Forage legumes / Legumineuses fourrageres

Crop/Culture: Alfalfa

Location/Emplacement: Northeastern Alberta

Title/Titre: SURVEY OF CROWN AND ROOT ROT OF ALFALFA IN NORTHEASTERN ALBERTA

Name and Agency / Nom et Organisation:

S.F. HWANG, R. STEVENS
Alberta Environmental Centre
Vegreville, Alberta
TOB 4L0

B. BERG
Alberta Agriculture
Vermilion, Alberta
TOB 4N0

METHODS: Twenty-five alfalfa fields in northeastern Alberta were surveyed in 1989 for incidence and severity of crown and root rot diseases. Five plants were dug up at each of ten sites equally spaced along the arms of a W pattern. All plants were shaken free of soil, placed in a paper bag, and stored in a cooler until they could be processed. Plants were rinsed with tap water and split longitudinally to visually assess the severity of crown and root rot. Severity scores were assigned based on a scale of 0 to 3 where 0 = clean, 1 = 1-20%, 2 = 21-50%, and 3 = 51-100% of the crown and root discolored.

RESULTS: Crown and root rot was found in all of the alfalfa fields surveyed. Average disease incidence and severity of crown and root rot were 61% and 1.01, respectively (Table 1).

Table 1. Incidence and severity of crown and root rot of alfalfa in northeastern Alberta in 1989.

Location	No. of fields surveyed	Incidence %		Severity	
		Mean	Range	Mean	Range
Bonnyville	5	45	14-74	0.65	0.14-1.30
Lac La Biche	4	65	38-94	1.23	0.42-2.16
Lamont	1	88	---	1.28	---
Lloydminster	4	63	26-96	1.25	0.31-2.26
Provost	3	73	52-96	1.31	0.86-2.20
St. Paul	4	37	4-66	0.71	0.04-1.34
Two Hills	9	62	34-96	0.87	0.34-1.77
Vegreville	1	58	---	0.62	---
Wainwright	4	61	15-95	1.21	0.30-2.16
Total/Average	35	61	---	1.01	---

Crop / Culture: Alfalfa

Location / Emplacement: Saskatchewan

Title / Titre: FOLIAR DISEASES OF ALFALFA IN N.E. SASKATCHEWAN, 1989.

Name and Agency / Nomet Organisation:
BERKENKAMP, B., MALIK, N. and KIRKHAM, C.
Research Station
Agriculture Canada
P.O. Box 1240
Melfort, Saskatchewan
SOE 1A0

METHODS: Seventeen dryland alfalfa fields in Crop Districts 5b, 8a and 9a in the northeastern grainbelt of Saskatchewan were surveyed for foliar diseases from 11 August to 21 August 1989. Each field was surveyed by walking diagonally through it and collecting 10 stems, one per 10-pace interval. Each shoot was rated for percentage leaf area affected and a mean calculated for each disease identified. Pathogens were identified on the basis of symptoms on the fresh material.

RESULTS AND COMMENTS: Foliar disease levels were very low this year (Table 1), considerablv lower than in 1987 and 1988. Yellow leaf blotch (Leptotrochila medicaginis) and common leaf spot (Pseudopeziza medicaginis) were found in every field examined. Black stem (Phoma medicaginis) was found in half of the fields. Pepper spot (Leptosphaerulina briosiana) occurred at trace levels in five fields, and stagonospora leaf spot (Leptosphaeria pratensis) in only one field. All the fields surveyed were suffering from moisture and heat stress.

Table 1. Prevalence and severity of alfalfa leaf spot diseases in northeastern Saskatchewan in 1989.

Disease	% of fields with symptoms	% leaf area affected
Yellow leaf blotch	100	2.7
Common leaf spot	100	1.9
Black stem	53	1.9
Stagonospora leaf spot	29	<0.1
Pepper spot	6	<0.1

Crop/Culture: Alfalfa

Location/Emplacement: Ontario and Quebec

Title/Titre: Importance des maladies foliaires de la luzerne dans quelques régions du Québec et de l'Ontario en 1989.

