RT 2 – Biostimulants and bioactivators: possible tools in GTD management strategies?

Gianfranco Romanazzi

Aim: to evaluate the possibility to manage GTD by increasing the host resistance

Is this approach feasible? Can it get any chance to be successful?

- What is a resistance inducer?
  - Main resistance inducers on the market and normative issues
  - Effects on the host and on the pathogen(s)
  - Costs and benefits for the plant of induced resistance
  - Costs of induced resistance for the growers

DISCUSSION

- ***In EU, we have a long list of putative resistance inducers, but few of them are registered for use as Plant Protection Products (PPP)***
- ***Resistance inducers usually have a double action, on the host and on the pathogen***
- ***Important to have applications in a physiological condition that decreases the effects of the fungus in the plant***

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- Induced resistance in the control of other grapevine diseases
  - Downy mildew
  - Gray mold (pre and postharvest)
  - Bois noir
  - ….

DISCUSSION

- ***Grapevine is reactive to the application of resistance inducers***
- ***It is easier to target foliar pathogens, e.g. downy or powdery mildew and gray mold, while Bois noir lives into the plant and has similarities with GTD (as esca, infected plants can hide symptoms)***
- ***It is very important to phisiological state of the vines at the moment of the application, it should be at its highest reactivity stage***

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- Induced resistance and GTD
  - Can the elicitors reach the pathogen? Can the effect(s) be significant?
  - Past experiences with Phosetyl-Al on GTD symptomatic plants
  - Use of chitosan in the control of GTD and related pathogens

DISCUSSION

- ***Action on the toxins, on the pathogen or on the symptom expression?***
- ***Where to induce resistance: in wood or on leaves?***
- ***It is important to differentiate the actions expected by the various products on the different situations (GTD pathogens)***
- ***In Italian conditions the real problem is the foliar symptoms***
- ***Induction of resistance induce a stress in the plant, and esca symptomatic plants are already stressed by themselves***
- ***Phosetyl Al was not clear in its mechanisms of action, but if the plant is not stressed, it reduced the foliar symptoms***
- ***Phosphytes are used in California to control sudden oak death and Citrus canker. But in those situations the canker is very superficial and then easy to reach by the compound***
- ***It is important to set up specific trials to assess the effectiveness of the resistance inducers for the control of different GTDs and pathogens, with methodologies established in RT1***