VESTIGE

VESTIGE AGRI
PRODUCT TRAINING

Agricultural Bio-Stimulants

- Agricultural bio-stimulants are biological or biologically sourced fertilizer-additives that are used in crop production to enhance plant nutrition, health, growth and productivity
- These substances are applied to plants or soils to improve crop strength, yields, quality and tolerance of abiotic stresses (like rain, floods, hail storms etc.)
- Bio-stimulants support plant growth and development throughout the crop life cycle from seed germination to plant maturity

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Why Bio-Stimulants?

- Agricultural bio-stimulants are biological or biologically sourced fertilizer-additives that are used in crop production to enhance plant nutrition, health, growth and productivity
- Crop bio-stimulation is complementary to crop nutrition and crop protection

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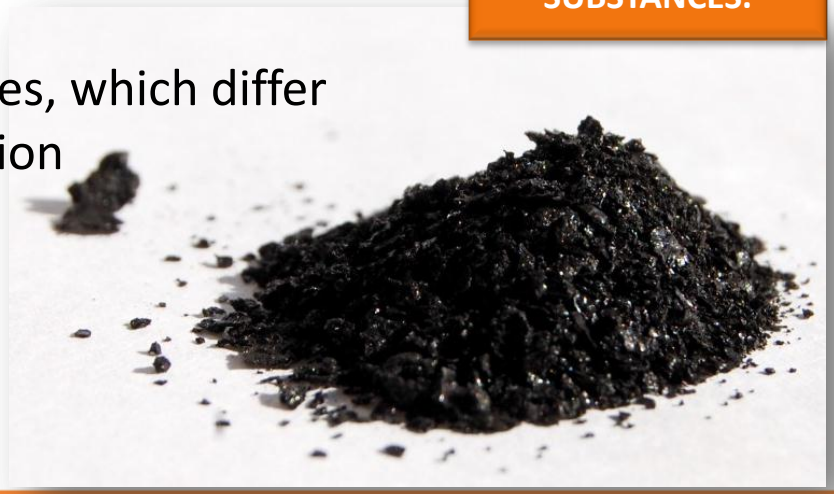
Humic Substances

- Humic substances are the end product of decaying organic matter
- Humic substances come from the accumulation and natural chemical reaction of by-products produced by the biodegradation of organic matter
- They are commonly present in soils, surface water, sewage, compost heaps, marine and lake sediments, peat bogs, carbonaceous shales, and lignites
- There are three types of humic substances, which differ slightly in acidity and chemical composition
  - Humic acid
  - Fulvic acid
  - Humin

NOT ALL BLACK OR DARK BROWN LIQUIDS/ SUSPENSIONS / POWDERS ARE HUMIC SUBSTANCES.



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Benefits of Humic substances

Improves Germination Rates

Enhances nutrient uptake

Decreases water usage

Benefits of Humic substances

Harvested Earlier
(accelerated ripening)

Increases crop production

Improves nutrient content of end product


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AGRI-HUMIC
6% Humic Substances
Give your crop the right
nutrition and protection

Agri-Humic

- Agri-Humic contains:
  I. Humic Acid
  II. Fulvic Acid
  III. Humin

Concentrated Liquid Formulation (6% Humic Substances):

For:

- Foliar application
- Drip irrigation
- Sprinkler irrigation

Humic Acid

Fulvic Acid

Humin

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How is Agri-Humic different from similar Market products

- Similar products available in the market contains humic acid
- Agri-Humic offers a combination of Humic acid, fulvic acid and humins
- For Agri-Humic, its raw material and the decomposition process is controlled at every step of manufacturing
  - So that the percentage of Humic Acid in the solution remains consistent
- Also, for every batch we test its bio-effectiveness on the crop using in-house testing methods in our lab

