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Abstracts

55.7 Effect of the lettuce genotype on the protective efficacy of plant defence stimulators against *Bremia*

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Abstract:

Different stimulators of plant defences (SPD) were tested on large number of lettuce accessions (*Lactuca sativa*) to evaluate in laboratory the protective efficacy against downy mildew due to *Bremia lactucae*. Three products, BION 50WG, CalFlux and a formulation with yeast extract (ABE IT 56), were used on 402 lettuce accessions. Five days after SPD treatment, the young plants at the 3-4 leaves stage were sprayed with *Bremia* spore suspension, strains Bl: 25 or Bl: 26. The three tested SPD could induce resistance in lettuce against *Bremia* but a majority of the tested accessions were not protected by any tested SDP. Among the 3 SDP, BION was the most effective: close to half accessions of the 302 susceptible to Bl: 25 and a quarter of the 110 accessions tested with Bl: 26 were well protected against the tested strain by BION and some of these were also protected by CalFlux (13% and 14% respectively) and few by ABE IT 56 (10% and 4% respectively). The reactive accessions were identified as well among the old cultivars as among the modern cultivars. Protected cultivars belong to each group, butterhead, crisphead, leaf lettuce or cos lettuce. For 15 accessions susceptible to Bl: 25 and to Bl: 26, the protection by the 3 SDP was tested against the both isolates. The induced resistance seems to be strain-specific as some accessions were protected against one strain and not protected against another strain; nevertheless some promising accessions were protected against both strains in our test conditions. This genetic variability could be interesting to use in breeding program to increase the level of the protection by SPD in culture. In the future, it could be a genetic character to cumulate with resistance gene to try to increase the level and the durability of the resistance.