

## Comparison of various soil disinfection methods on *Ralstonia solanacearum* population reduction in soil

Yasuhiro Inoue<sup>1\*</sup>, Kazuhiro Nakaho<sup>2\*</sup>

### Summary

Various soil disinfectants were compared on their ability to decrease the density of the bacterial wilt pathogen, *Ralstonia solanacearum*. For chemical fumigants such as chloropicrin and dazomet, *R. solanacearum* was sterilized up to 40 cm below ground, but no effect was observed at 60 cm below ground. Soil reduction using rice bran was also not able to sufficiently reduce the population of *R. solanacearum* in deep soil. On the other hand, soil reduction using molasses or

ethanol led to high suppression of the *R. solanacearum* population up to 60 cm underground. Chlopic flow, a method of irrigation using chloropicrin, achieved a bactericidal effect against *R. solanacearum* up to 60 cm depth, even at low temperatures. However, disinfecting effect was negatively correlated with depth. The choice of disinfection method should be based on the degree of contamination in the soil, cultivation time, and economic costs.