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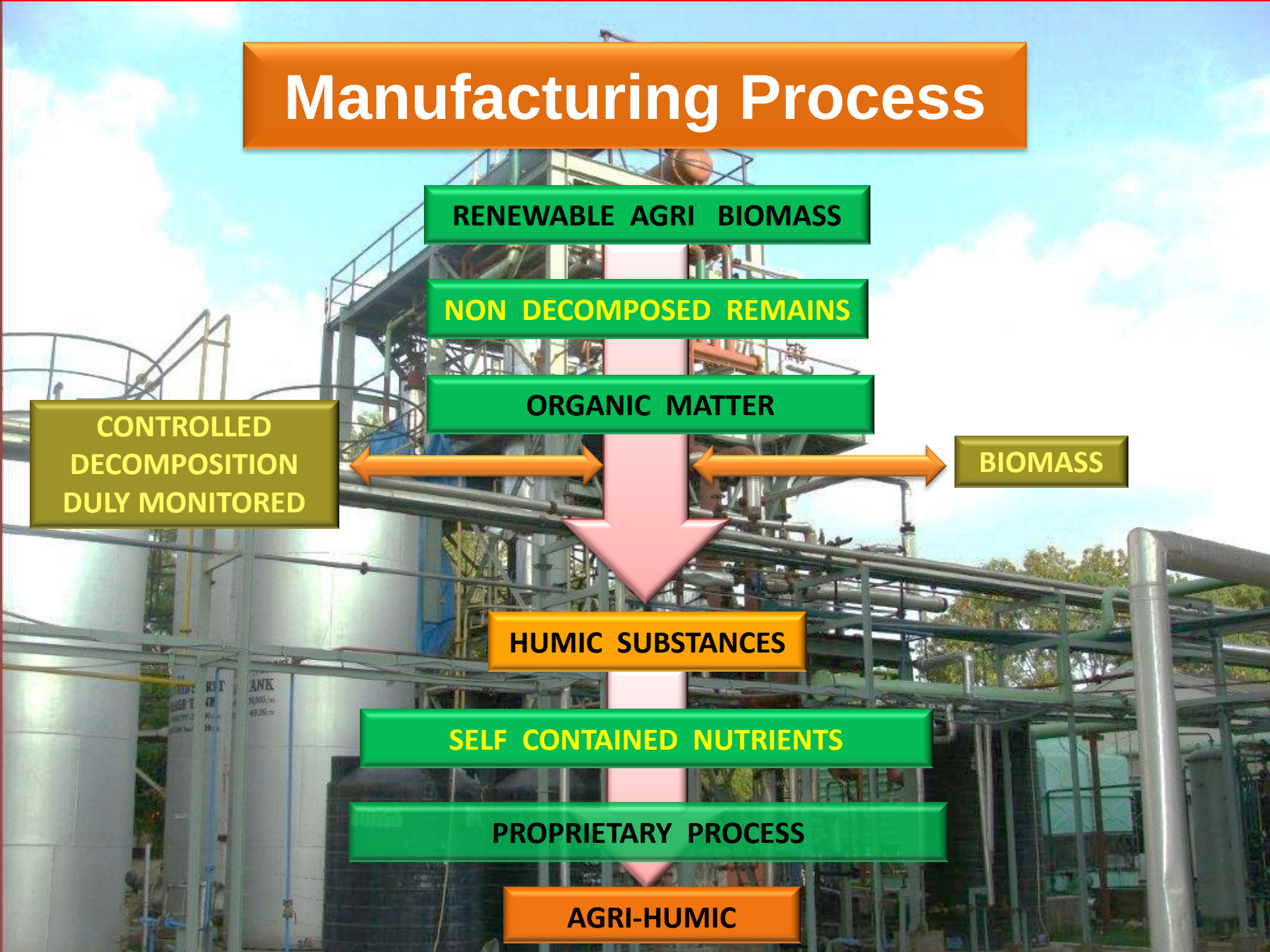
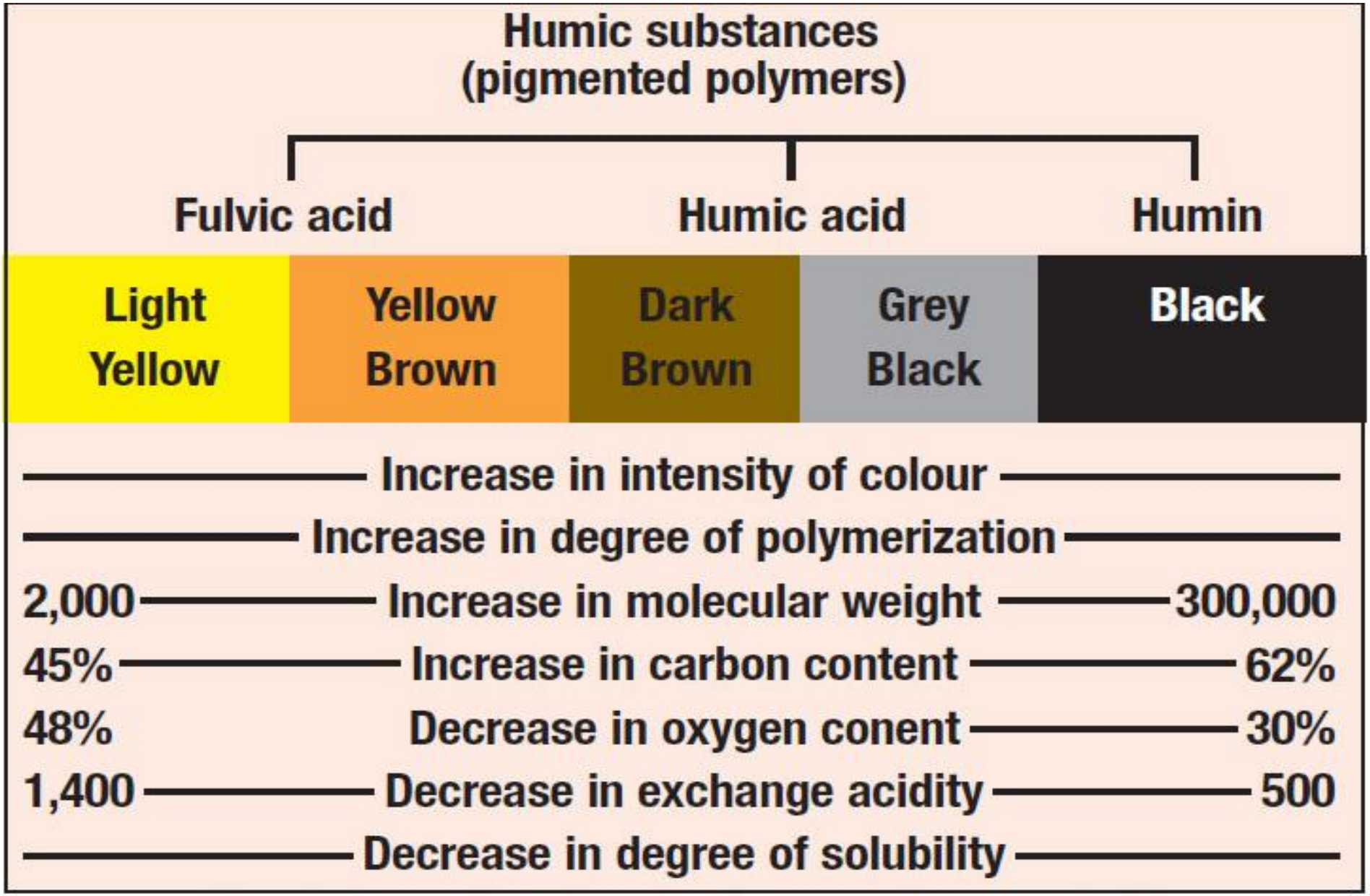
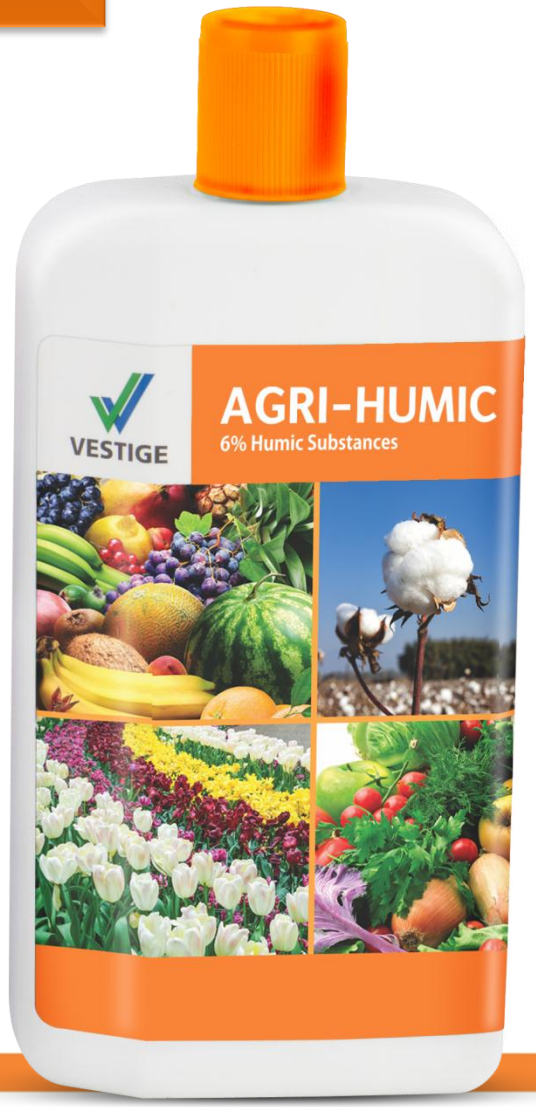

Manufacturing Process
RENEWABLE AGRI BIOMASS
NON DECOMPOSED REMAINS
ORGANIC MATTER
CONTROLLED DECOMPOSITION DULY MONITORED
BIOMASS
HUMIC SUBSTANCES
SELF CONTAINED NUTRIENTS
PROPRIETARY PROCESS
AGRI-HUMIC



Chemical properties of humic substances (Stevenson 1982)

Agri-Humic Advantages

- The extraction of Humic substances is done using organic raw material
- It is a better way of producing Humic substances
- The method used to extract Agri-Humic contents is superior compared to other products available in the market
- This results in improved storage and shelf life of the product
- It gives superior bio- effectiveness to the product



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Agri-Humic

What it is:

- It is a true combination Humic acid, Fulvic Acid & Humins from Renewable Agri Bio-mass
- Remains as a colloid in suspension
- Contains very high concentration of small molecular weight humic
- Remains bioactive for a long time of storage

What it is not:

- Not a stand-alone Humic acid produced from lignite or peat
- Does not contain insoluble inert materials
- Do not have very high molecular weight inactive colloids
- Does not degrade to biologically inactive molecules

