A- 18

A BACTERIAL ISOLATE ASSOCIATED WITH AVOCADO CANKER IN SOUTHERN SPAIN

J. Rosales[1], R. Doña[1], E. Arrebola[1] , C. Abad[1], S. Mariño[2], A. Pérez-García[1], J. M. Farré[3], F. M. Cazorla[1] and A. de Vicente[1].

[1] Departamento de Microbiología. Facultad de Ciencias. Universidad de Málaga. Campus Universitario de Teatinos, s/n. 29071 Málaga. España. E-mail: fitomicro@uma.es
[2] S.A.T. 2803 "TROPS", 29700-Vélez-Málaga, Málaga. España.
[3] Estación Experimental "La Mayora" (CSIC), 29750-Algarrobo Costa, Málaga. España.

Cankers on adult avocado trees have been studied in Mainland Spain for several years. Affected areas in trunks and branches are slightly sunken, dark and necrotic with watery pockets under the bark. In more developed cankers the bark splits and fluid oozes out and dries; this leaves a powdery white residue around the periphery and sometimes over the lesions. Similar canker symptoms have been observed on avocado trees in South Africa associated with *Pseudomonas syringae* (1) and in California with *Xanthomonas campestris* (2). In Spain (2000-2003), samples were taken from the margins of necrotic areas of bark, wood, ooze and white residue. White-creamy bacterial colonies were isolated from nearly all of them. They are regular, circular, and become mucoid after 48 hours on KB medium. These bacterial isolates are Gram-negative, short rod shaped, fail to produce fluorescent pigments in KB agar, present fermentative metabolism, are negative for oxidase reaction and ADH activity and do not induce hypersensitivity reaction on tobacco leaves. No *Pseudomonas* spp. or *Xanthomonas* spp. were isolated from any of the samples. A Gram-negative and fermentative bacterium was repeatedly isolated from avocado cankers in Spain, but it was clearly different from *P. syringae* and *X. campestris*, the bacterial species associated with avocado cankers in South Africa and California.

After a wider sampling is done, a more complete characterization and identification of the isolates will be carried out by physiological and biochemical tests and ribosomal DNA 16S sequence analyses. Pathogenicity tests over healthy avocado plants will be performed to prove the Koch's postulates and to confirm that this bacteria could be a causal agent of bark canker in Southern Spain.

(1) L. Korsten and J. M. Kotzé. Plant Disease 71:850, 1987.
(2) D. A. Cooksey et al . Plant Disease 77: 95-99, 1993.