Common Leaf Spot Resistance

Pseudopeziza medicaginis (Lib.) Sacc.

PLANT CULTURE

Greenhouse

Container	Flats or tool carts, 31x62x7.5cm deep
Media	Not critical
Temp/Light	18 to 24°C; daylength not critical
No. of Plants	20 to 25 per replication
No. of Reps	4 minimum
Other	Inoculate with <i>Rhizobium meliloti</i> Dang and fertilize as needed. No insecticide within 1 week of inoculation

INOCULUM CULTURE

INOCULATION PROCEDURE

Age of plant	6 to 8 weeks
Type of Inoc	Sporulating oatmeal agar plate cultures; 21 to 30
	days old
Temp/Light	19 to $23fC$; dark
Method	Cultures inverted 30 to 60 cm above plants,
	approximately one culture per 900cm2 of plant
	material, in place until 10 spores per cm2
	collected on trap slides, usually 15 to 24 hours;
	plates repositioned periodically to increase
	uniformity of deposition; plants are sprayed with
	water after plates are removed
Time of Inoc	Usually 24 to 48 hours
Conditions	Saturated RH; 19 to 21 fC; dark

INCUBATION

Duration	72 hours at 100% RH in mist chamber
Location	After initial 72 hour period, move from moist
	conditions to greenhouse, allow leaves to dry
	slowly out of direct sunlight
Measurement	Type and size of leaf spot, usually 14 days after
	inoculation

RATING

1 Resistant	No spots
2 Resistant	Barely visible pepper spots, 1 mm diam or less
3 Susceptible	Spots >1 mm, no chlorosis
4 Susceptible	Spots >2 mm, chlorosis or defoliation
5 Susceptible	Spots >3 mm, chlorosis, defoliation, with or
	without fruiting structure (apothecia) in center of
	lesion.

CHECK CULTIVARS

	Approximate Expected Resistance (%)	Acceptable Range of Reaction (%)
Resistant		
MSA-CW3An3**	60	40-70
Ramsey**	60	40-70
Susceptible		
Ranger**	30	10-35
Moapa**	0-10	0-10

DISTRIBUTION AND SEVERITY OF COMMON LEAF SPOT



Common Leafspot *Pseudopeziza medicaginis* Lib. Sacc.(*Click on the map above for a larger version. See also the* \underline{KEY})

SOURCE OF INOCULUM AND SCIENTIST WITH EXPERTISE

Name	K.T. Leath
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CORRELATION TO FIELD REACTION

Correlation to field results is good; no exceptions reported.

RACES

No races are known.

CULTURE OPTIONS AND RANGE OF CONDITIONS

Cultures should be sealed to prevent drying. Considerable care should be taken to prevent contamination of cultures, as P. medicaginis is a poor competitor.

PLANT GROWTH OPTIONS AND RANGE OF CONDITIONS

Vigorous plants are desirable. Use of lightweight potting mix best if plants are to be pulled during scoring.

INOCULATION CONDITIONS AND RANGE OF CONDITIONS

Temperatures from 15 to 25fC are acceptable. Light during infection not required.

HELPFUL INFORMATION

Plants may be cut back at scoring and regrowth used for different disease evaluation.

Isolation of fungus can be made by suspending diseased leaves over water agar plates and transferring trapped spores to oatmeal agar. Fungus usually does not kill stems or plants.

ALTERNATIVE METHODS

The greenhouse method is most dependable and can be done year round.

A field method has been used and described by Frosheiser(1).

REFERENCES

1. Frosheiser, F.I. 1984. In Standard tests to characterize pest resistance in alfalfa. USDA Misc. Pub. No. 1434. p. 22.

2. Leath, K.T., and R.R. Hill, Jr. 1984. In Standard tests to characterize pest resistance in alfalfa. USDA Misc.Pub. No. 1434. p. 21.