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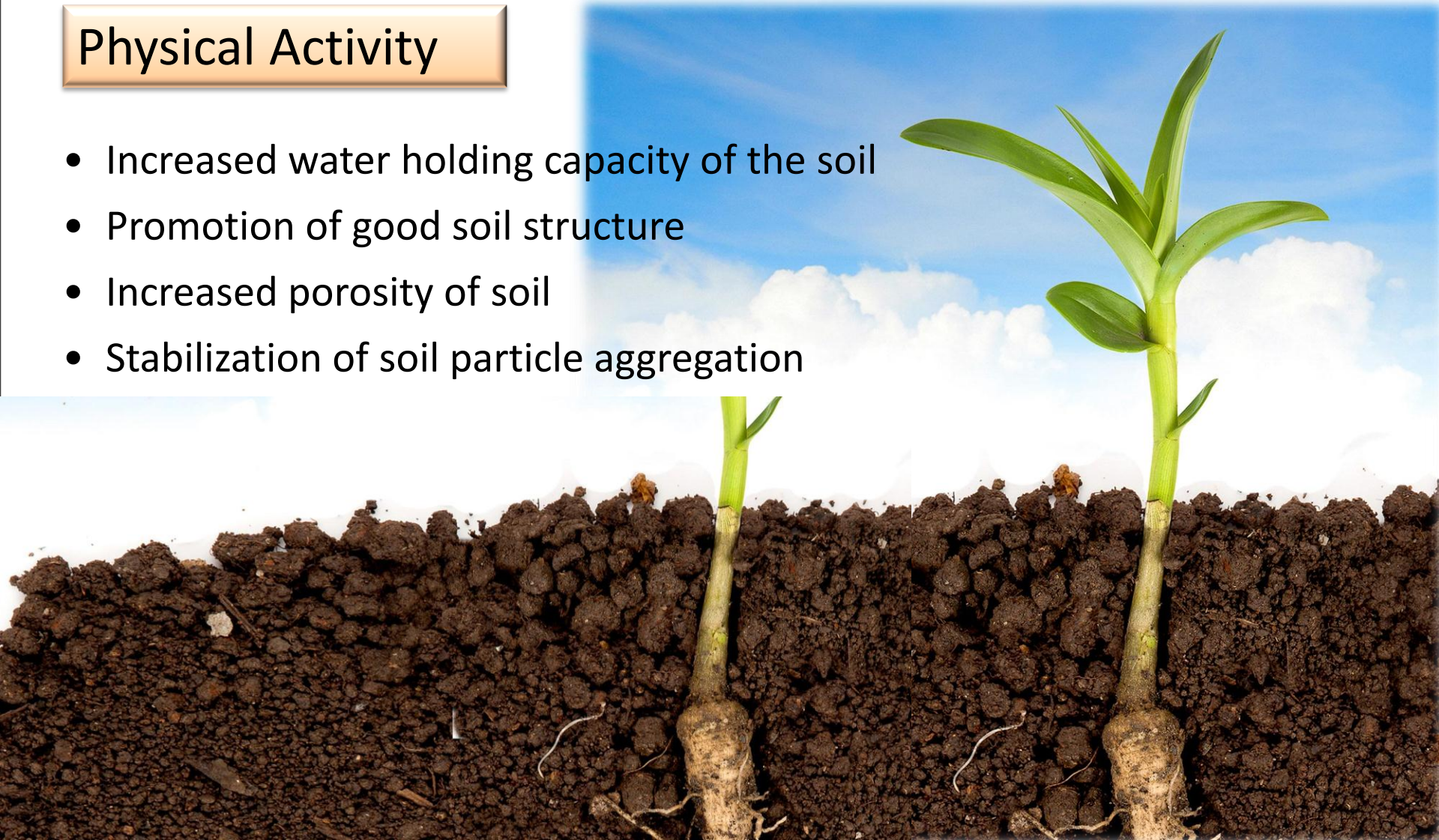
Mode of Action

Physical Activity

- Increased water holding capacity of the soil
- Promotion of good soil structure
- Increased porosity of soil
- Stabilization of soil particle aggregation



Mode of Action

Chemical Activity

- Improved nutrient retention and plant uptake
- Stabilization of nitrogen and phosphorus and improved uptake by the plant
- Improved plant absorption of metal ions
- Improving buffering capacity against increased soil acidity from fertilizer use
- Neutralizing effect on sodium and other toxic chemicals and heavy metals

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Mode of Action

Biological Activity

- Plant growth promoting effects
  - Auxin, gibberellins, cytokinins like activity
- Promotion of seed germination
- Stimulation of cell division and growth
- Increased photosynthesis rate
- Increased microbial activity in soil
- Increased cell permeability
- Improved nutrient transport and assimilation in plant
- Increased chlorophyll pigment synthesis
- Improved antioxidant activity
- Improved disease resistance capacity
- Improved drought and saline tolerance
- Improved fungal to bacterial ratio in the soil
- Improved crop growth and productivity

Agri-Humic Efficacy Studies

- On germinated seeds of Cucumber and Radish
- Root initiation in green gram
- On rapid multiplication of Azolla (Bio-fertilizer for paddy)
- On seedling vigor in green gram, cucumber and cow pea
- Increase in hair roots in paddy
- Studies on size of radish, tomato and green chilli
- On paddy seedling growth
- Water retention in soil

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Cucumber Cotyledon Expansion Bio-assay
(After 72 hrs)

CONTROL

AGRI-HUMIC 3 ml/L

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Radish Cotyledon Expansion Bio-assay
(After 72 Hrs)

