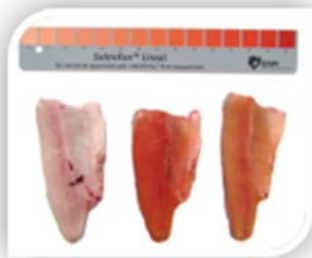




## Varieties of maize, genetically engineered (GE), enriched in antioxidants, particularly high levels of carotenoids



### BUSSINESS OPORTUNITY

Available to licence

### IP STATUS

1. Spanish Patent granted
2. Carolight - Registered Variety

### TAGS

Maize, Feeding, Antioxidants,  
Carotenoids, Ketocarotenoids,  
Nutritional value

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## NEW FEEDING STRATEGIES BASED ON HIGH-CAROTENOID AND KETOCAROTENOID MAIZE

### THE TECHNOLOGY

Varieties of maize designed and produced genetically engineered (GE), enriched in nutritionally important antioxidants. Particularly, extraordinary levels of carotenoids ( $\beta$ -carotene, lycopene, zeaxanthin and lutein) are present in Carolight™ corn and in second hybrid corn NSL76xBKT also rich in astaxanthin.

### THE MARKET NEED

Poultry and fish producers have to include costly pigment supplements in feed preparations in order to meet consumer's preferences for meat/fish and eggs. These pigments can be obtained from different sources, but this increases the cost of production. Natural sources for carotenoids and ketocarotenoids are needed to address consumer preferences, and also to lower production costs. Different solutions can be provided for the poultry and aquaculture sectors with our methods based on engineered maize.

### ADVANTAGES

- › Cheaper and environmentally friendly strategy to deliver carotenoids and/or ketocarotenoids
- › Applications as feed for poultry (hens) and feed supplement for rainbow trout, both validated in proof-of concept experiments
- › Exclusivity to commercialize as coccidiosis treatments adjuvant and yolk pigment
- › Source of natural astaxanthin in aquaculture

### APPLICATIONS

Feed for poultry, salmon, rainbow trout, crustaceans, lobster, shrimp, and other animals with special carotenoid needs.

Additional pigment sources as food colouring agent or additive (i.e. confectionary).

### LEVEL OF DEVELOPMENT

Concept validation.

### LITERATURE CITED

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- JA Moreno et al., (under review).
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