Name and Agency/ Nom et Organisation:
DOUVILLE, Y.
Department of Environmental Biology
University of Guelph
Guelph, Ontario N1G 2W1
CANADA

MÉTHODE: On a évalué la surface foliaire affectée par les maladies dans sept champs du Quebec et de l'Ontario. Des champs à Guelph (sud de l'Ontario), à Deseronto (centre de l'Ontario) et dans le comté de Portneuf (centre du Québec) furent visités à la fin mai et à la mi-juillet. On a examiné au moins 10 plants à chaque visite.

RÉSULTATS: La tige noire printanière (Phoma medicaginis var. medicaginis) fut la maladie la plus importante en mai dans chaque région (Tableau 1). À cette date, la tache commune (Pseudopeziza medicaginis) fut présente seulement à Guelph, la localité la plus au sud de l'échantillonage. A la mi-juillet, la tache commune était la maladie la plus importante du pathosystème en Ontario et d'une importance moyenne dans Portneuf. La tige noire printanière a été plus grave en juillet au nord-est, Portneuf, qu'au sud-ouest, Guelph. D'autres agents pathogènes, tels que le Leptosphaerulina briosianna et le Stemphylium botryosum, furent des composantes mineures du pathosystème à chaque visite dans toutes les régions. Ces résultats confirment que la composition du pathosystème des maladies foliaires de la luzerne change au cours de la saison vegetative et que les méthodes de lutte doivent s'adapter à cette évolution.

Tableau 1. Importance relative des maladies foliaires de la luzerne.

Localité	Date d'échantillonage			
	Fin mai		Mi-juillet	
	TN	TC	TN	TC
Guelph (Ont)	3	1	0	3
Deseronto (Ont)	3	0	1	3
Portneuf (Que)	3	0	2	2

TN = Tige noire printanière (Phoma medicaginis var. medicaginis)
TC = Tache commune (Pseudopeziza medicaginis)

0 = maladie absente due pathosysteme
1 = composante mineure du pathosystème
2 = composante intermédiaire du pathosystème
3 = composante majeure du pathosystème

Crop / Culture: Forage Legumes

Location / Emplacement: Saskatchewan

Title / Titre: SURVEY OF FORAGE LEGUMES TO ASSESS WINTER INJURY IN 1989.

Name and Agency / Nom et Organisation:
GOSSEN, B.D.
Research Station
Agriculture Canada
107 Science Crescent
Saskatoon, Saskatchewan
S7N 0X2

METHODS: Twenty-three alfalfa fields in central and northeastern Saskatchewan and three fields in the southeastern grainbelt were examined in the spring of 1989 for snow mold and low-temperature damage. Five fields of red clover and one of sweet clover were examined in northeastern Saskatchewan. Identification of the cause of injury was based on symptoms.

RESULTS AND COMMENTS: There was no snow mold injury on any of the forage legumes examined in this survey. Spring growth of alfalfa was very good in central regions, but was slow in the northeast. Severe early-season drought occurred in the northeast, making it very difficult to determine how much of the slow initial growth was due to low-temperature injury and how much was due to drought stress. However, red clover and sweet clover fields in this region were almost completely killed (95-99% damage) as a result of low-temperature injury, and most of the fields which were examined were subsequently plowed down.

Only three alfalfa fields in southern Saskatchewan were examined as part of this survey. However, early season growth in this area was generally slow due to low-temperature injury and drought. Snow fences trapped a deep snow cover early in the winter on an alfalfa yield loss assessment trial at Swift Current in southeastern Saskatchewan. In this trial, cottony snow mold was severe in plots inoculated with Coprinus psychromorbidus but there was no snow mold or winter injury in non-inoculated plots. Adjacent trials which lacked snow fencing were almost completely killed as a result of low-temperature damage.