

Incidence of Dwarf Bunt and Other Yield Limiting Wheat Diseases in Ontario

Purpose:

To survey and monitor the occurrence, distribution, and severity of diseases of wheat in Ontario.

Methods:

A survey for foliar diseases, root diseases, fusarium head blight (FHB), and other diseases was conducted in 16 fields of spring wheat and 31 fields of winter wheat from June to early August, 2003. The fields surveyed were chosen at random throughout Ontario (Tables 2 and 3).

Results:

DISEASE	NO. FIELDS AFFECTED	DISEASE SEVERITY IN AFFECTED FIELDS	
		Mean	Range
Leaf rust	2	0.60	0.13-1.00
Septoria leaf blotch	12	0.27	0.07-1.07
Spot blotch	12	0.26	0.07-1.20
Tan spot	3	0.21	0.07-0.33
Common root rot	15	0.60	0.20-2.20
Pythium root rot	6	0.34	0.20-0.60
Rhizoctonia root rot	5	0.25	0.20-0.40

DISEASE	NO. FIELDS AFFECTED	DISEASE SEVERITY IN AFFECTED FIELDS	
		Mean	Range
Leaf rust	2	1.77	0.06-3.07
Mosaic virus	6	2.16	0.33-4.27
Powdery mildew	9	0.47	0.07-2.20
Septoria leaf blotch	28	0.61	0.07-2.67
Spot blotch	15	0.64	0.07-3.13
Strip rust	1	1.28	0.04-2.20
Tan spot	2	1.42	0.40-2.87
Pythium root rot	7	0.20	0.20
Rhizoctonia root rot	4	0.20	0.20
Common root rot	31	0.81	0.20-3.20

Summary:

Common root rot was more prevalent than Rhizoctonia and Pythium root rots in both spring and winter wheat. Fusarium was the most prevalent root pathogen or organism isolated from the crown and sub-crown internodes of spring wheat (59.4%) and winter wheat (68.87%). Fusarium head blight continues to be the most important and yield limiting disease of wheat in Ontario. These results support the ubiquitous distribution of the fungi associated with FHB. Environmental conditions are critical to the development of the disease and the presence of the fungus is not limiting.

Next Steps:

This project will be repeated in 2004.

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Project Contacts:

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