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Disease Name: Late Blight Category: Fungal Symptoms: Leaf Symptoms: Appearance: Dark brown to black water-soaked lesions appear on leaves. Lesions are often irregular in shape. Starting Point: Lesions often start at leaf tips or edges and rapidly expand inwards. Texture: Lesions have a characteristic oily or water-soaked appearance, especially at the margins. Stem Symptoms: Lesions: Brown-black oily lesions form on stems. Stems may become soft or mushy in the affected areas. Severity: Stem lesions can girdle the stem, leading to plant collapse, especially in young or succulent growth. Leaf Underside: Growth: In humid conditions, a white fuzzy fungal growth may develop on the underside of infected leaves, particularly around the edges of lesions. Progression: Rapid Expansion: Lesions enlarge very rapidly, often becoming visible overnight in favorable (wet, cool) conditions. Plant Decline: Causes rapid leaf wilting, browning, and overall plant decline. Can destroy entire plants quickly. Location: Affects leaves (lesions, starting at edges), stems (oily lesions), and leaf undersides (fuzzy growth in humidity). Can affect all above-ground parts of the plant, including fruits/tubers in some plants like tomatoes and potatoes. Key Features for Identification: - Dark brown to black water-soaked lesions on leaves, expanding rapidly - Brown-black oily lesions on stems, potentially leading to stem collapse - White fuzzy growth on the underside of leaves in humid conditions (not always present) - Rapid disease progression, especially in cool, wet weather Remedy: Product: Daconil Fungicide (Chlorothalonil) Active Ingredient: Chlorothalonil Application Instructions: Method: Protective foliar spray. Mix as per label instructions (typically 1.5 teaspoons per gallon of water). Contact fungicide, needs thorough coverage. Timing: Apply preventatively before disease onset, especially when cool, wet weather is expected. Begin applications when conditions favor disease. Best Time of Day: Apply in the morning to allow foliage to dry before evening and minimize the chance of spores developing overnight. Frequency: Reapply every 7-10 days, or more frequently (e.g., every 5-7 days) during periods of heavy rain or high humidity. Safety Precautions: - Wear gloves, long sleeves, and eye protection. Consider a respirator when mixing and spraying. - Avoid applying before rain if possible, but reapply after heavy rainfall. - Do not apply more than the maximum applications per season as specified on the label. - Allow spray to dry completely before entering treated areas.

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Disease Name: Rust Category: Fungal Symptoms: Leaf Symptoms: Appearance: Orange to reddish-brown raised powdery pustules (small raised bumps) appear on leaf surfaces. Pustules often occur in clusters. Color Change: Pustules start bright orange and may darken to reddish-brown as they mature. Leaf Reaction: Leaves may yellow, curl, and drop prematurely, particularly in severe infections. Stem Symptoms: Pustules: In some cases, similar powdery pustules may develop on stems, though leaves are the primary target. Stem pustules are less common than leaf pustules. Progression: Spore Release: The pustules readily release spores that are easily spread by wind and water splash, leading to rapid disease spread to other plants. Cycle: Rust diseases often have complex life cycles, sometimes involving alternate host plants, but on the primary host, the pustules are the key symptom. Location: Primarily affects leaf surfaces, occasionally spreading to stems in severe cases. Can affect both upper and lower leaf surfaces. Key Features for Identification: - Raised powdery pustules, bright orange to reddish-brown color (like rust on metal) - Clusters of pustules primarily on leaf surfaces, may also be on stems - Leads to leaf yellowing, curling, and premature leaf drop - Spreads easily through windborne spores; can quickly infect nearby plants Remedy: Product: Bayer Propiconazole Fungicide (Propiconazole) Active Ingredient: Propiconazole Application Instructions: Method: Systemic foliar spray. Mix as per label directions (usually 0.5-1 fl oz per gallon of water). Systemic action helps to eradicate existing infections and protect new growth. Timing: Apply at the first sign of rust pustules. Early intervention is more effective in controlling rust. Best Time of Day: Apply in the morning to allow foliage to dry thoroughly during the day. Avoid application in the heat of the day. Frequency: Reapply every 14-21 days, or as needed based on

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Disease Name: Bacterial Wilt Category: Bacterial Symptoms: Foliage Symptoms: Wilting: Sudden wilting of green leaves without prior yellowing. Wilting is often rapid and dramatic, appearing within a day or two. Green Collapse: Leaves may remain green and appear turgid initially, but quickly collapse and droop as if lacking water, even when soil moisture is adequate. Stem Symptoms: Vascular Ooze Test: Cut stems near the base. In plants with bacterial wilt, stems will release a milky white to yellowish bacterial ooze due to the high concentration of bacteria in the vascular tissue. Vascular Discoloration: Internal vascular tissues show brown discoloration when the stem is cut open. Discoloration is often in streaks or rings within the vascular bundles. Progression: Rapid Wilting: Rapid and irreversible wilting is the hallmark. Often affects the entire plant, or significant sections, in a short period. Systemic Spread: Disease spreads quickly through the vascular system, blocking water transport from roots to leaves. Location: Affects the entire foliage (sudden wilting) and stems (bacterial ooze upon cutting, vascular discoloration). Roots and vascular system are the primary sites of infection. Key Features for Identification: - Sudden wilting of foliage without prior yellowing (green wilt) - Milky white to yellowish bacterial ooze from cut stems (diagnostic test) - Brown vascular discoloration visible inside stems when cut - Rapid plant decline due to blocked water transport systemically Remedy: Product: Agri-Mycin 17 (Streptomycin sulfate) Active Ingredient: Streptomycin sulfate (antibiotic) Application Instructions: Method: Soil drench or foliar spray. For soil

