

# **GMOs IN SPAIN**

## **A PRACTICAL CASE: THE MAIZE**

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## Most important crops in Spain

Crop	Area (has) *	Production (Ton) **	Pest and diseases
Barley	3.024.726	7.295.934	<i>Zabrus tenebriodes</i> , <i>Puccinia spp.</i>
Olive	2.280.456	6.972.094	<i>Bactrocera oleae</i> , <i>Spilocaea oleagina</i>
Wheat	1.772.752	4.804.772	<i>Puccinia spp</i> , <i>Blumeria graminis f. sp. Tritici</i>
Grapevine	1.049.358	5.535.333	<i>Plasmopara vitícola</i> , <i>Uncinula necator</i>
Maize	348.949	3.515.617	<i>Ostrinia nubilalis</i> , <i>Sesamina nonagroides</i> , <i>Fusarium spp</i>

\*, \*\* Source: MARM. Yearbook of statistics 2010

## Spain's Government policy regarding GMOs

- ↪ Allowed the cultivation of GMO maize varieties.
- ↪ New GMO varieties not authorized.

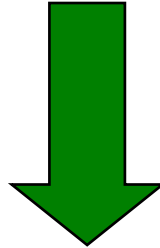
## Asaja's policy regarding GMOs

- ↪ Demand the same tools as our competitors in the market .
- ↪ Support the use of biotechnology as means of production for the present and as a method of advance for the future.

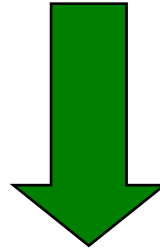
# “Take home” messages

- ↪ European farmers need the same tools as our competitors.
- ↪ European farmers need to reduce our costs of production.
- ↪ European farmers need scientific criteria, real and objective to be transmitted to the public.

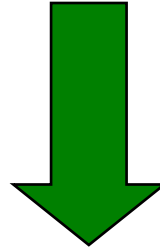
WATER SAVING



MODERNIZING THE INFRASTRUCTURE



INVESTMENT



AMORTIZATION EXPENSES

# Maize's area in Aragon and Spain

	2007	2008	2009	2010
<b>Maize's area in Aragon (has)</b>	67.961	59.857	66.107	56.886
<b>GMO maize's area in Aragon (has)</b>	35.860	31.857	29.540	24.371
<b>Maize's area in Spain (has)</b>	360.998	371.732	348.949	320.400
<b>GMO maize's in Spain (has)</b>	75.148	79.269	76.057	67.726

*Source: MARM*

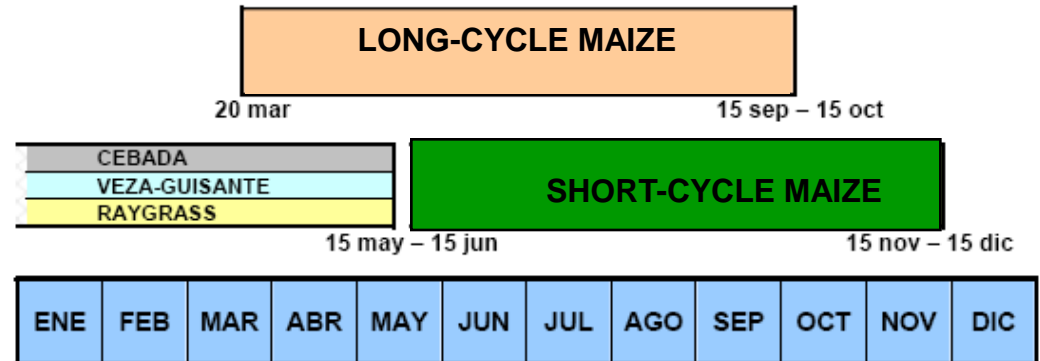


# Long-cycle Maize

- ↻ 100% success guarantee is needed
- ↻ No error margin

## Needs

- ↻ Fast sprouting.
- ↻ Vigorous development at first stages.
- ↻ Resistance to pests and diseases.
- ↻ Resistance to herbicides.

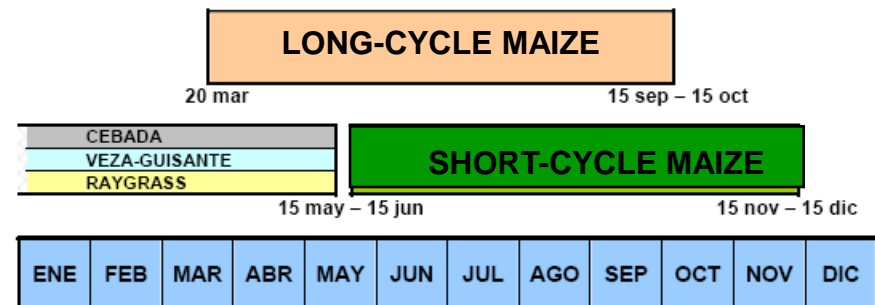


# Short-cycle Maize

- ↗ Cultivation guarantee is needed
- ↗ Crop development very tight in time

## Needs

- ↗ Sprouting adapted to high temperatures and agricultural waste of previous crops.
- ↗ Cycle adapted to areas of short-cycle crop.
- ↗ Healthy and fast vegetative growth.
- ↗ Resistance to late *Ostrinia nubilalis* & *Sesamina nonagroides* attacks.







GMO Maize field

Conventional Maize field



# Conclusions

- ↗ More production per hectare → more profit.
- ↗ Reduction of herbicide treatments: 1 application of a total herbicide vs 2-3 applications of selective herbicides (pre-emergence & post-emergence).
- ↗ Absence of insecticides treatments vs 2-3 insecticides treatments for conventional maize.
- ↗ Savings in fuel costs when harvesting.
- ↗ Healthier Maize without *Heliothis* attacks.
- ↗ Better farm planning and more stable profit.
- ↗ Peace of mind.

