

**Materials & Methods**

Cultural and physiological characteristics. A seed-soil seed method was used to extract bacteria from the seed lots produced in Oregon, followed by isolation of the isolates on MSA medium (3). Six strains were selected for cultural and physiological tests (Table 1), and compared with correct seed strains of X. campestris pv. carthorum from the Pacific Northwest.

Pathogenicity tests. Pathogenicity tests on correct and seedling seedlings were carried out at the University of Idaho-Moscow using correct seedling seed lots (US-A and US-G) of two accessions (cultivar, cultivar), (bouquet), (fouquet), (breed), (strain (x), (strain (y), (strain (z)). An airbrush (Bar) was used to atomize each bacterial suspension (0.0125 µl/ml) onto the seeds of six plants. Control plants were inoculated with phosphate buffer solution. The inoculated seeds were enclosed in a closed plastic bag for 72 hr, unopened, and placed on a greenhouse bench. Four to five weeks later, three samples of leaf tissue from each treatment were surface-sterilized, rinsed, and cut into pieces in phosphate buffer solution. The buffer solution was then streaked on separate plates on each bacterial suspension. The seeds were then streaked on the same plates on each bacterial suspension. The plates were incubated for 3 days at 28°C.

Molecular characteristics. Two DNA-based tests were performed to investigate genetic relationships between X. campestris pv. carthorum and X. campestris pv. carthorum (Table 1). One isolate from each treatment was assessed using a 35S probe.

**Results & Discussion**

Cultural and physiological characteristics. Round, yellow, glistening, mucoid, convex colonies characteristic of X. campestris pv. carthorum were isolated from the US seed lot (let at 4.6 x 10² CFU/ml) seed. All six isolates displayed the same characteristics as US-A (Table 1), and were identical to Xc for starch hydrolysis and quinate metabolism (Table 2).

Pathogenicity tests. Strain US-A caused small, irregular, water-soaked lesions excepting from the margins of lesions 2-4 days after inoculation and the bacterial growth was extended and formed necrotic (Fig. 14). After 3 weeks, about 90% of the plants were dead. Xc ATCC 17996 produced similar lesions (Fig. 18), but symptoms progressed more rapidly than with US-A (9-15% of the plants were dead after 3 weeks). Xc ATCC 17996 exhibited symptoms similar to Xc ATCC 17996, but symptoms progressed more rapidly than with US-A (9-15% of the plants were dead after 3 weeks).

Molecular characteristics. The 35S probe-directed amplification of the target sequence by DNA fragment by DNA fragment from all 35S sequences of Xc ATCC 17996 and Xc ATCC 17996. (Fig. 3).

**LITERATURE CITED**


