LIQUID FERTILIZER
USES, APPLICATION AND DISTRIBUTION IN THE BAY STATES.
FAO
presented at
FSS meeting, Maiduguri
07, AUGUST 2019
Liquid Fertilizers
LIQUID FERTILIZER

• Liquid fertilizers are applied through the leaves (foliar).
• Like solid fertilizer Liquid fertilizers comes in various

**TYPES**

• Organic and inorganic

**GRADES**

• Straight fertilizers (Containing only one primary nutrient) e.g. Urea, SSP,
• Multinutrients fertilizer (Containing more than one primary nutrient) e.g. NPK,
• Secondary nutrients fertilizers (Containing only secondary nutrients) e.g. Magnesium, Sulphur, Calcium.
• Micronutrients fertilizer e.g. Iron, copper, zinc, boron in a straight or multi form.
CONTAINERS
of various Shapes, size and volumes.

• **QUALITY ASSURANCE.**
  Have to be labelled with:
  ➢ Nutrient(s) present
  ➢ Analysis result/grade/Active nutrients compositions.
  ➢ Manufacturer’s name and address
  ➢ Direction of use/Application rates
  ➢ Temper proof sealed
  ➢ Quantity in Litres.
  ➢ Certification by the relevant government agency.
  ➢ Expiry date/statement
TIPS FOR SUCCESSFUL LIQUID FERTILIZER USE.

- Chose the right fertilizer (type, nutrients, grade).
- Check and calibrate the sprayer.
- Know the spray volume needed standard.
- Follow the maker’s instruction.
- Dilute the fertilizer correctly.
- Ensure maximum leaves/foliar contact.
- Do not spray on a windy days or in a very dry weather or when heavy rain is likely.
- Buy the amount needed.
- Store the fertilizer correctly.

- READ THE LABEL AND HEED THE LABEL 5 TIMES.
  - 1. Before purchase.
  - 2. Before mixing.
  - 3. Before application
  - 4. At storage
  - 5. Before disposing the excess fertilizer/container.
READ THE LABEL FIVE TIMES

Figure 15. Read the label and heed the label five times:

a) Before purchase
b) Before mixing
c) Before application

<table>
<thead>
<tr>
<th>Technical specifications</th>
<th>LIQUID GEL NPK COMPLEX FERTILIZER - 15:15:15 PLUS MICROELEMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Macro-nutrient NPK</strong></td>
<td></td>
</tr>
<tr>
<td>Total nitrogen content:</td>
<td>Minimum 15% (w/v)</td>
</tr>
<tr>
<td>Total water soluble phosphorous (as $P_2O_5$) content:</td>
<td>minimum 15% (w/v)</td>
</tr>
<tr>
<td>Total water soluble potassium (as $K_2O$) content:</td>
<td>Minimum 15% (w/v)</td>
</tr>
<tr>
<td><strong>Micro-nutrient</strong></td>
<td></td>
</tr>
<tr>
<td>Total water soluble Calcium (CaO) content:</td>
<td>minimum 22.5% (w/v)</td>
</tr>
<tr>
<td>Total water soluble Magnesium (MgO) content:</td>
<td>minimum 2.0% (w/v)</td>
</tr>
<tr>
<td>Total water soluble Boron (B) content:</td>
<td>minimum 0.03% (w/v)</td>
</tr>
<tr>
<td>Total water soluble Copper (Cu) content (chelated by EDTA):</td>
<td>minimum 0.03% (w/v)</td>
</tr>
<tr>
<td>Total water soluble Iron (Fe) content (chelated by EDTA):</td>
<td>minimum 0.05% (w/v)</td>
</tr>
<tr>
<td>Total water soluble Manganese (Mn) content (chelated by EDTA):</td>
<td>minimum 0.03% (w/v)</td>
</tr>
<tr>
<td>Total water soluble Molybdenum (Mo) content:</td>
<td>minimum 0.03% (w/v)</td>
</tr>
<tr>
<td>Total water soluble Zinc (Zn) content (chelated by EDTA):</td>
<td>minimum 0.02% (w/v)</td>
</tr>
<tr>
<td>PH range which ensures good stability of the chelated fraction pH between 5 and 10</td>
<td></td>
</tr>
</tbody>
</table>

Plastic bottle container.

HDPE 1 litter plastic container with 50 ml graduated cap for measurement.
**DISTRIBUTION.**

**BEFORE DISTRIBUTION**

- Ensure you understand your target audience needs and work accordingly e.g. Training needs, Sprayer need.
- Know your distribution plan to workout sharing formula for both the fertilizer and sprayer i.e. number of farmers per container/sprayer.
- Purchase the right quality, quantity and container volume.

**AFTER DISTRIBUTION.**

- Monitor use and efficacy of the product for future programming.
- Ensure safe application and empty containers disposal.
- Share experience with other partners.
THANKS