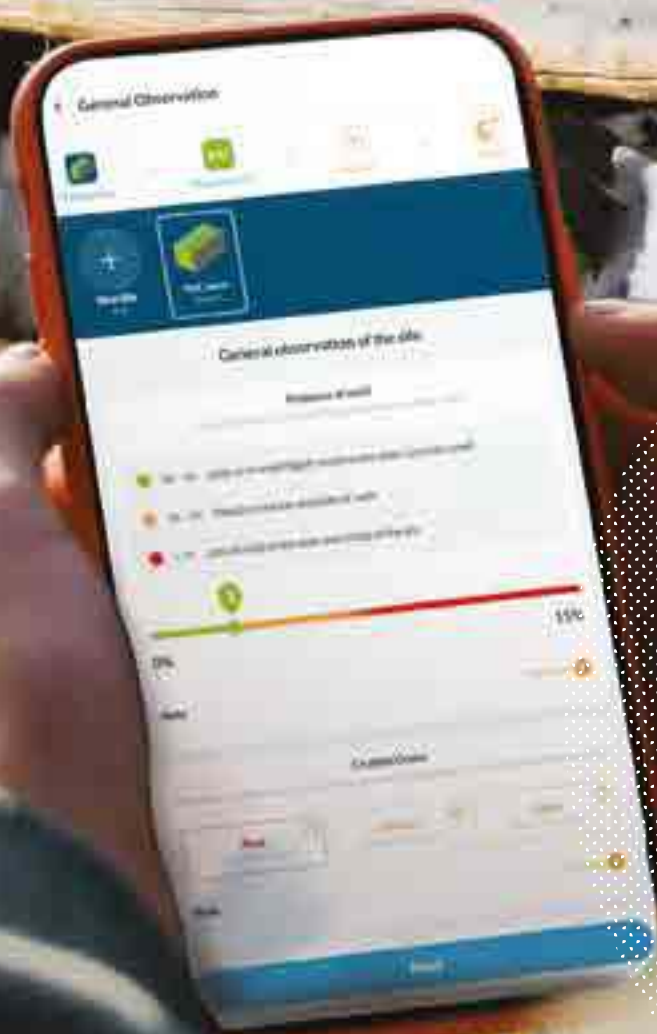
Specific indicators of the analysed period are integrated into our reports to understand the observations made. For example: sowing conditions, weather indicators for a specific physiological period, etc.



PERSONALISED ADVICES

Your MAS Seeds® technician adds personalised advices to your report based on the elements analysed before.

INCREASE THE NUTRITIONAL EFFICIENCY OF SILAGE MAIZE



NUTRIPLUS[®] Silo is a service designed to enhance silo management practices by analysing your silo, identifying losses, and providing recommendations to optimise your next silo.



FOR FARMER

FOR DISTRIBUTOR

REPORT & MAIL

OPTIMISE MY SILO QUALITY

Harvest date in silage is one of the key parameters to get a quality and quantity silage.

2 out of 3 farmers do not harvest at the right stage in silage and bad silage quality management can lead to **50 to 250€/ha losses** or **4000 €/silo***.

*1 ton of dry matter costs about 100 € to produce (average in France).



BENEFIT FROM A SILO DIAGNOSTIC

After opening your silo, our **MAS Seeds[®] expert** makes a complete diagnostic thanks to a **high precision sensor (XNIR)** collecting data:



The **XNIR** is a sensor to measure maize **DM%** with the following characteristics:

- Precision with infra-red technology.
- MAS Seeds[®] knows how to specifically calibrate your silo.

A PERSONALISED REPORT TO IMPROVE SILO MANAGEMENT

After a complete diagnostic, our **MAS Seeds[®] experts** make gives you a complete report including personalised advices for better silo management:



REPORT

- Conservation quality
- Feed value
- Silo losses



ADVICES FOR NEXT CAMPAIGN

- Variety advice
- Harvest
- Silo management

The personalised report provides valuable advices to enhance forage quality and adjust your diet accordingly.

ACT TOGETHER FOR A CHANGING AGRICULTURE

Discover our
**MAS4 Mixture
Guide**



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Email: j.asmar@maisadour.com

masseeds®
ACT TOGETHER FOR A CHANGING AGRICULTURE