CONTROL

AGRI-HUMIC 3 ml/L

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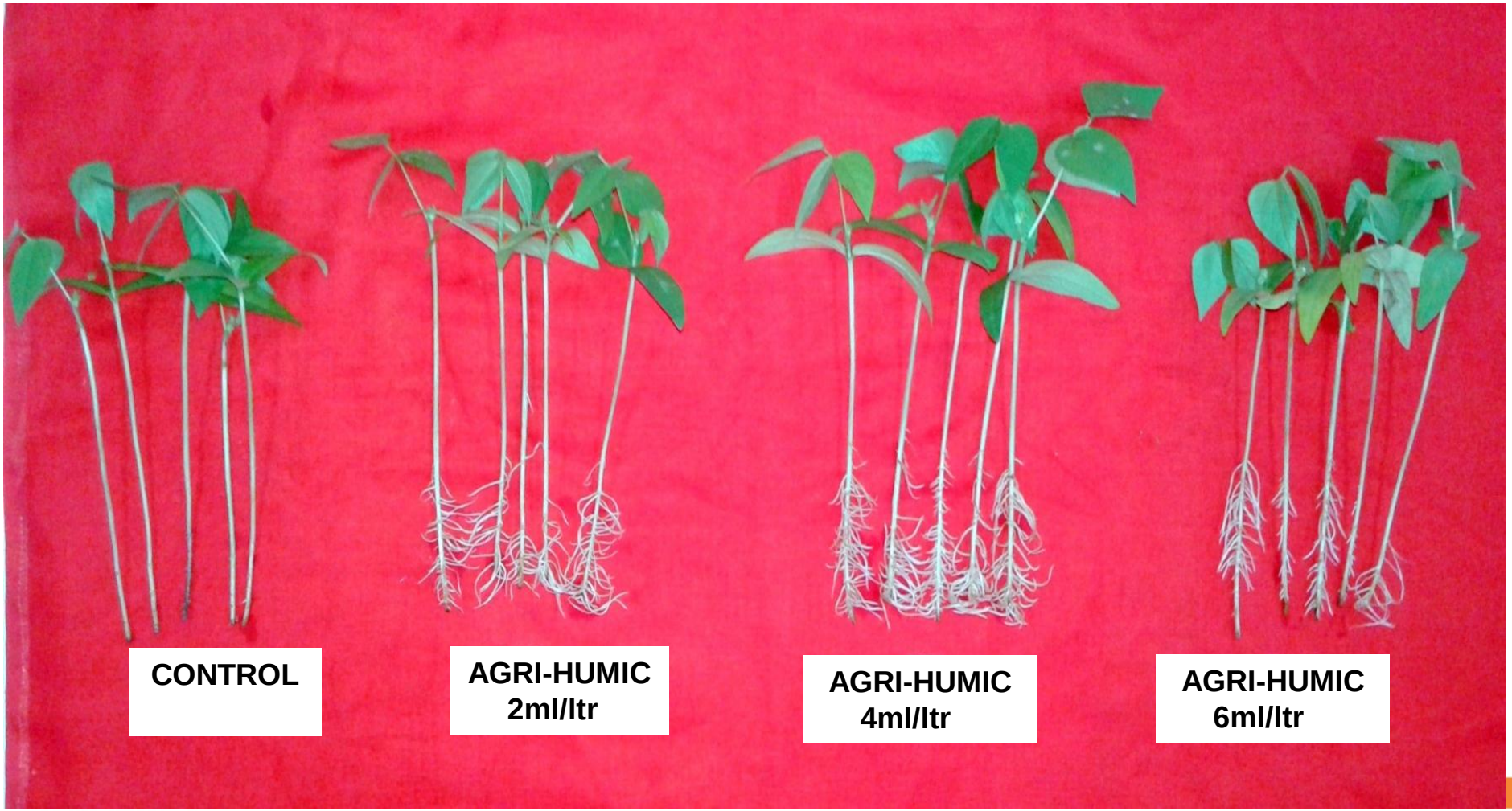
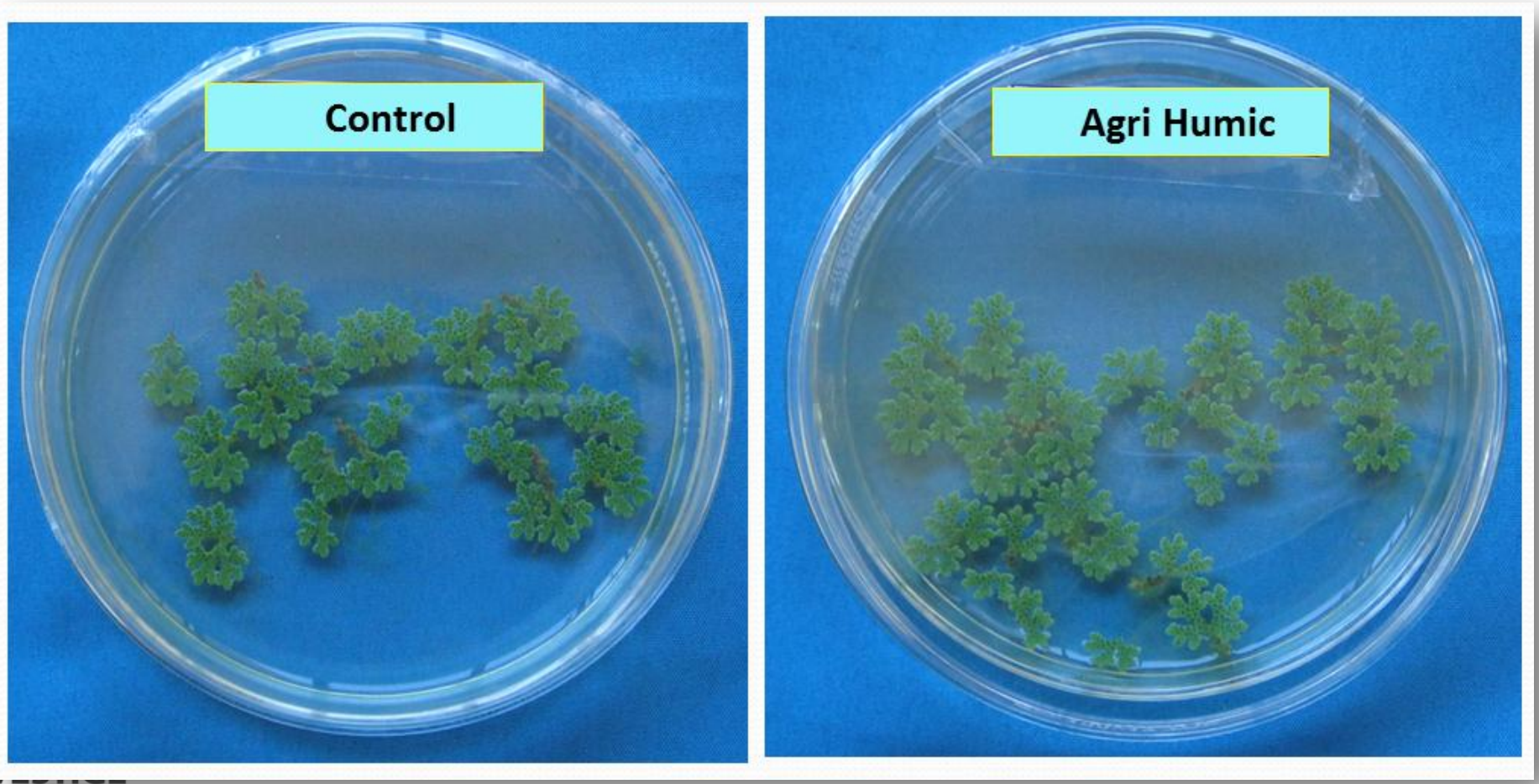
Root Initiation in Green Gram

(After 8 days)



Azolla Multiplication using Agri-Humic

(After 3 days)



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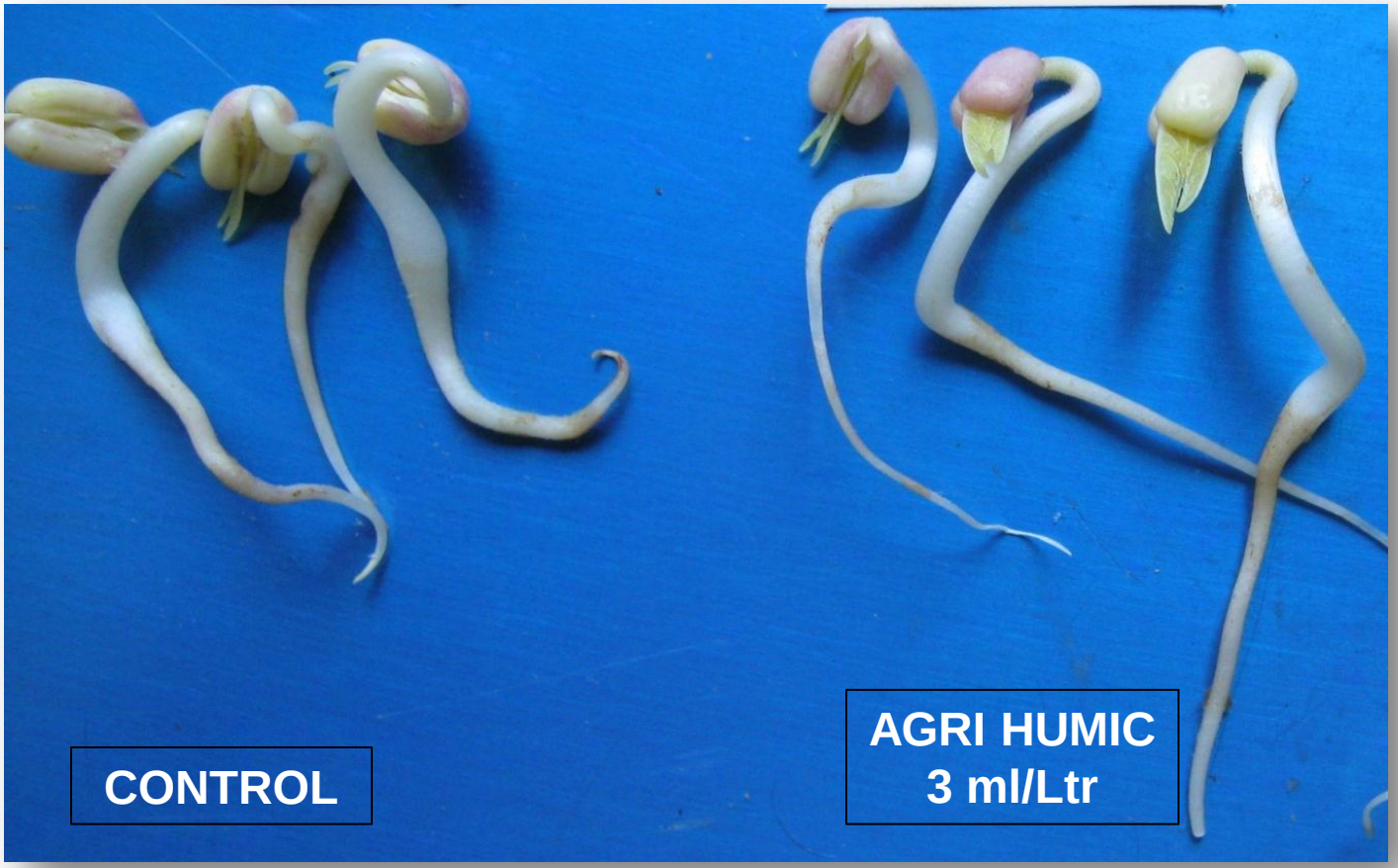
Seedling Vigor in Green Gram



