

Efficiency of Various Selective Media for Detection of Xanthomonas campestris pv. campestris in Taiwan¹⁾

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SUMMARY

Six available selective isolation media, i.e., SX agar, nutrient-starch-cycloheximide agar (NSCA), nutrient starch-cycloheximide antibiotic agar (NSCAA), basal nutrient cycloheximide antibiotic agar (BSCAA), starch-methionine medium (SM) and soluble starch medium (DSX), were compared for their detection of Xanthomonas campestris pv. campestris (abbreviated to Xcc) in Taiwan. Although plating efficiencies of Xcc on these media were 75 % or higher, the recovery of Xcc from crucifer seed washings and soil extracts was very inefficient due to the appearance of high number of other bacteria including antagonistic bacteria on these media. Media DSX and NSCA were least effective among those tested. Recovery efficiencies of Xcc on the other four media varied with soil types and seed sources, ranged from 2.2 to 17.7 % from soil samples and 0 to 57.4 % from seed samples. Bacillus spp. and fluorescent pseudomonads inhibitory to the growth of Xcc were frequently isolated from seeds or soils. Bacillus spp. did not grow on medium of BSCAA, SM or SX, but most strains of fluorescent pseudomonads strongly inhibited the growth of Xcc on SX agar and greatly reduced the recovery of Xcc when the antagonistic bacteria present. Fluorescent pseudomonads, however, were only slightly antagonistic to Xcc on

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SM and BSCAA media especially on SM medium, and also slightly reduced the recovery of xcc. The antagonism of fluorescent pigments, was not related to the formation of fluorescent pigments, but was possibly caused by other antagonistic mechanisms. SM medium performed best among the six selective media tested, since the colony of Xcc could be easily distinguished from other bacteria and the recovery of Xcc was less affected by the antagonists on the medium.