Frequently asked questions on MOET

What is Minus One Element Technique (MOET) test?

MOET is a reliable technique that determines soil nutrient deficiencies in actual field conditions. MOET is based on the law of minimum, which states that the level of plant production cannot be no greater than that allowed by the most limiting of the essential plant growth factors. This means that if one crop nutrient is missing or deficient, plant growth will be poor even if the other elements are abundant.

When the growth of plants are better in the minus one element pots (especially in the -Zn or -Cu) than in the “complete” pot, what does this mean?

It is likely that the level of the said element (e.g. Zn) in the soil is already close to the level of toxicity, thus when such element is added to the “complete” pot, it may have already attained toxic level, which results in depressed growth of the plant.
When such situation is observed during the MOET test, is it still safe to apply zinc sulfate in the field?

Zinc sulfate or any other form of zinc SHOULD NOT be applied in the field because it could lead to toxicity, depressed growth, and low yield.

How often does one have to conduct the MOET test?

Ideally, it should be done every season if the farmer can afford it. The frequency of conducting the MOET test depends on the following four factors:

1. Soil type. If the soil is sandy, frequent MOET test should be conducted, i.e. once in every two seasons.

2. Amount and kind of fertilizer applied after the initial MOET test. MOET tests may be conducted if:
   - the farmer applied heavy doses of phosphorous (P) and potassium (K);
   - soil is clayey; and
   - 3) micronutrients are not limiting.

3. Yield levels produced following the MOET test. If yields are constantly high (>4.0 tons) even during wet season, then MOET test should be conducted once in every four seasons. However if there is a declining yield trend that is not caused by other biotic factors. If such is observed, it is advisable to conduct a MOET test.