

IRA MONAS



IRA Biotech

Pseudomonas fluorescens For Healthy Soil

IRA MONAS is an advanced bio-formulation powered by *Pseudomonas fluorescens*, designed to protect and strengthen the plant root zone. It forms a natural microbial shield, suppressing harmful pathogens while enhancing nutrient availability, especially phosphorus. By promoting root growth and activating plant defense systems, it ensures healthier, more resilient crops. The result is improved plant vigor, better nutrient uptake, and higher yield potential.

Product Features

Mode of Action

- ❖ Rapidly colonizes the root surface and surrounding soil, forming a protective microbial shield in the rhizosphere.
- ❖ Competes effectively with harmful microbes for nutrients, iron, and ecological niches through strong adaptability.
- ❖ Produces siderophores that chelate iron, making it unavailable to pathogenic organisms.
- ❖ Secretes antimicrobial metabolites such as phenazines, pyoluteorin, and hydrogen cyanide that suppress harmful microbes.
- ❖ Induces systemic resistance in plants by activating natural defense pathways.
- ❖ Enhances nutrient solubilization, especially phosphorus, making it more available for plant uptake.
- ❖ Produces plant growth-promoting substances like auxins, improving root development and elongation.
- ❖ Contributes to a balanced and beneficial microbial ecosystem in the soil.

Expected Results

- ❖ Healthier root zone with reduced microbial stress and better soil microbial balance.
- ❖ Improved nutrient uptake efficiency, especially micronutrients and phosphorus.
- ❖ Enhanced plant growth, root biomass, and overall crop vigor.
- ❖ Increased resilience of crops to stress conditions, leading to better yield and quality.

Safety Directions

- ❖ Avoid inhalation of dust or spray mist
- ❖ Wash hands after use
- ❖ Use in well-ventilated areas

Environmental Protection

- ❖ Contains naturally occurring microorganisms
- ❖ Do not contaminate waterways with product or container



Product Analysis:

PSEUDOMONAS FLUORESCENS.....	1%
CARBOXY METHYL CELLULOSE.....	1%
DEXTROSE.....	98%

Physical Characteristics:

White Powder, Water Soluble, pH: 5.5-8.5

Application:

Application Rate:

- ❖ 100 grams per hectare

Application Method:

- ❖ Soil application or via drip irrigation (fertigation)
- ❖ Dissolve 100 g in 700–1000 litres of water per hectare
- ❖ Apply uniformly to the root zone
- ❖ Foliar Spray 100g in 500 litres of water and spray for 1 hectare

Compatibility:

Compatible with most organic inputs. Avoid mixing with chemical fungicides, bactericides, or disinfectants.

Storage

- ❖ Store below 30°C in a cool, dry place
- ❖ Keep container tightly closed
- ❖ Protect from direct sunlight

