

StimPro^{JA}

Defense Responses Aid to Pathogens & Pests

ANALYSIS: 0.025% JA (JASMONIC ACID)

WHAT IS IT?

- CFIA-registered supplement: Reg. # 2018xxxA, Fertilizers Act
- The product contains Jasmonic acid (JA), a naturally-produced growth regulator involved in many plant processes including growth and development and defense responses against pests and pathogens.
- JA is the signal molecule of the Induced Systemic Resistance that allows plants to trigger their natural immunity against intruders.
- Jasmonate are also used by plants as a long range signal to warn neighbouring plants to prepare for upcoming infection/infestation.
- JA is very effective at triggering defense-response against necrotrophs (i.e., Fusarium, Rhizoctonia, Tan Spot, Blackleg, Alternaria, ...).
- Applications of JA at very low doses prior to the spread of disease or in combination with mono-site fungicides (i.e., Strobilurins) can lead to a significant reduction in disease pressure.
- Timing of application is also crucial for insuring a beneficial effect.

Application Guidelines

- Follow the recommended rates and timing listed on the label for each crop and do not exceed the recommendation.
- JA can be used as a foliar spray, a soil drench and through fertigation systems.
- Compatible and can be mixed with most fungicides, insecticides and other liquid fertilizers.
- Do not mix concentrates together.
- Add water to spray tank to ¾ full followed by JA, pesticides and fertilizers.
- When mixing with liquid fertilizer, do not exceed the recommended rate of 20 ml/ac/application.

*StimPro-JATM is a trademark of EZ-Gro Inc.

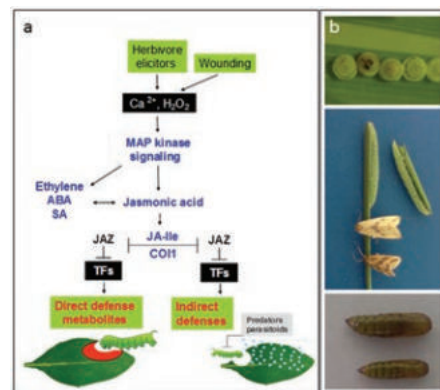
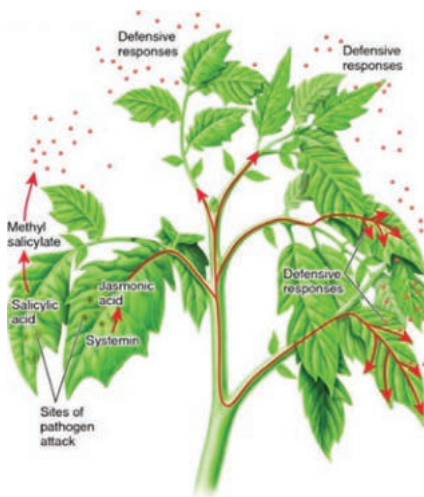


Figure 1. JA signaling to reduce the spread of disease and pests throughout the plant.

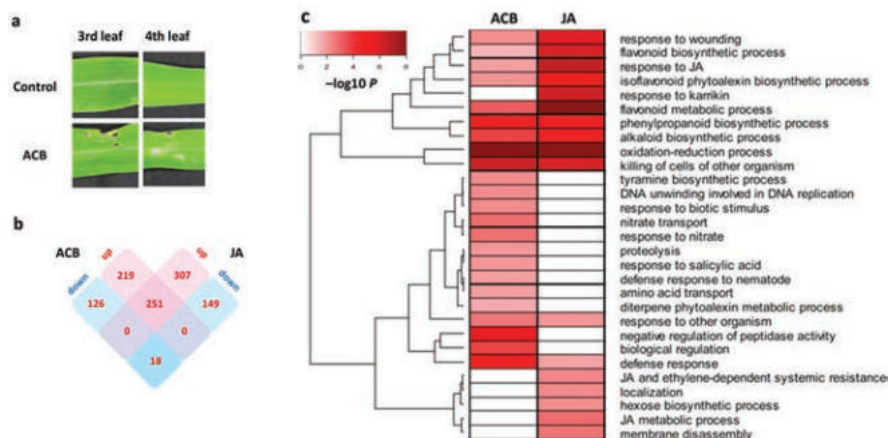


Figure 2. Dynamic reprogramming of maize transcriptome in response to ACB (Asian corn borer *Ostrinia furnacalis*) infestation and JA treatment (Wang et al. 2017).

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StimPro^{JA}™



Plant Growth Regulator

WHEN & WHY USE IT?

- The product is recommended on all crops including field, horticultural and vegetable crops as well as fruit trees, turf and ornamentals.
- Apply JA to increase crop survival during abiotic stress.
- Use JA to keep crops healthy.
- JA helps prolong crop tolerance/resistance to biotic stress caused by pathogens and pests.
- Use JA to prevent infection by biotrophs or to reinforce the effect of mono-site fungicides (i.e., Strobilurins) in controlling them.
- The use of JA alongside mono-site fungicides is a tool to reduce resistance build-up on the farm.
- Use JA to complement the efficacy of insecticides (chewing or sucking insects) and reduce the build-up of resistance.

WHAT TO EXPECT?

- Healthier crops and long lasting effect of disease control when used together with fungicides.
- An improved growth and development especially under cool and cold stress conditions.
- Healthier crops often yield higher.
- Better seed and fruit quality.

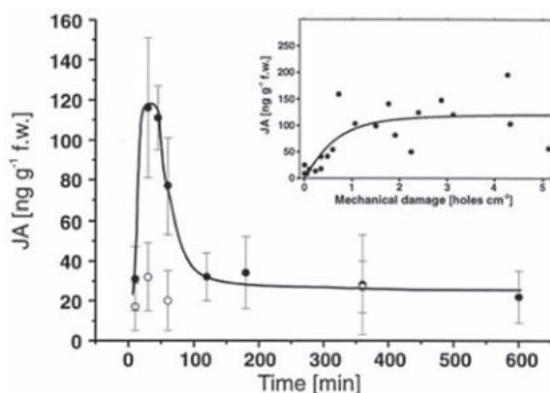
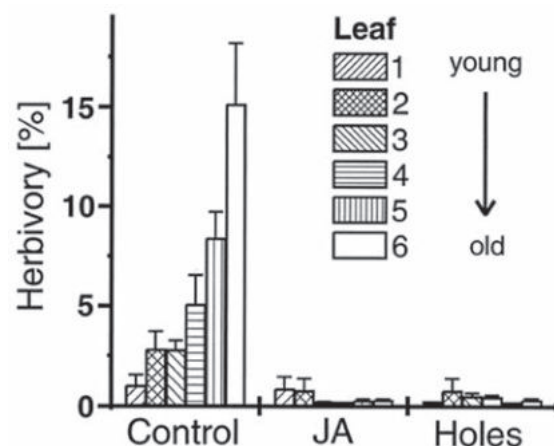


Figure 3. Production of JA and herbivory activity in plants subjected to infestation by chewing insects. The control was subjected to chewing directly while the JA and holes treatment were treated with JA or punctured prior to the chewing. The physical damage induces JA production and reduces the chewing (source: Heil et al., 2001).



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