

COMMON LEAF SPOT RESISTANCE

Test accepted: March 1991

Pathogen: *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 *Rhizobium meliloti* Dang and fertilize as needed. No insecticide within 1 week of inoculation

INOCULUM CULTURE

Source Infected leaves

Storage 6 months at 4°C; longer on silica gel

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 23°C; 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°C; 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 diameter or less

3 Susceptible Spots >1 mm, no chlorosis

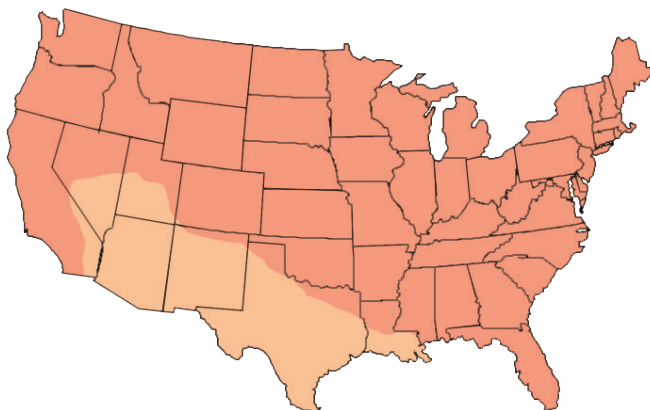
4 Susceptible Spots >2 mm, chlorosis or defoliation

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



- Not known to occur.
- Occurs but is not considered a problem.
- Occasionally causes significant losses on susceptible cultivars.
- Frequently causes significant losses on susceptible cultivars.

Common Leafspot, *Pseudopeziza medicaginis* Lib. Sacc.
(Click map to the left for a larger version.)

SOURCE OF INOCULUM AND SCIENTIST WITH EXPERTISE

K.T. Leath

USDA-ARS

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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 25°C 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.