

EPPO Alert List: Added in 1999 – Deleted in 2002

Reasons for deletion

Pseudomonas syringae causing a disease on broccoli raab and broccoli has been included in EPPO Alert List for more than 3 years and during this period no particular international action was requested by the EPPO member countries. In 2002, it was therefore considered that sufficient alert has been given and the pest was deleted from the Alert List

Pseudomonas syringae on broccoli raab and broccoli (new bacterial diseases in California, US)

Why	The bacterial disease of broccoli raab came to our attention as it has recently been found in commercial crops in USA. A similar disease has also been observed on broccoli.
Where	Both diseases on broccoli and broccoli raab were observed in commercial crops in the Salinas Valley, California (US).
On which plants	Broccoli raab (<i>Brassica rapa</i> subsp. <i>rapa</i>), a leafy vegetable which is cultivated for its tender leaves and immature inflorescence. Broccoli (<i>Brassica rapa</i> subsp. <i>botrytis</i>). Other Crucifereaceae showed leaf spots symptoms when artificially inoculated with the pathogen isolated from broccoli raab (e.g. broccoli, cabbages, cauliflower, mustards, rocket). Leaf spot symptoms were also observed on broccoli raab when inoculated with the pathogen isolated from broccoli.
Damage	Diseased broccoli and broccoli raab plants show small, angular, water soaked flecks on lower leaves which expand and become surrounded by bright yellow borders. These flecks coalesce and result in large, irregular necrotic areas, leaf yellowing and eventually leaf death. If symptoms develop on the upper leaves attached to the inflorescence, shoots lose their market quality and are not harvested.
Possible identity	<i>Pseudomonas syringae</i> was consistently isolated from symptomatic plants (both broccoli and broccoli raab) and the isolated strains caused similar symptoms when inoculated onto healthy plants. Possibly a new pathovar of <i>Pseudomonas syringae</i> . It is felt that the pathogens isolated from broccoli and broccoli raab may be related.
Transmission	Field observations tend to suggest that it could be seed-borne but this has not been demonstrated.
Pathway	Plants for planting (vegetables? seeds?) of broccoli raab and broccoli from USA.
Possible risks	Broccoli raab is grown in Europe (e.g. in Italy), as well as broccoli. More data is needed on the etiology of these diseases, the susceptibility of other Crucifereaceae (which are important vegetable crops in Europe), and the possibility of seed-transmission (which could ensure long distance dissemination).
Source(s)	Koike, S.T.; Henderson, D.M.; Azad, H.R.; Cooksey, D.A.; Little, E.L. (1998) Bacterial blight of broccoli raab: a new disease caused by a pathovar of <i>Pseudomonas syringae</i> . <i>Plant Disease</i> , 82(7), 727-731. Koike, S.T.; Cintas, N.A. (2000) Bacterial blight, a new disease of broccoli caused by <i>Pseudomonas syringae</i> in California. <i>Plant Disease</i> , 84(3), p 370.

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