Grape Leaf Blight (Isariopsis Leaf Spot / Pseudocercospora vitis)

Grape leaf blight, also known as Isariopsis Leaf Spot, is a fungal disease caused by Pseudocercospora vitis
(formerly Isariopsis clavispora). It primarily affects grapevine leaves and, if unmanaged, can lead to significant loss in yield and vine vitality. The disease thrives under warm, humid, and poorly ventilated
conditions typically found in tropical and subtropical climates.

Symptoms:

- Small, irregular brown to dark-brown spots appear on the upper surface of the leaves.
- Spots may merge, forming large blighted areas leading to leaf necrosis.
- Underside of the leaf often shows a grayish or black fungal growth (spores).
- Severe infections lead to premature leaf drop, weakening the vine and reducing fruit quality.

Favorable Conditions:

- Optimal temperature: 25C to 30C.
- High humidity and rainfall.
- Poor air circulation and prolonged leaf wetness promote fungal growth.
- Dense canopy structure without adequate pruning.

Impact on the Plant:

- Reduces the photosynthetic area, leading to lower carbohydrate production.
- Weakens vines and affects fruit development, resulting in low sugar content and poor yield.
- Repeated infections can lead to long-term reduction in vine vigor and productivity.

Management and Control:

1. Cultural Practices:

- Prune vines to improve air circulation and reduce leaf wetness.
- Remove and destroy infected leaves and debris after pruning.
- Avoid overhead irrigation and excessive fertilization that promotes dense foliage.
- Adopt resistant grape varieties when available.

2. Chemical Control:

- Preventive fungicide sprays such as Copper oxychloride, Mancozeb, or Chlorothalonil.
- Apply fungicides at leaf emergence and repeat every 10 to 15 days under humid conditions.
- Rotate fungicides to prevent resistance development.

3. Biological and Alternative Treatments:

- Essential oils such as lemongrass oil can help control the disease.
- Lime sulphur has shown effectiveness in some cultivars.

4. Monitoring and Timing:

- Begin preventive treatment at the onset of humid weather conditions.
- Regularly inspect vineyards for initial spots to prevent large-scale infection.

5. Post-Harvest Care:

- Manage remaining foliage to reduce fungal inoculum for the next growing season.
- Maintain vineyard sanitation to lower recurrence risk.

References and Downloadable Resources:

1. Horticulture Journal (2017): Occurrence of Isariopsis leaf spot or blight of grapes.
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3. Syngenta: Grape Disease Identification Guide.
https://www.syngenta-us.com/crops/grapes/pdfs/GrapeDiseaseIDguide.pdf

4. Cornell Cooperative Extension: Early Season Grape Disease Management.
https://rvpadmin.cce.cornell.edu/uploads/doc_907.pdf

5. ResearchGate: Studies on essential oil control of Isariopsis leaf spot and downy mildew.
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