Root Length Increase = 30.2% Over Untreated Control

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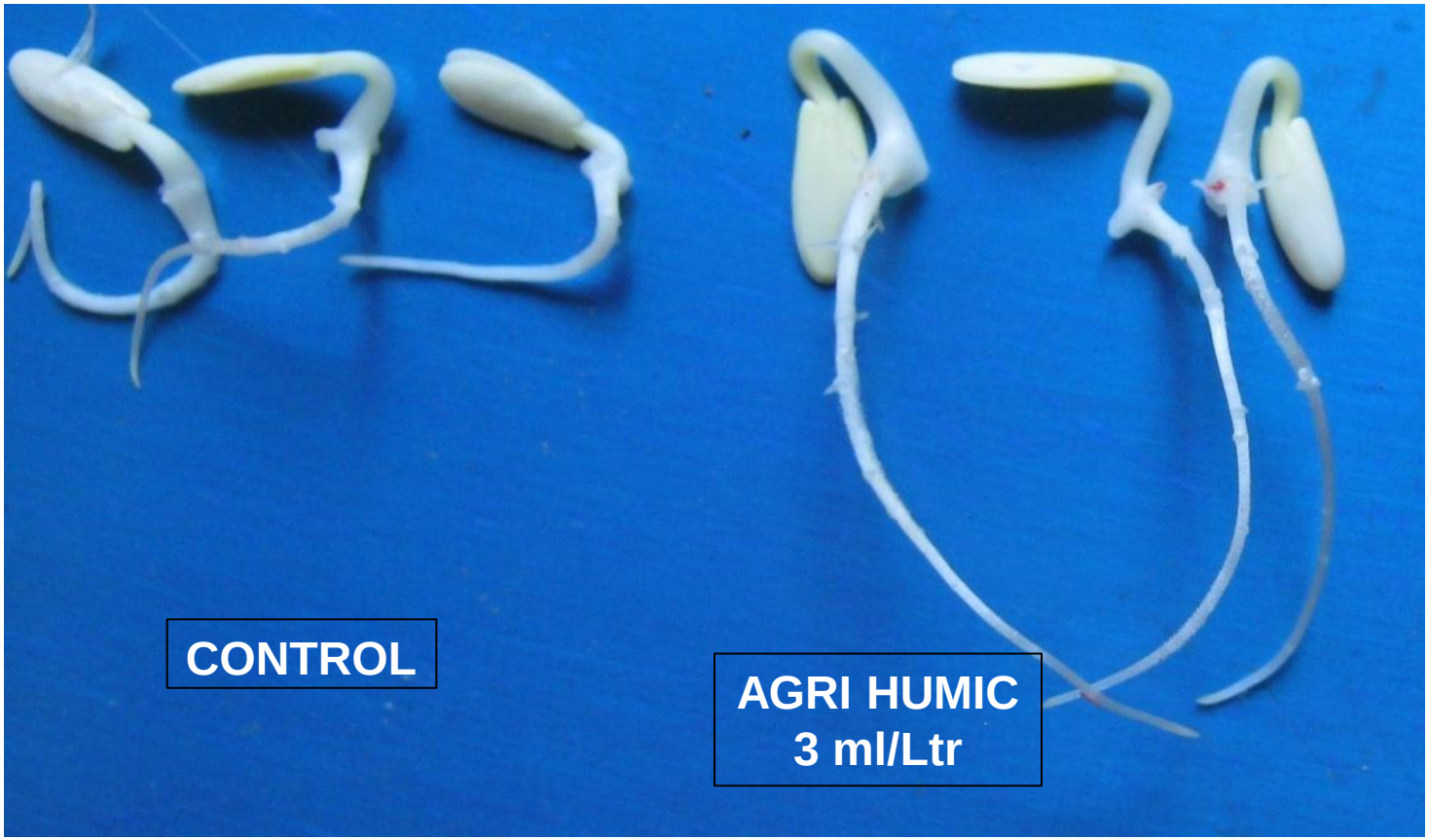
Seedling Vigor in Cucumber



