



Reg. No. M60 Act. No. 36 of 1947

# ComCat<sup>®</sup> MAX WP

ComCat<sup>®</sup> MAX WP forms part of our Bio Innovation™ range



## Description

ComCat<sup>®</sup> MAX contains a high content of natural Brassinolide as active compound, that acts as a bio-stimulant optimizing the growth and yield of agricultural crops. Brassinolide (BL) is the most bio-active form of the growth-promoting plant steroids termed brassinosteroids (BR's) that represent the sixth class of plant hormones.

## Key Benefits

- Is a wettable powder formulation that can be applied via irrigation systems to crops.
- Compatible with most agricultural remedies (pesticides and fertilizers).
- Is an environmentally safe natural product that can be used in organic agriculture.

## Key functions

- **BR's** can protect plants from various environmental stresses such as moderate heat, cold, drought, salinity, heavy metal and herbicidal injury (Sasse, 1999).
- Moreover, **BR's** act as regulating agents involved in vitamin E production that indirectly protects cell membranes against free radical damage, especially during drought stress.
- **BR's** are also involved in crop growth and development, especially root development, via cell elongation and division.
- It is further known from literature that **BR's** plays a role in flower bud development as well as the optimization of crop yields.

## Active Ingredient

Element	Content (mg/kg)
2,4-Epibrassinolide	10.5

## Application Rates

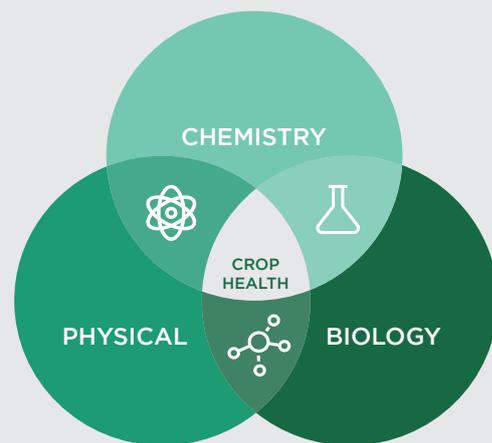
Crop	Time of application	Dosage (g/ha)
Maize	9-15 leaves unfolded	50
Wheat	Growth stage 8 or 16 (Joubert)	100

## Why are organic acids, vitamins, hormones and bio-stimulants important in crop production?

In modern day agriculture, along with pesticides and fertilizers, several compounds classified as plant growth stimulants become exceedingly important for sustainable crop production.

Agricultural products in this category include diverse compounds that are applied to crops or soils towards improving growth, yield and quality of crops as well as tolerance towards environmental stresses.

Although these compounds influence plant growth and development throughout the entire crop life cycle, a summary of their main functions is supplied below.



### Organic Acids

Alginate acid	Present in seaweed extracts; assist in maintaining turgor pressure in plant cells.
Amino acids	Building blocks of proteins that are essential for all metabolic processes.
Humic substances	Increase nutrient uptake by plants and improve overall soil structure and health.
Salicylic acid	Induces flowering and defence responses to environmental stresses.

### Hormones & Bio-stimulants

Auxins (IAA)	Promote cell elongation in the stems, root tips and apical buds of plants.
Cytokinins (CYT)	Promote plant growth and development including as embryogenesis, maintenance of root and shoot meristems and vascular development.
Gibberellins (GA)	Stimulate stem elongation, seed germination and flowering.
Abscisic acid (ABA)	Induces stomatal closure when soil water is insufficient, maintaining transpiration.
Ethylene (ET)	Promotes seed germination, formation of root hairs, crop senescence and fruit ripening.
Jasmonic acid (JA)	Promotes fruit ripening and tuber formation as well as defence responses to environmental stresses.
Brassinosteroids (BR)	Optimize crop growth and yield as well as defence responses to environmental stresses.
Polyamines (PA)	Stimulate root initiation, flower development and tuber formation.

### Other

Triacantanol	Optimizes photosynthesis and therefore plant growth.
Vitamins	Antioxidants protecting crops against oxidative stresses.
Chitosan	Supports crop growth and production and increases plant pigment concentrations.