



## Optimising Pollination

Pollination is a critical phase of the production cycle for crops, as a grower's whole crop can depend on what happens in a few short hours within a process that has no defined period or timing and is at the mercy of so many differing factors. Bees are the most important delivery vehicle for pollen, and their activity ensures that the flower receives sufficient pollen for fertilisation to occur. Well pollinated crops ripen earlier, produce larger and more even fruit, and improve grower profit.

Investment in pollination is seen as essential optimising the potential of many fruit crops. To reach this potential, growers need to know how to optimise pollination of their particular crops and even the varieties being grown.

Nutrition plays a huge part in supporting the process and most growers now see the value in supporting the pollination with nutrient applications either via irrigation or foliar sprays, but can we do more.



### We recommend

- 1. Pollen desiccation:** Within Pollination, pollen desiccation limits viability and life expectancy. Most pollen grains are metabolically dormant and highly desiccated, ranging from only 15% to 35% water content when released from the anthers; therefore the essential first step in successful pollination is successful pollen hydration. Polli-Build contains pollen hydrating molecules. These molecules help the pollen to absorb water from their surroundings thus preventing the pollen grain and stigma drying out.
- 2. Pollen germination:** The unique composition of the nutrients and compounds present in Polli-Build act as activators for enzymes involved in the penetration of stigma by the pollen tube (pollen germination). These enzymes are localised to the inner coating of the pollen and pollen tubes and their activation is required for successful growth. Polli-Build's nutritional package supports this whole process.





### We recommend - continued

- 3. Increased pollen tube growth:** Activators present in Polli-Build, up-regulate the genes that are involved in pollen tube growth (particularly Indole 3-acetic acid genes) and down regulate the ethylene synthesis genes which have adverse effects on pollination and fertilisation.
- 4. Pollinator attraction:** Pollinators are essential to pollination, especially bees. Pollen is a plant protein and flowers that secrete large amounts of nectar or pollen are highly attractive to bees. Polli-Build is formulated with specific organic acids which contain polyamines to support pollen germination, viability and pollen tube growth. Recent studies into bee communication, found that these polyamines during a flowers reproductive cycle play an important role in foraging, as bees use them as chemical cues and as pheromone synthesizing agents.

*For further information contact your EAE advisor - downloads are available on the following link.*

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