Root Length Increase = 130.7% Over Untreated Control

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Seedling Vigor in Cucumber

Root Length Increase = 80.3% Over Untreated Control

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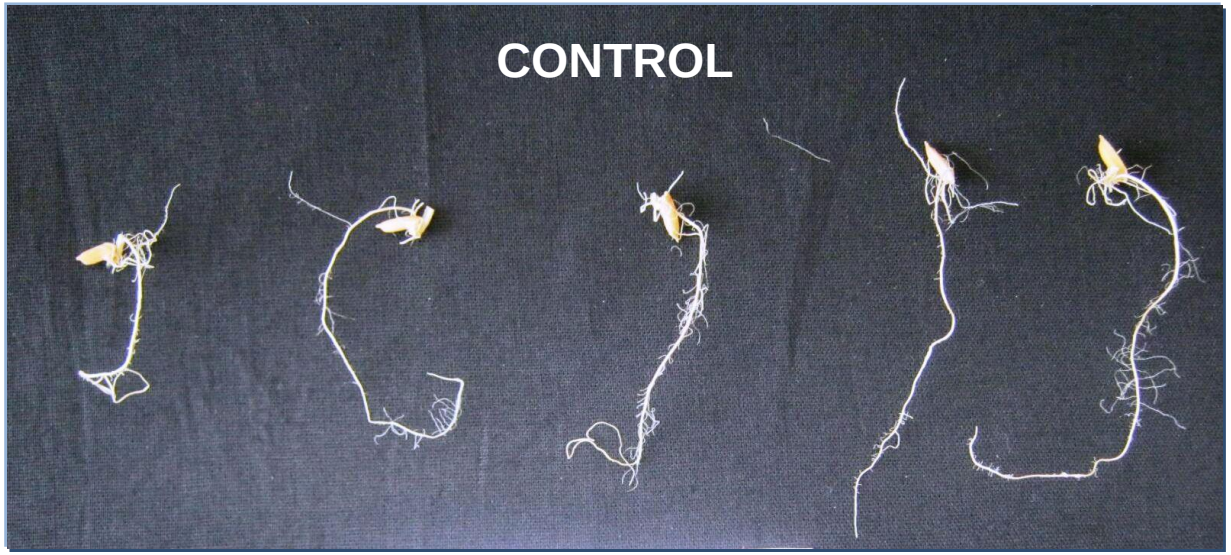
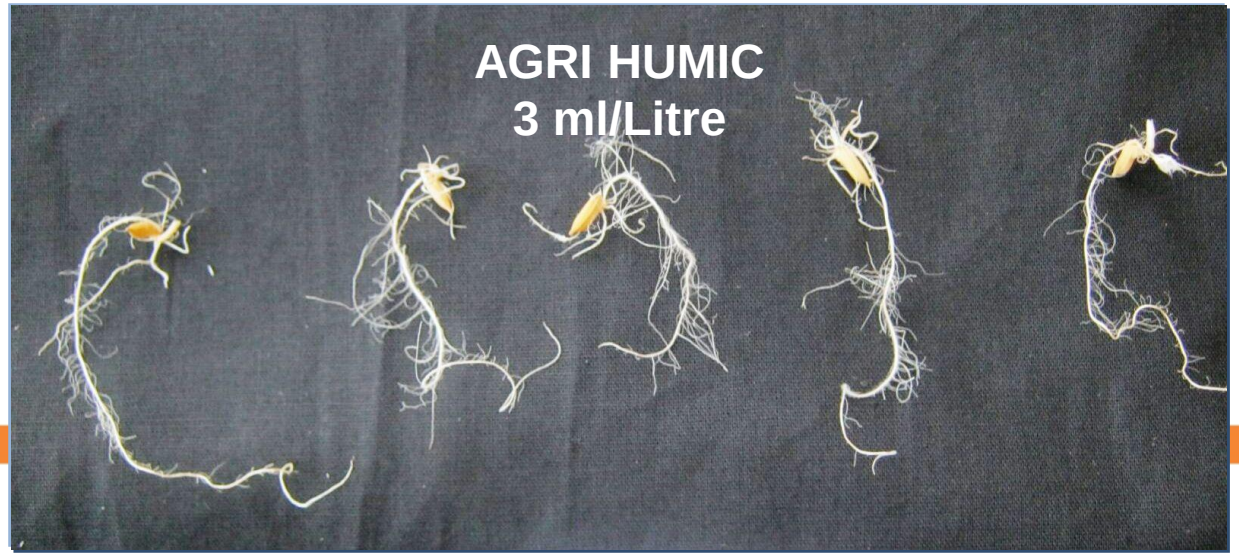
Hairy Root Increase in Paddy





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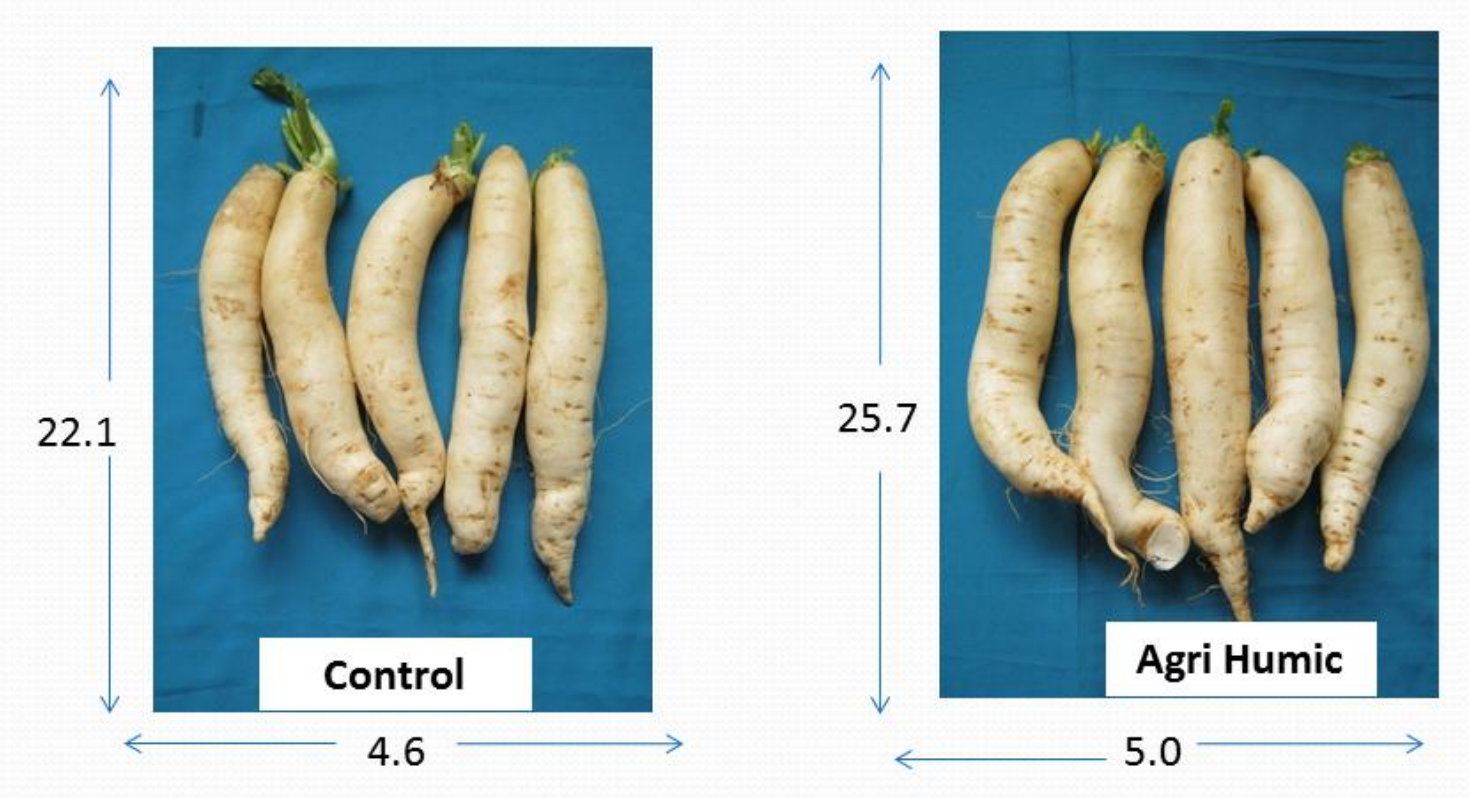
Radish Growth (Field Trial)

Average Length and Diameter of Radish from randomly selected plot (2 x2 meter area)



Measurements are in cm, Vertical Length Shows Length of Radish and Horizontal Length Shows Diameter

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Tomato Size and Yield (Field Trial)

CONTROL

AGRI HUMIC

Yield Increase Over Control – 15.9%

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Green Chilli Size and Yield (Field Trial)

