

#### **INDORAMA GRANULAR UREA**

#### **INDORAMA NEEM COATED UREA**

#### **INDORAMA NPK**



Uniform granule size.

 Low moisture, anticaking properties, low biuret content & Free flowing.

Higher crushing strength, which prevents caking.

 Standards Organization of Nigeria ( SON ) Certified.



■ Enhances the nitrogen use efficiency and crop remain green for longer time.

It increases crop productivity

Protect crop from pest and diseases.

 Prevent Urea application losses by Volatilization and Leaching.



- Indorama NPK maintains quality and have a perfect balance of nitrogen, phosphorus, and potassium.
- Nitrogen is needed for vegetative growth.
- Phosphorus is needed to produce strong roots and shoots.
- Potassium is needed to produce quality fruit and flowers, also increases resistance to diseases.
- Calcium from limestone granules helps in decreasing soil acidity.



## Nigeria's Finest Layers, Harvested Fresh for Flavorful Farm Goodness

INDO RAMA

Essential materials. Better lives.



Onion is among the most consumed vegetables in the world. Nigeria is the 17th largest producer in the world, 4th in Africa and 1st in West Africa with an annual production of over 2m tons which does not meet the demand of its ever-increasing population. Onion has numerous health benefits and is used in various delicacies. The ease of cultivating the crop makes it a very lucrative venture. Nigeria produces of 2.0 million mts onion annually. The major states producing onion in Nigeria are Kano,Katsina,Jigawa, Plateau, Kaduna, Kebbi and Bauchi.









# ONION CROP

## **Land Preparation and Soil Requirement**

 Optimum temperatures for onion growth and development are between 13 and 24°C. although the range for seedling growth is narrow, 20 – 25°C.

- Onions can be grown successfully on any fertile, preferably well-drained soil.
- The optimum pH range is 6.0 to 6.8. Onion will not strive at pH below 6.0

■ Loose, well-drained, fertile, sandy-loam to silt-loam soils soil with plenty of organic matter.

■ Pre-planting herbicide (Glyphosate) at the rate of 2L/ha should be sprayed two weeks to land preparation.

■ The land should be harrowed thoroughly into a fine tilth, soil depth should be at

 Organic manure the rate of 20 tons/ha should be incorporated 2 weeks before transplanting.

## **Nursery management and transplanting**

- Prepare raised beds 20 30cm high and 2 x 1m dimension.
- Incorporate organic manure into the soil
- Seeds obtained locally should be treated with seed dressing chemicals (e.g Imidacloprid, Thiram e.t.c) before sowing.
- The recommended seed rate is 8-10 kg/ha.
- Drill seeds at 5-10cm apart, 1.5cm deep.
- Mulch seedbed to protect seeds from sunlight until emergence.
- Hand weeding and irrigation should be done continuously.
- Seedbed should be monitored every day.
- Transplant seedlings at the age of 35-49 days (5-7 weeks). The recommended plant population/ha is 500,000 to 700,000.
- Plants are spaced at 10 x 10 cm to 15 x 15 cm on the raised
- On ridges, seedlings are transplanted in two rows per ridge with the plants spaced at 15 – 20cm within each row.

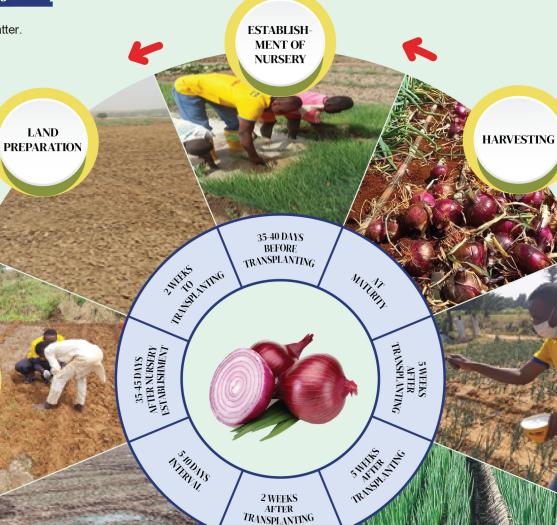
#### Water management

- The soil profile should be wet to a depth of about 40-60 cm.
- The amount of irrigation water applied depends on the soil type, temperature and growth stage.
- Regular irrigation (5 10 days interval) is necessary.
- The frequency of irrigation should be increased at critical stage of onion (bulb formation)
- The irrigation should be stopped 2 weeks to harvest to allow the bulbs to dry.

## **Fertilizer Management with 4R Nutrient Stewardship**

- The recommended rate is150 kg N ha-1,80-100 kg P2O5 ha-1 and 50 kg K2O ha-1.
- During land preparation apply 8 bags of Indorama NPK.
- Apply 3-4 Bags of Indorama Neem coated Urea first after 3 week and second after 6 weeks of transplantation.







TRANS-

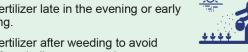
**PLANTING** 





**How to Reduce Fertilizer Loss** 

- Apply only the recommended dose of urea fertilizer
- Split application of urea fertilizer.
- Apply urea fertilizer late in the evening or early in the morning.



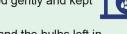
- Apply urea fertilizer after weeding to avoid competition from indigenous weeds.
  - Proper water management practices (avoid excessive irrigation).
  - Proper drainage will reduce urea fertilizer loss due to runoff.

#### **Weed Control**

- Onion is sensitive to weed competition especially at early stage of growth.
- The field should therefore be kept weed free.
- Special tiny-bladed hoes are used for careful shallow hoe weeding at 3, 5 and 7 weeks after transplanting.
- Use oxidiazone as pre-emergence herbicide at the rate of 1.5 kg a.i/ha.
- Exposed bulbs do not require earthing-up.

## Harvesting, Curing and Storage

- Onion is harvested when the bulb is fully matured, indicated by
- Spring onion can be harvested at 30-40cm height
- Mature onion bulbs are hand-pulled gently and kept



- The tops are thereafter removed, and the bulbs left in the shelter to cure for two weeks.
- Properly cured bulbs are firm with closed necks and dry leathery outer scales.
- Well-cured bulbs store longer.
- Only clean, mature, and undamaged bulbs should be used for
- Longer maturing varieties are more suited for storage purpose.
- There should be free flow of air through the stacks of stored bulbs.

#### **Yield**

SECOND

NEEM UREA

APPLICATION

MANAGEMENT

■ The average yield of Onion obtained by farmers in Nigeria is about 15t/ha. However, with good management, high yielding and adaptable varieties and good climate bulb yield of 20-35t/ha is attainable.



