

# Package 116,

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**Radio spots on the 4R approach to applying fertilizer**

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**Notes to broadcasters**

Fertilizers provide essential nutrients needed by the soil for plants to be healthy and have vigorous growth. However, applying fertilizers effectively remains a challenge in Africa, and Ghana is no exception. This has contributed to the low productivity of crops over the years.

To help farmers, there have been many projects by governments, NGOs, and others in the agric sector to subsidize fertilizers to farmers in Ghana and to train them on best practices for applying them.

In these spots, you will learn more about the 4Rs for applying fertilizers, which some small-scale farmers in northern Ghana have been trying. These methods, thankfully, have led to an appreciable increase in quality and yield of their crops.

**Spot #1: The four R’s**

**NARRATOR:** Farmers! If you want your crops to yield their best, remember the four R’s of applying fertilizer. Apply fertilizer from the right *Source*, at the right *Rate*, at the right *Time,* and in the right Place. If you follow the 4Rs, your yields will improve.

**Spot #2: Fertilizer recommendations**

**Broadcaster:** Here’s a question from a local farmer.

**Farmer:** Why should I follow the fertilizer recommendations I hear from experts? What good will they do me?

**Expert:** Thanks for your question. Plants need many nutrients, but they MUST have larger amounts of some elements than other. For instance, plants need macronutrients like nitrogen, phosphorus, and potassium in large quantities. They need other elements in smaller quantities—for example, zinc, magnesium and sulphur. These micronutrients must be applied in the right proportions to enable them to best help crops. Most soils do not have enough of these elements to give good yields. So, fertilizer recommendations tell you how much nitrogen, phosphorus, and potassium as well as zinc, magnesium, and sulphur you should add to your field. They give you the right RATE of fertilizer to add.

**Broadcaster:** That’s right: Fertilizer recommendations give the right RATE. But don’t forget the other three R’s! Add fertilizer from the right Source, at the right Time, and in the right Place.

**Spot #3: Nitrogen**

**NARRATOR:** Farmers! To get a good maize yield, you must apply enough nitrogen. Why? Because nitrogen helps maize plants grow strong and healthy and form large cobs. It also ensures that the cobs are full of grains and improves the quality of maize grains. Remember to add nitrogen fertilizer twice a season: first, at germination or at most within two weeks after sowing as a basal fertilizer, and second, as a top dressing six weeks after sowing.

**Spot #4: Phosphorus**

**NARRATOR:** Farmers! For a good yield, your crops need enough phosphorus. Why? Because phosphorus helps crops establish well and grow healthy roots. Phosphorus also ensures early and uniform growth. Your crops need good root growth to take up nutrients and water. Phosphorus is mostly needed early in the season. So remember to apply phosphorus at germination or within two weeks of planting.

**Spot #5: Potassium**

**NARRATOR:** Farmers! For a good yield, your crops need enough potassium. Why? Because potassium ensures that your plants are healthy and have strong stems. Potassium also helps plants withstand droughts and resist pest and disease attack. Remember to apply potassium together with the nitrogen and phosphorus at germination or within two weeks after sowing.

**Spot #6: Right source of basal fertilizer**

**NARRATOR:** Farmers! Remember the 4Rs: Apply the right Source of fertilizer, at the right Rate, at the right Time, and in the right Place. But what’s the right *Source* for maize basal fertilizers?

**EXPERT:** Maize plants require basal fertilizers that supply nitrogen, phosphorus, and potassium. The right Source of fertilizers for basal applications is NPK fertilizers such as 25:10:10 plus zinc, 11:22:21 plus zinc, or zinc plus NPK 15-20-20.

**Spot #7: Right source of top dressing**

**NARRATOR:** Remember the 4Rs: Apply the right Source of fertilizer, at the right Rate, at the right Time, and in the right Place. But what’s the right Source for maize top dressing?

**EXPERT:** Maize plants require top dressings of nitrogen-rich fertilizers such as urea. Urea contains the highest proportion of nitrogen and is often the cheapest source of nitrogen. But there are also specialized nitrogen fertilizers for top dressing maize. Your local extension officer or the agronomist at your fertilizer company can advise you on specialized nitrogen fertilizers available near you.

**Spot #8: Right time for basal fertilizer**

**NARRATOR:** When is the right time to apply basal fertilizers to maize plants?

**EXPERT:** The right *Time* is two weeks after sowing. However, due to constraints on labour and time, farmers can apply basal fertilizers any time in the first two weeks after planting. Basal fertilizers have nitrogen, phosphorus, and potassium and more recently magnesium, zinc, and sulphur. Remember that the soil must be moist when you apply basal fertilizers to ensure that plant roots take up the nutrients well. But don’t apply basal fertilizers during heavy rainfall or the nutrients will be washed away.

**Spot #9: Right time for top dressing**

**NARRATOR:** When is the right time for maize top dressing?

**EXPERT:** The right time for maize top dressings is six weeks after planting. Top dressing fertilizers are good sources of nitrogen. Remember that the soil must be moist when you apply top dressing to ensure that plant roots take up the nutrients well. If the soil is very dry, wait for a few days until there is some rain and the soil is moist. And remember: before top dressing, you must weed your field well to avoid weeds competing for nutrients with maize plants.

**Spot #10: Right place for basal fertilizer**

**NARRATOR:** Where is the right Place to apply basal fertilizers?

**EXPERT:** Basal fertilizers for maize should be applied through spot applications. Dibble a small hole about 5 cm away from each planting hill. Add fertilizer to the hole and cover it with soil. Use a teaspoon or bottle top to add equal amounts of basal fertilizer to each hole to ensure uniform crop growth. Avoid broadcasting fertilizer as it reduces the amount of nutrients available for plants and encourages weed growth.

**Spot #11: Right place for top dressing**

**NARRATOR:** Where is the right Place to apply maize top dressings?

**EXPERT:** Top dressing fertilizer should be applied through spot applications. Make small holes about 5 cm from each planting hill. Add fertilizer to the hole and cover it with soil. Be careful to add equal amounts of top dressing fertilizer to each hole to ensure uniform crop growth. Applying fertilizer 5 cm away from the plant prevents fertilizer from contacting and damaging the plant. Covering fertilizer with soil helps avoid loss of nutrients to the air. Avoid broadcasting top-dressing fertilizer as it reduces the amount of nutrients available for plants and encourages weed growth.

**Spot #12: Right rate of basal fertilizer**

**NARRATOR:** What is theright Rate for basal fertilizer?

**EXPERT:** Basal fertilizers contain nitrogen, phosphorus, and potassium.Basal fertilizers should supply 30-60 kgs of nitrogen per hectare, depending on soil fertility and target yields. They should also supply 20-30 kgs of phosphorus, again depending on soil fertility and target yields. Finally, they should contain 30-50 kgs of potassium, depending on those same conditions.

**Spot 13: Right rate of top dressing**

**NARRATOR:** What is the right Rate for top dressing?

**EXPERT:** Top dressings are good sources of nitrogen, and should supply 30-60 kgs of nitrogen per hectare, depending on soil fertility and target yields. Remember to apply top dressing six weeks after planting.

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