Yield Increase Over Control – 21.0%

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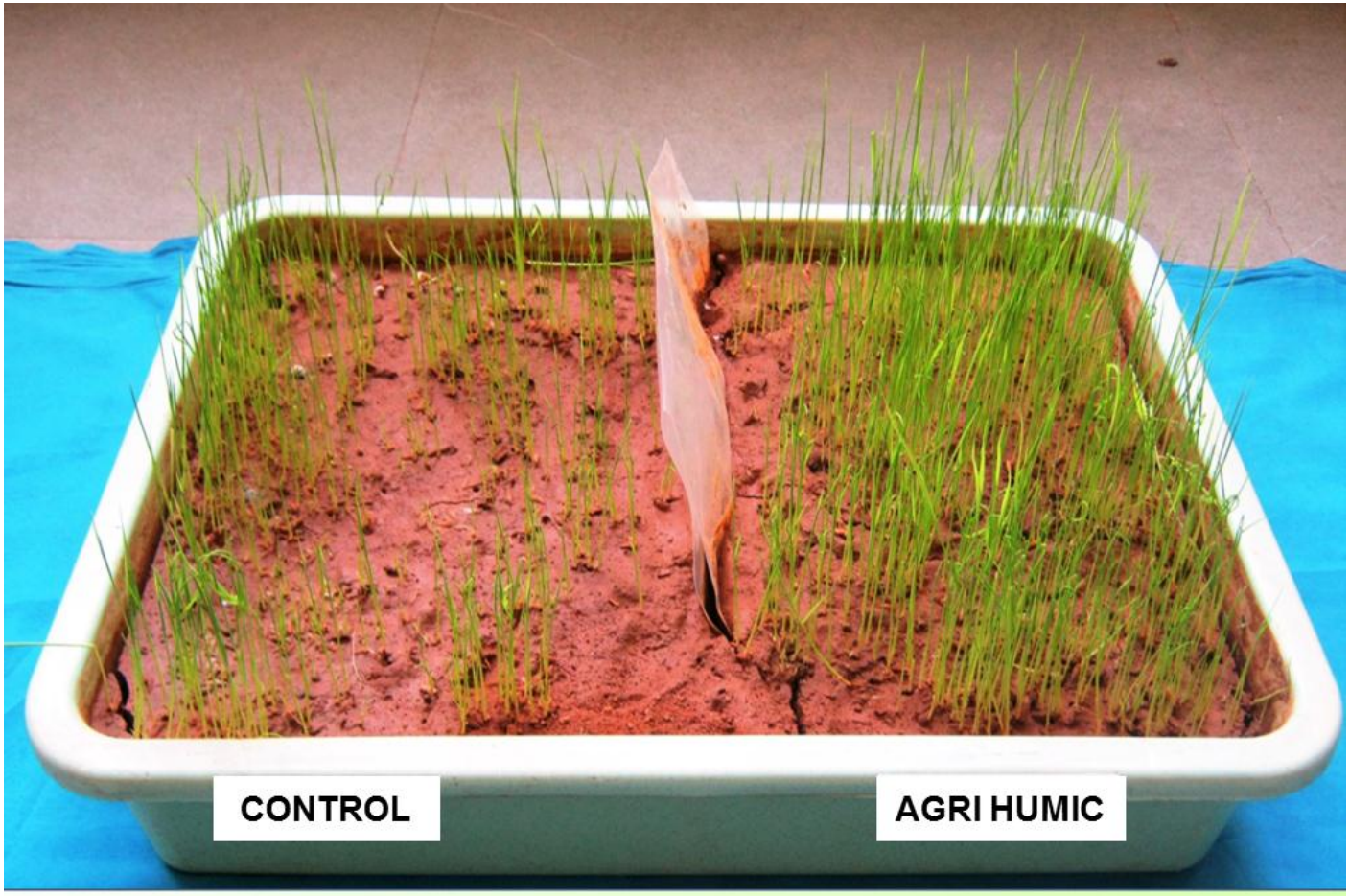
Paddy Seedling Growth



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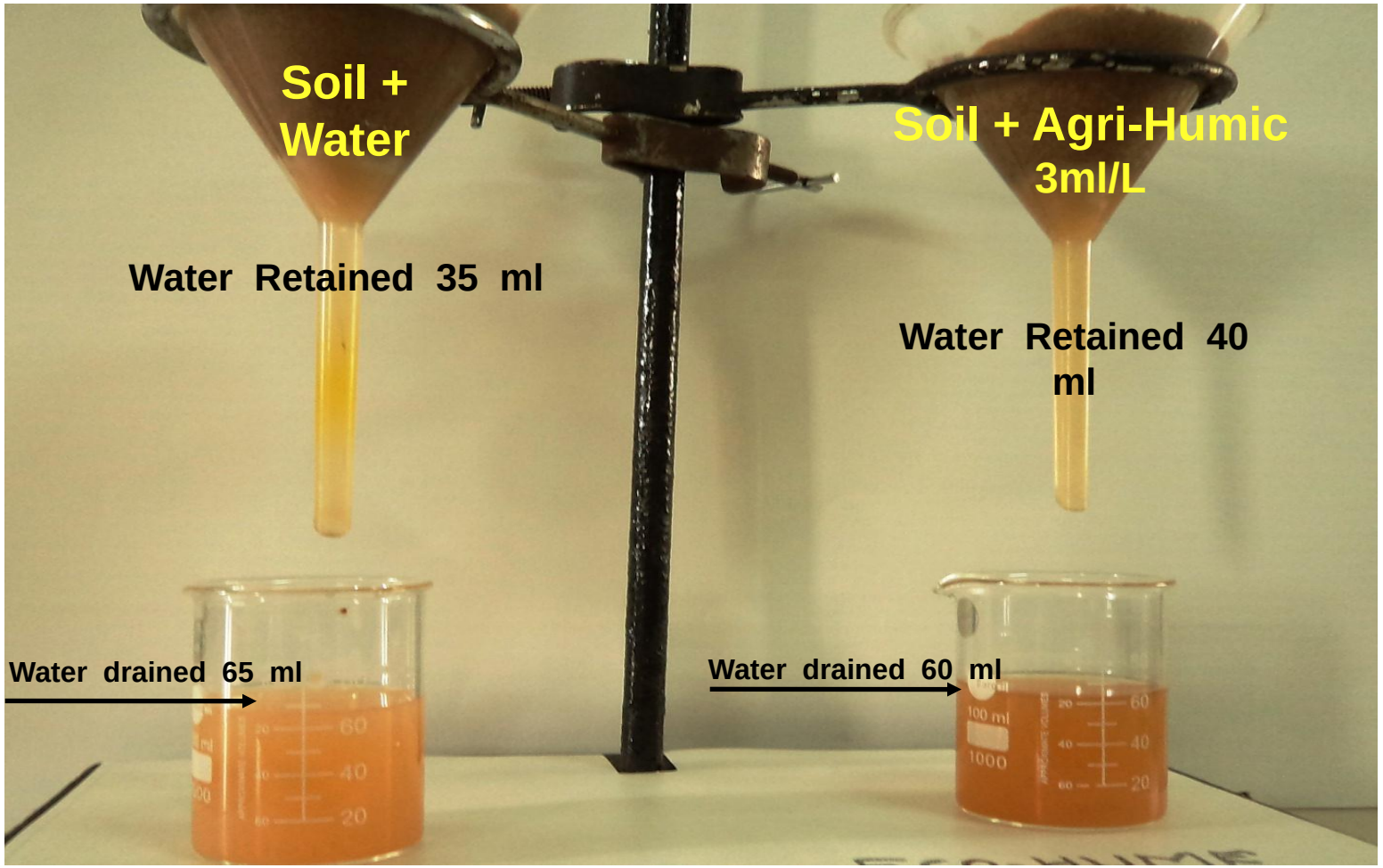
Water Retention on Soil



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Dosage and Application

Agri Humic can be applied either alone or in combination with other chemical fertilizers if found convenient. It is also compatible with most of bio-pesticides/bio-fertilizers

- **Seed Treatment:** 5-10 ml/Kg of Seeds
- **Root Tipping:** 2-4 ml/litre of water
- **Foliar Spray:** 2-4 ml/litre of water
- **Soil Treatment:** 500-600 ml per acre and drench the solution at the root zone of the plant

