The population level of *Eotetranychus lewisi* and the concentration of carbohydrates in peach trees

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Abstract Lewis spider mite *Eotetranychus lewisi* (McGregor) is the most important pest in peach orchards, *Prunus persica* (L.) (Batsch), in North-Central Mexico. In autumn 2003 and spring 2004, two glasshouse experiments were carried out to assess the inXuence of that mite on the concentration of total soluble sugars and starch in leaves, bark and roots of 'diamante mejorado' peach trees. Apical leaves of peach trees were inoculated with three mite densities per leaf: (A) 10–20, (B) 21–40, (C) 41–80; a mite-free control was added. In 2003, at 81 days after infestation (DAI), cumulative mite-days per leaf (CMD) were 153, 1313, 2844 and 4771 in control and treatments (A), (B) and (C), respectively. In the same order, these CMD caused reductions in total soluble sugars (TSS): in leaves, 45, 50 and 61%; in bark, 9, 20 and 33%; in roots, 8, 20 and 26%. Reductions of starch concentration in leaves were 17, 43 and 56%; in bark, 25, 55 and 32%; in roots, 17, 22 and 32%. In 2004, at 77 DAI and 57, 1043, 2426 and 3996 CMD for control and treatments (A), (B) and (C), respectively, resulting reductions of TSS were: in leaves, 3, 7 and 15%; in bark, 0.8, 3 and 5%; in roots, 57, 60 and 78%, whereas reductions in starch concentration were: in leaves, 30, 34 and 44%; in bark, 18, 24 and 41%; in roots, 17, 47 and 48%. The higher reductions in roots found in 2004 are attributed to cumulative injury aVecting food reserves.

Keywords Cumulative mite-days · Fructose · Glucose · Sucrose · Sorbitol · Starch