

# COMMON LEAF SPOT RESISTANCE

Test accepted: March 1991      Test updated: June 2024  
 Pathogen: *Pseudopeziza medicaginis* (Lib.) Sacc.

## PLANT CULTURE

### Greenhouse

Container ..... Flats 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 *Sinorhizobium meliloti* and fertilize as needed. Do not apply 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 900cm<sup>2</sup> of plant material, in place until 10 spores per cm<sup>2</sup> 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 ..... 100% relative humidity

## INCUBATION

Duration ..... 72 hours at 100% relative humidity 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

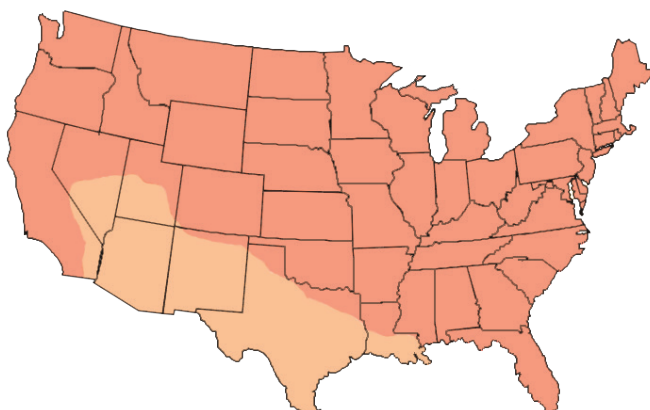
5 Susceptible ..... Spots >3 mm, chlorosis, defoliation, with or without fruiting structure (apothecia) in center of lesion.

## CHECK CULTIVARS

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

\*\*Checks used by AOSCA Alfalfa and Miscellaneous Legumes Variety Review Board for variety certification.

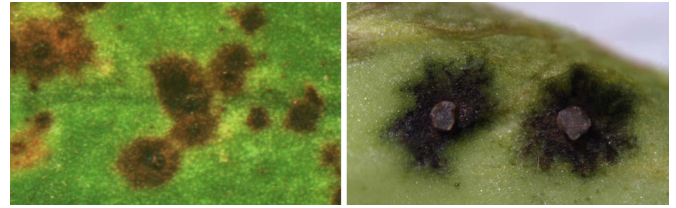
## DISTRIBUTION AND SEVERITY OF COMMON LEAF SPOT



- 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.

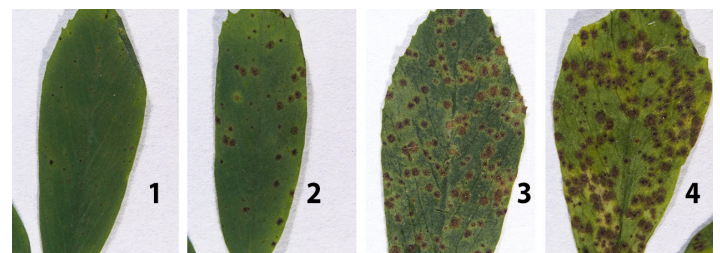
(Click map to the left for a larger version.)



(Click to see larger photo.)

Single apothecia form in the center of lesions.

Sporulating apothecia.



(Click to see larger photo.)

Range of leaf spot symptoms.

## **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.<sup>(7)</sup>

## **REFERENCES**

1. Compendium of Alfalfa Diseases and Pests, 3rd edition. 2015. APS Press, St. Paul, MN.