

# Ultra-Fast Plant Disease Detection Report

## with Explainable AI Analysis

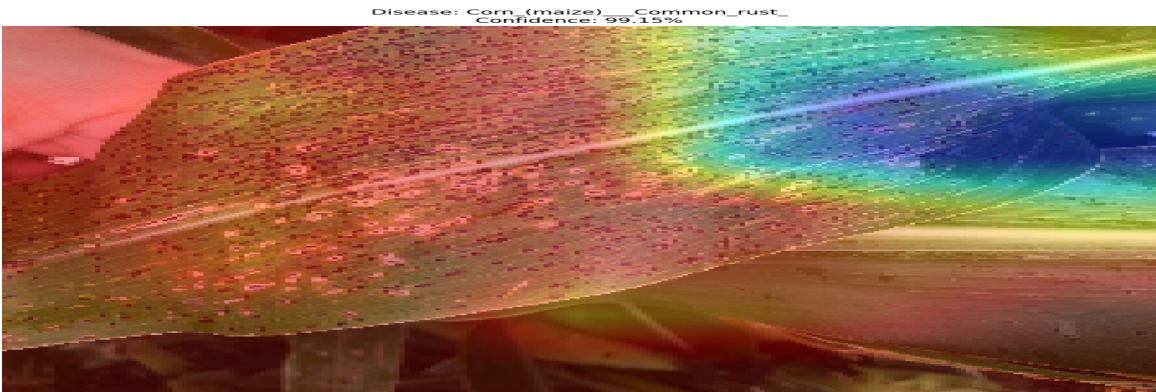
Generated on: 2025-07-12 10:57:53  
Image: 20250712\_105748\_KT-2020052805\_input.jpg

### ■ Diagnosis Results

Detected Disease:	Corn (maize) - Common rust
Confidence Score:	99.15%
Severity Level:	Moderate to High

### ■ AI Explanation - Grad-CAM Visualization

The visualization shows which parts of the leaf the AI focused on. Red/yellow areas indicate regions that most influenced the diagnosis.



### ■ Disease Description

Common rust of corn is caused by the fungus *Puccinia sorghi*. It is one of the most frequently occurring foliar diseases of corn, capable of causing significant yield losses in susceptible hybrids when conditions are favorable for disease development.

### ■ Causes

- Infection by *Puccinia sorghi* fungus
- Cool temperatures (60-77°F)
- High humidity (>95%) or extended dew periods
- Frequent rainfall or overhead irrigation
- Wind-blown spores from infected plants
- Presence of alternate host plants
- Susceptible corn hybrids

## ■ Symptoms

- Small, circular to elongated cinnamon-brown pustules on leaves
- Pustules appear on both leaf surfaces
- Dark brown to black spores as pustules mature
- Chlorotic (yellow) areas around pustules
- Severe infection can cause leaf death
- Reduced photosynthesis and plant vigor

## ■ Treatment & Remedies

- Apply appropriate fungicides at first sign of disease
- Remove and destroy infected plant debris
- Rotate crops with non-host plants
- Plant resistant corn hybrids
- Avoid overhead irrigation
- Improve air circulation between plants

## ■ Prevention & Maintenance

- Regular field scouting for early detection
- Monitor weather conditions
- Maintain proper plant spacing
- Control weeds that may serve as alternate hosts
- Ensure balanced soil fertility
- Document disease occurrence for future planning

■■ **IMPORTANT DISCLAIMER:** This report is generated by an automated AI system. The Grad-CAM visualization shows AI attention areas but doesn't guarantee accuracy. Please consult with professional plant pathologists for confirmation and detailed treatment plans.