

NEW SOURCES OF RESISTANCE TO LETTUCE APHIDS IN *LACTUCA* SPP.

Miguel Cid¹; Arantxa Ávila²; Alfonso García²; Jesus Abad²; Alberto Ferreres¹.

¹Dpto. de Protección Vegetal. Instituto de Ciencias Agrarias. Consejo Superior de Investigaciones Científicas. c/ Serrano 115 dpdo. 28006; a.ferreres@csic.es

²Zeta Seeds S.L. Paraje el Jabonero s/n. 04100 Nijar Almería.

The use of resistant cultivars is one of the best ways to protect lettuce from aphid pests. At the moment, there are cultivars available with nearly total resistance to *Nasonovia ribisnigri* biotype Nr:0 (based on the *Nr* gene) and partial resistance to *Macrosiphum euphorbiae*. Nevertheless, a new biotype of *N. ribisnigri* (Nr:1) able to overcome the resistance based on the *Nr* gene is expanding around Europe and has become a major threat of lettuce. In the present work we report the presence of this new biotype in south-eastern Spain, a major lettuce-producing region. Furthermore, a pool of 264 germplasm accessions from public germplasm banks belonging to *Lactuca* genus was tested on a field assay to search for new resistance sources to the biotype Nr:0 of *N. ribisnigri*. The most promising accessions were retested in the laboratory to characterize the resistance by means of free-choice and antibiosis assays against biotypes Nr:0 and Nr:1 of *N. ribisnigri* and against a clone of *M. euphorbiae*. Three accessions of *L. virosa* showed resistance against the target aphid species and could be of interest to ongoing breeding programs. The accessions CS056, CS068 and CS020 were nearly total resistant to Nr:0 and partially resistant to *M. euphorbiae*, but only CS056 and CS020 were partially resistant to the biotype Nr:1. The accession CS048, in spite of not being resistant to *N. ribisnigri* biotypes, showed a near total resistance to *M. euphorbiae*. Later, 42 additional accessions of *L. virosa* from the CGN germplasm bank were tested in laboratory for their resistance to *N. ribisnigri*. Eight accessions showed a nearly total resistance to Nr:0 and among them one (CS298) showed a very good resistance profile to Nr:1 in free-choice antixenosis and antibiosis assays.

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