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RECOMMENDED CROPS

Cereals: Rice, Wheat, Maize, Sorghum, Millet
Pulses: Pigeon Pea, Green gram, Black gram, Cowpea, Chickpea, Peas, French bean
Oilseeds: Groundnut, Mustard, Sunflower, Safflower, Sesame, Castor
Fibres: Cotton, Jute
Vegetables: Tomato, Cucurbits, Lady's Finger, Eggplant, Curry Leaf, Drumstick
Tubers: Potato, Tapioca, Sweet Potato
Beverages: Tea, Coffee
Fruits: Mango, Citrus, Cashew, Sapota, Guava, Banana, Pomegranate, Grapes, Citrus, Plum, pine apple
Spices and Condiments: Pepper, Cardamom, Turmeric, Ginger, Chillies, Onion, Garlic
Floriculture: Rose, Lily, Chrysanthemum, Carnations and Gerbera
Others: Greenhouse Crops, Sugarcane, Tobacco, Lawns and Landscape Crops

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Compounding Benefits of Agri-Humic

- Improvement of soil chemistry and structure
- Improvement of biological status of soil
- Improved utilization of nutrients supplied and obvious cost saving
- Improved water utilization and possible cost saving
- Improved yield-higher income/ha
- Improved quality – higher income/ha

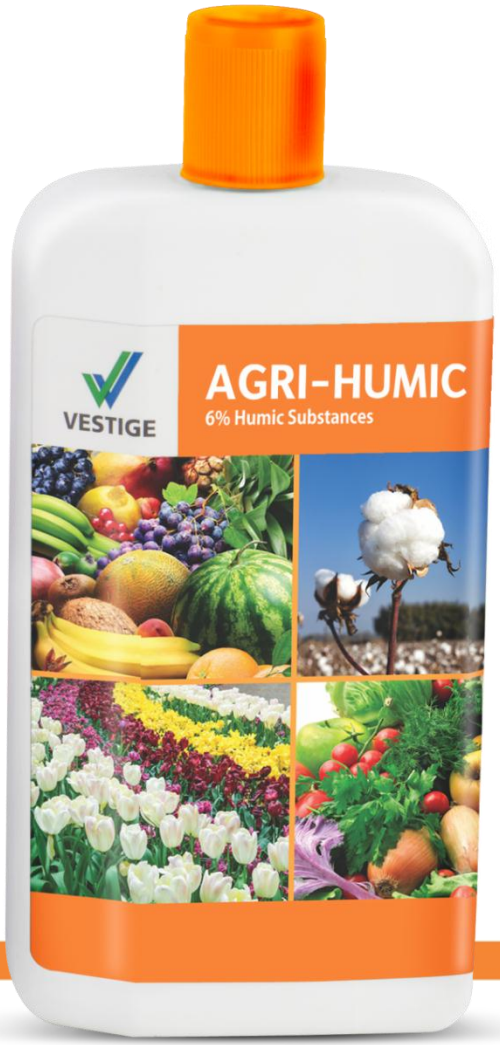
Pack size 500 ml

MRP Rs. 645/-

(Incl. of all taxes)

BV 327

DP Rs. 545/-



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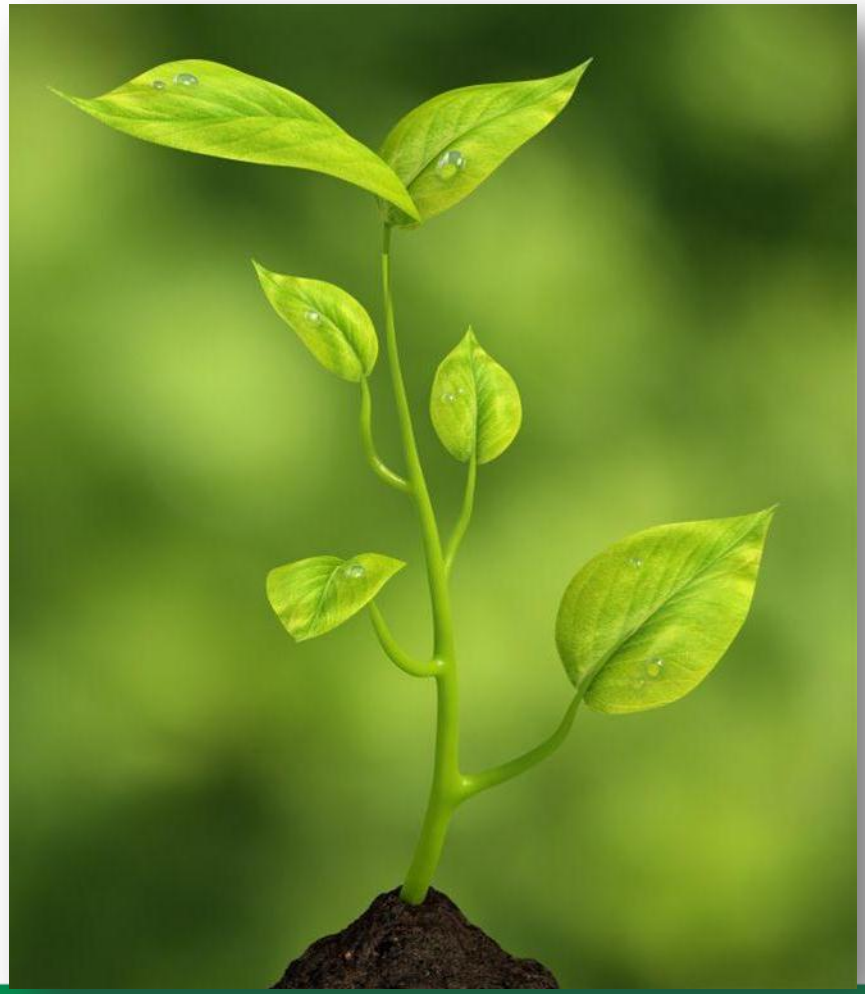
AGRI82
FOR PLANTS AND CROPS
5 litre
With improved Rheology Modifier + Multipurpose Non Ionic Spray + Adjuvant Concentrate
EXCELLENT CROP YIELD PROMOTER • SPREADER • ACTIVATOR
SPREADER • ACTIVATOR • WETTER

Agricultural Wetting Agents

- Spreading and wetting agents help to maximize the performance of agricultural chemicals
- They do this by
  - reducing spray droplets' tendency to bounce off of plant foliage
  - by spreading these products to greater leaf surfaces
- They are capable of reducing the surface tension of water to that allows rapid coverage and penetration of cuticular waxes



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Agri-82

- Highly concentrated non ionic spray adjuvant with 82% active ingredients
- Excellent Spreader, Activator and Wetter
- Increases crop yield by improving pesticide coverage
- It activates the spray fluid to moisten the plant surface and allows uniform spreading of spray deposits
- Helpful tool in irrigation, improves water absorption in soil

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Agri-82

- Non phyto-toxic, safe and eco-friendly
- For use in fungicides, herbicides, insecticides, foliar fertilizer, plant nutrients and defoliators

USAGE:

- 5 ml in 15 L of water (with fungicides, insecticides, foliar fertilizer, plant nutrients and defoliators)
- 20 ml in 15 L of water (with herbicides)
- 160 ml in 80 L of water per acre (for irrigation)

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Agri-82

Pack size 100 ml / 500 ml / 5 L

- **100 ml** x 3

  MRP Rs. 315/- Incl. of all taxes

  BV 159 • **DP** Rs. 265/-

- **500 ml**

  MRP Rs. 425/- Incl. of all taxes

  BV 159 • **DP** Rs. 265/-

- **5 L**

  MRP Rs. 3850/- Incl. of all taxes

  BV 2010 • **DP** Rs. 3350/-

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THANK YOU

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