Vegetables / Legumes

Crop / Culture: Potatoes

Location / Emplacement: Manitoba

Title / Titre: DISEASE SURVEY OF POTATO FIELDS IN SOUTHERN MANITOBA AND DISEASES DETECTED IN SAMPLES SUBMITTED TO MANITOBA AGRICULTURE PLANT PATHOLOGY LABORATORY IN 1989.

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Methods: Eighty fields of potatoes (Russet Burbank variety), were randomly selected within the Manitoba potato growing area. Thirty-two in the Carberry are, 20 in Winkler area and 20 in Portage la Prairie, McGregor and 8 in other areas outside the main potato producing regions. Stem samples were taken in late August and early September and examined at the Manitoba Agriculture Plant Pathology Laboratory for evidence of Verticillium wilt (Verticillium spp.), Black dot (Colletotrichum coccodes, Fusarium spp. and Rhizoctonia solani). Isolations (where required) to verify presence of disease organisms were done using Potato dextrose agar and Sorbose agar.

Results: Of the 80 fields surveyed 23 (28.7%) showed symptoms of early senescence. Werticillium wilt (Verticillium dahliae) was found in 17 fields (21.2%) black dot (Colletotrichum coccodes in 16 fields (20%) Fusarium (Fusarium spp.) in 5 fields (6.2%) and black scurf (Rhizoctonia solani) in 3 fields (3.7%). In 11 fields (13.7%) Verticillium occurred in association with other diseases, with black dot in all of the 11 fields (13.7%) with Fusarium in 2 fields (2.5%) and with Rhizoctonia in 2 fields (2.5%). In 6 fields (7.5%) only Verticillium wilt was detected.

The incidence of Verticillium wilt (Verticillium dahliae) in the survey area was 50% in the Winkler fields, 35% in Portage/MacGregor, and 0% in both Carberry and the other fields outside the 3 main potato growing areas.

In 80 samples of potatoes, 8 showed a root rot-wilt (Fusarium spp., Verticillium spp.) 5 black scurf (Rhizoctonia solani), 5 scab (Streptomyces scabies) 4 dry rot (Fusarium spp.) 6 early blight (Alternaria solani), 1 leak (Pythium ultimum), 10 environmental stress. Drought conditions in south central Manitoba reduce potato yields as much as 50%. Damage was particularly severe in the Winkler area.

Crop / Culture: Vegetables

Location / Emplacement: Manitoba

Title / Titre: DISEASES DIAGNOSED IN SAMPLES OF BROCCOLI, CARROTS, CAULIFLOWER, CUCUMBER, ONIONS, SNAP BEANS AND TOMATOES SUBMITTED TO THE MANITOBA AGRICULTURE PLANT PATHOLOGY LABORATORY IN *1989*.

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Methods: Samples of broccoli, carrots, cauliflower, cucumber, corn, onions, snap beans and tomatoes submitted by the vegetable specialist and vegetable growers were examined for presence of disease.

Results:

Broccoli — In *8* samples of broccoli *4* were affected by black rot (Xanthomonas campestris) and *4* were affected by brown bud (environmental stress of high temperatures at blossom bud initiation stage).

Cabbage — In *4* samples of cabbage *1* showed black rot (Xanthomonas campestris), 1 root rot (Rhizoctonia solani and Fusarium spp.) and 2 showed environmental stress.

Celery — In 2 samples of celery, 1 showed aster yellows (aster yellows mycoplasma like organism) and *1* late blight (Septoria apii).

Carrots — In 3 commercial carrot fields aster yellows, (aster yellows mycoplasma like organism) was found to be between *1* and *3%*. Leaf blight (Alternaria daucii) was present at low levels in the 3 fields.

Corn — In *6* samples of corn 1 showed common smut (Ustilago maydis), 1 head smut (Sphacelotheca reiliana), 1 crazy top (Sclerophthora macrospora), 1 kernel discolouration (Alternaria spp. and Cladosporium spp.) and *2* showed symptoms of environmental stress.

Cucumber — In 23 samples of cucumber, 10 showed scab (Cladosporium cucumerinum), 1 angular leaf spot (Pseudomonas syringae pv. lachrymans), 1 Alternaria leaf spot (Alternaria spp.), *1* root rot (Fusarium spp.), *1* cucumber wilt (Erwinia tracheiphila), 1 powdery mildew (Erysiphe cichoracearum) and *8* environmental stress.

SNAP BEANS — In *9* samples of snap beans 3 showed root rot (Fusarium spp.) 2 white mold (Sclerotinia sclerotiorum) and *4* environmental stress.

ONIONS — In 31 samples of onions, 8 were affected by basal rot (Fusarium spp.), *4* Penicillium bulb rot (Penicillium spp.), 3 neck rot (Botrytis allii), 2 blast (Botrytis cinerea) 2 sour rot (Pseudomonas spp.) 2 purple blotch (Alternaria porii), 1 smut (Urocystis magica), downy mildew (Peronospora destructor) and 9 environmental stress.

Tomatoes: In *74* samples of tomatoes, primarily of home garden origin, 13 were affected by root rot and wilt (Fusarium spp.), 10 by early blight (Alternaria solani) 2 by Septoria leaf spot (Septoria lycopersici), 3 by botrytis (Botrytis cinerea), 26 by blossom end rot (environmental stress and calcium deficiency and *6* were affected by insects.

Lettuce — In one greenhouse producing lettuce hydroponically, basal rot (Botrytis cinerea) caused a crop loss of 20% during January.