This sweetpotato whitefly (Bemisia tabaci (Gennadius) (Hemiptera: Aleyrodidae)) is an important pest of horticultural crops worldwide. This insect causes damage directly through phloem feeding or indirectly, by transmission of plant viruses such as Tomato Yellow Leaf Curl Diseases (TYLCDs). The tomato gene Mi-1.2 is responsible for resistance against the B and Q biotypes of B. tabaci, in addition to three species of root-knot nematodes (Meloidogyne spp.) and the potato aphid (Macrosiphum euphorbiae). It is known that tomato plants carrying Mi-1.2 are resistant to root-knot nematodes early in development; seedlings inoculated at 24 hours after germination are resistant to nematode infection. In contrast, the Mi-1.2-mediated resistance against potato aphid is developmentally regulated, with fully expanded leaves becoming resistant only when plants are 4 to 5 weeks of age (1). We have observed Mi-1.2-regulated resistance to B. tabaci in 8-week old tomato plants (2) but not in other experiments with younger plants (3). However, a definitive study lacked to investigate whether Mi-1.2-mediated resistance against B. tabaci is developmentally regulated. Different assays under free-choice and no-choice conditions, have been carried out in the present study, with tomato plants cv. Motelle (with Mi-1.2) and Moneymaker (lacking Mi-1.2) to determine if plant age could have any effect on whiteness resistance.

**Free-choice assay**
- Growing-chamber conditions: 24ºC, L16:D8, 60% R.H.
- Three plant ages: 5-, 8- and 8-week old plants.
- Equal distribution of each type of plant.
- Infestation by releasing undetermined number of adults of B. tabaci (Q biotype).
- After 6 days, adults on every plant were counted daily.
- Pupa and new adults (empty pupal cases) were counted at day 22.
- Data comparison by Mann-Whitney test.

**No-choice assay**
- Growing-chamber conditions: 24ºC, L16:D8, 60% R.H.
- Three plant ages: 5-, 8- and 8-week old plants.
- 5 adult females (B. tabaci, Q-biotypes) confined in a clip-cage attached to one leaflet per plant.
- After 6 days, females and clip-cages removed and eggs laid on every plant counted.
- At day 27th, L3, L4 and new adult (empty pupal cases) were counted daily.
- Data transformed before comparison by ANOVA and Turkey HSD test for unequal N.

**CONCLUSIONS**
- **Mi-1.2-mediated resistance against Bemisia tabaci in tomato is developmentally regulated.**
- Differences due to the presence of this gene increased as plant age increased.
- The most dramatic differences were observed in 8-week old plants.
- New assays are currently in course in our laboratory, to determine if Mi-1.2-mediated resistance is due to plant age or plant size.

**REFERENCES:**

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