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Apple Scab: Symptoms and Control Measures

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Apple is a major temperate fruit crop grown for its high nutritional and economic value. However, its production is affected by several diseases, among which Apple Scab is one of the most serious. This disease is caused by the fungus Venturia inaequalis and mainly affects leaves, fruits, and young shoots. It leads to reduced fruit quality and significant economic losses. Proper management practices are essential for sustainable apple production.

Objectives of the Study

- To understand the cause of apple scab
- To identify symptoms on different plant parts
- To study factors favoring disease development
- To assess economic impact
- To suggest effective control measures

Symptoms of Apple Scab

On Leaves

- Olive-green to dark brown spots appear on leaves
- Spots become velvety due to fungal growth
- Severely infected leaves may curl and fall prematurely

On Fruits

- Dark, scabby lesions develop on fruit surface
- Fruits become deformed and cracked
- Severe infection reduces market value

On Twigs and Shoots

- Small lesions may develop
- Affects overall plant growth in severe cases

Favorable Conditions for Disease Development

- Cool and moist weather
- Temperature range of 15–22°C
- Prolonged leaf wetness
- Poor air circulation in orchards

Economic Importance

Yield Reduction: Significant decrease in fruit production
Poor Fruit Quality: Fruits become unmarketable
Increased Production Cost: More expenditure on fungicides
Post-Harvest Losses: Reduced storage life of fruits

Control Measures of Apple Scab

Cultural Practices

- Collect and destroy fallen leaves (source of infection)

• Maintain proper pruning for air circulation
• Avoid overcrowding of trees
Resistant Varieties
• Grow scab-resistant apple varieties where available
Chemical Control
• Spray fungicides such as:
Mancozeb
Captan
Carbendazim
Myclobutanil
• Begin spraying at early growth stages and continue at regular intervals
Biological Control
• Use bio-agents like Trichoderma spp.
• Helps reduce pathogen load in soil and plant debris
Integrated Disease Management (IDM)
• Combine cultural, chemical, and biological methods
• Regular monitoring of orchard conditions

Government Support and Awareness

· Promotion of Integrated Pest Management (IPM)
· Training programs for orchard management
· Subsidies on plant protection chemicals
· Support for high-density planting systems

Problems in Managing Apple Scab

· Favorable environmental conditions for disease spread
· Lack of resistant varieties in some regions
· Improper fungicide application
· Limited farmer awareness

Areas of Improvement

· Development of resistant cultivars
· Adoption of modern orchard management practices
· Increased farmer training programs
· Promotion of eco-friendly disease control

Conclusion

Apple scab is a major disease affecting apple production worldwide. Early detection and proper management through integrated approaches are essential to minimize losses. Adoption of scientific and sustainable practices can improve fruit quality, yield, and farmer profitability.

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