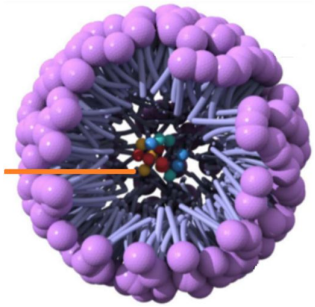
Micelle - Electrokinetic charged lipid shell that facilitates the movement and distribution of encapsulated compounds throughout the plants vascular system.



Foliar entry:
- Cuticle
- Stomata
- Hydathodes
- Lenticels
- Wounds

Trunk & Stem entry:
- Bark
- Phloem
- Cambium
- Xylem

Root Entry:
- Root tips
- Lateral roots
- Root hairs
- Rhizodermis
- Ruptures

Approved for use in USDA NOP under registration No. 29678

CAAE Organic Input Accredited

CAAE

Lipid Technology

Ag-celerate™

Ag-celerate™ *Stand-alone*

Growth Stimulant

Production Stimulant

Increase Tolerances

Companion Products

Biologicals

RURAL BOSS™ Bio Organic Sustainable Solutions

Bio-Stimulants

Pesticide

Conditioner

Fertiliser

Selective Herbicides

Broad-spec Herbicides

Insecticides

Algaecides

H_2O_2

Fungicides

Larvicides

Nematicides

Compost

Enzymes, Hormones & Acids

Macro Minerals

Micro Minerals

Harmless to environment ✓ Companion product rates ↓ Surfactant use X Simple to apply ✓

↑Systemic action ↑Phloem function ↑Vascular uptake ↑Extend efficacy ↑Cellular penetration ↑Xylem function

Ag-celerate - Reference Notes:

Ag-celerate™ is a food grade organic colloidal concentrate originating from the study of colloids within the humus portion of soils. The electrokinetic charged lipid shells – ***Micelle*** - are a type of nanoparticle. They deliver both natural chemical compounds and synthetic compounds to plants. The shell is positively charged. This physicochemical characteristic allows it to interact with the negatively charged cell walls of plants. This interaction helps the micelle enter the cells and deliver its payload. *The science originates from the development of mRNA vaccine technology.*

- Rate: 1:3,000

Ag-celerate™ as a stand-alone fertiliser product:

1. **Growth Stimulant** As an improvement to plant nutrition efficiency that enhances the speed of growth and rate of maturity, regardless of the nutrient availability.
2. **Production Stimulant** To improve the harvestable product quality and quantity over a plants natural production cycle.
3. **Increase Tolerances** Enhance a plant's ability to endure and adapt to stressors in its environment: drought, salinity, extreme temperature and pathogens
4. **Systemic action** increase is important for a plant to grow and thrive. It allows the plant to transport nutrients and water throughout its body and to respond to environmental stimuli.
5. **Phloem function** increase the optimized nutrient distribution, promoting plant growth, stress tolerance and reproductive success.
6. **Vascular uptake,** neutralising blockages and increasing the plant's ability to absorb essential nutrients and water from the soil, promoting growth, development and overall health.
7. **Extend efficacy** allows plants to effectively sustain essential processes like photosynthesis, nutrient uptake, and reproduction, ensuring their survival and enhancing their overall fitness.
    a. Important for naturally available elements and for companion products
8. **Cellular penetration**, the movement of substances into and out of plant cells is crucial for nutrient uptake, waste removal, and communication between cells, ensuring plant growth, development, and resilience.
9. **Xylem function,** a plant's vascular tissue is the vital role of transporting water and nutrients from roots to leaves, aiding in photosynthesis and providing structural support.

Ag-celerate™ combined with Hydrogen Peroxide – H_2O_2

10. Provides a zero-residue control of fungal, viral, and anaerobic bacterial conditions.
11. Is a natural Reactive Oxygen Species (ROS) cell signaling molecule for normal biological processes when humans, animals and plants that come under stress.
12. Is an allowed substance for use in the U.S. National Organic Program and without need for APVMA permits.
    - Rate: 3% H_2O_2 – Elimination 1.5% H_2O_2 - Control

Ag-celerate™ plus Companion Products: 10% to 60% reduction in companion application rate.

Ag-celerate™ combined with Pesticides:

Scientific logic: *Pesticide resistance accelerates at high application rates. Resistance does not reduce to a point of optimal control when companioned with **Ag-celerate™.** In fact the dosage reduction reduces the risk of resistance buildup.*

13. **Selective herbicides** are targeted to kill specific plant types, leaving others unharmed.
14. **Broad-spectrum herbicides** are non-selective, killing a wide range of plants; grasses, broadleaf and woody. Used for unwanted vegetation in agriculture, forestry and landscaping
15. **Algaecides** biocidal chemicals to eliminate or suppress algal growth in aquatic and agricultural environments.
16. **Larvicide** is an insecticide targeted against the larval life stage of an insect. For mosquitoes, flies, gnats and others.
17. **Nematicides** kill parasitic nematodes (tiny worms living in the soil and feed on plant roots).
    a. Can be applied to the soil before planting or after planting.
    b. In chemical form: Highly toxic: harmful to humans, animals, and environment. Resistance increasing.
    c. In natural form: A safer alternative; made from plants or other natural materials; less harmful to the environment; may not be as effective.
18. **Fungicides** kill or prevent the growth of fungi and their spores. Used to protect crops from fungal diseases. Can be:
19. Chemical – Synthetic and are non-selective
20. Organic – Hydrogen peroxide H_2O_2. Applied with **Ag-celerate™.**
21. Biological – **Rural Boss™**
22. **Insecticides** kill insects. Common: pyrethroids, organophosphates, carbamates.

Ag-celerate™ combined with Conditioners:

23. **Compost** is the source and distribution system, via field application leaching, of a range of microbiome, mineral and neurotransmitters encapsulated in the micelle. Both the plant, through root uptake and the soil microbiome, benefit from the prolonged nutritional release over time.
24. **Enzyme, Hormone & Acid** applications can be applied with increased penetration effect at lower application rates, increasing yields and lowering costs.

Ag-celerate™ combined with Fertiliser:

25. **Macro Minerals** application rates can be trialed at reduced rates, to achieve similar results to standard rates, reducing costs and residual environmental load**.**
26. **Micro Mineral** application rates must be reduced as the increased micelle efficiency and efficacy can cause a toxic outcome. *E.g. Combination copper application at standard rate caused toxic effect.*

Ag-celerate™ combined with Bio-stimulants of ill-defined or obscure composition products should be trialed at reduced rates to discover the combination outcomes.

Ag-celerate™ replaces wetting agents & surfactants through its molecular mode-of-action.