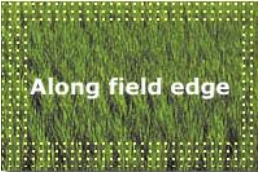






Field diagnostics

One of the first steps in field diagnostics is to look for patterns of symptoms (e.g., damaged, discolored or different height plants) across the field. In field crops (like cereals and vegetables, etc.) five common patterns can give clues as to the potential causes of the problem(s) (See Table).

Pattern	Potential cause(s)	Pattern	Potential cause(s)
 <p>Along field edge</p>	Nitrogen Birds Wind (if on one side)	 <p>Random Across Field</p>	Insects Micronutrient deficiency Pests – e.g., Birds
 <p>Strips across field</p>	Management	 <p>Scattered Clusters</p>	Nutrition (esp. Nitrogen) Insects Diseases Pests (rats, GLH) Water
 <p>General - over entire field</p>	Environmental factors – temperature, moisture stress, Wind Nutrition (e.g., Nitrogen deficiency) – if severe Genetic		

After looking for any patterns, you then look at the symptoms on affected plants to get a further sense of the potential problem(s).

Typical damage	Common Potential Problem(s)
Plant color & reduced size	Nutrient deficiency / water stress
Lesions & color changes	Diseases (nutrient toxicities)
Physical damage, spread of disease	Insects and other pests (e.g., rats)
Missing plants & Physical damage	Pests (e.g., snails, birds, rats, etc.) or flood damage at seedling stage/ poor seed
Plant size, wilting & maturity	Water or timing of N or variety mix
Plant size & tillering reduced	Weeds, dense planting, low temperatures, P or N deficiency
Leaf edge scorching (leaf tipping)	Disease, nutrient deficiency, or environment (e.g., high wind)
Leaf rolling	Insects (e.g., leaf roller) or water stress
Plant stand, height, maturity, weeds, uniformity	Management