



## Episode Two: Microdosing or localized fertilizer application at time of sowing

*Authors: Bonkano Bawa and Alice Van der Elstraeten*

### Synopsis

The winter season is approaching. Using revenue obtained through inventory credit operations conducted after each harvest by their producers' organizations, many farmers are now purchasing fertilizer from the inputs shop. Following development efforts to encourage a more targeted use of fertilizer, the farmers use it in their fields to improve yields of the various crops they grow. In most cases, the crops appear to be in good condition as their first shoots emerge above the soil's surface.

### Characters

Three farmers (one does not use fertilizer and two others, one of whom is a woman, use it):

- Idi
- Sani
- Mintou

Modibo: the union facilitator

- **Scene 1: Idi, who does not use fertilizer, or uses it badly, goes to visit Sani, a farmer trained by a Farmer Field School.**

**Music:** Cue in theme music. Keep for 30 seconds and crossfade.

**Idi (farmer 1):** *Salama alaïkoum, Sani. Wa alaïkoum wa salam Sarkinoma.* Sani, I just don't get it. We are in the same agro-ecological zone, we grow the same crops and yet for some years now, your harvests have been better than mine. I feel that I have been cursed!

**Sani (farmer 2):** *Astangfuroulai,* Idi. You are a good Muslim, so don't say such things. It's much simpler than you think.

**Idi:** Simple! That's what you say, but I'd like to understand what's going on. Look at your field. It looks so good. And look at my cousin Mintou's field. Look at these young shoots. If it keeps on raining as it is right now, she is going to harvest much more than me!

**Sani:** May God hear you. You know Idi, last year both Mintou and I attended a Farmer Field School (FFS); we had to learn a great many things that we are now putting into practice in our own fields. Try asking her. I have nothing to hide from you, but it was her who taught me many things that I didn't know before.

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**Idi:** What can she teach anyone about farming, when she doesn't even know how to handle a hoe...

**Sani:** Hey, Idi! Try anyway. You'll see...

**Idi:** (*sighing since he thinks his cousin Mintou will make fun of him*) Hey Mintou, hey nin, come and have some kola. I've brought you a big nut.

**Mintou:** I'm coming, I'm coming. I'm just dividing up this millet microdose in three plants.

**Idi:** Here, take it all. It's just as well I'm around. If I wasn't, who knows who would give you any.

**Sani:** (*joining in the joking*) Mintou, your cousin Idi has come to see you to find out why he harvests less than we do, even though we have the same type of soil, we grow the same crops and we have more or less the same amount of land.

**Mintou:** (*talking to Idi*) Since our union opened an input shop and started benefiting from an FFS and from demonstrations on the use of fertilizer, and microdosing in particular, lots of people have begun using it. All the farmers go to the shop to buy fertilizer. Only people like you don't get supplies from the shop. But you should know that our soils are getting poorer and poorer due to over-exploitation, and to the fact that farmers no longer allow land to lie fallow, as well as because of crop rotation and the total removal of crop residue, so that soil is no longer protected against wind and water erosion. To compensate, the only way is to put organic matter into the soil and make targeted use of mineral fertilizer, which can restore its fertility.

**Idi:** (*rather cautiously*) Fertilizer? But I put organic matter on my soil every year. Isn't that enough?

**Mintou:** Putting organic matter on your field, like manure and compost, is very important. It helps to fertilize, strengthen and improve soil texture. But sometimes, our soils are so depleted that we need to use mineral fertilizer, especially important elements like NPK, nitrogen, phosphorus and potassium. Lack of phosphorus is a limiting factor for our soil here in Niger.

**Idi:** But remember the year when a hyena caught your goat. Baba ZAZI had spread large amounts of mineral fertilizer on his field. But it turned out to be a bad move. All his crops were burnt.

**Mintou:** Yes, I remember. But that year, it hadn't rained much and Baba Zazi hadn't kept to the guidelines for using fertilizer. To make matters worse, he spread fertilizer over his entire field, which is very wasteful!

**Idi:** Is there another, less risky way of doing things?

**Mintou:** Of course. There is the microdosing technique. But let's wait for Modibo, the union facilitator. He'll be able to explain things better.

### ***Sound of motorbike drawing up next to the group of three farmers***

**Mintou:** Modibo, hey Modibo, my cousin Idi would like to know if there's another way of using fertilizer. Before, fertilizer wasn't expensive, so farmers spread it over the whole field; that's the only method he knows!

**Modibo :** Ah Idi, you should join with us. Let me explain the work that we began a few years ago with your colleagues Mintou and Sani, as well as with many others. Today we are going to talk about the microdosing technique. Given farmers' weak purchasing power, which means that they can't just scatter fertilizer over their fields, since this would use a dose of 150 kg per hectare, microdosing was introduced, to enable small-scale farmers to use fertilizer. This method involves placing small quantities of suitable fertilizer in the seed holes or pockets, unlike the classic techniques, which meant scattering fertilizer over the surface, or mixing it directly with the seed. You can do it when you are sowing.

**Idi:** That's good. Tell me how it works.

**Modibo:** After a good rainfall, a useful rainfall of 15 mm or more, and after you have made the seeding rows, you place a pinch of, for example millet or sorghum in the pocket, without covering it. Next, in the same pocket you place a three-finger pinch of fertilizer, which we call DAP. It's a fertilizer that is rich in phosphorus. You apply 2g of DAP, plus 2 three-finger pinches of 15 15 15 fertilizer – 6 g – and you close the pocket. This can also be done with three people: one who makes the hole, another who puts in the seeds

and covers them lightly with soil and a third who puts in the fertilizer and closes the pocket. Then, when the first shoots appear, and after a good rainfall, you need to tuck a three-finger pinch or 1 g, of urea, into the soil about 10 cm away from the young plants. This method of applying fertilizer ensures that you use the right quantity – not too much and not too little. It also means you need less fertilizer – 20kg/ha of DAP or 60 kg of 15 15 15 – than if you scatter it over the field, which means you make cost savings and you also reduce the risk of burning your plants.

**Idi:** Unfortunately, I don't think I can do it for this farming season because it's too late. But I will be the first to do it next year, *Incha allahou*.

**Modibo:** No Idi, it's not too late. You can still do it when you do the first weeding. At the time of the first weeding you should insert the same quantities of fertilizer as you would do at the time of sowing, into a hole close to the young plants. That's to say one three-finger pinch of DAP fertilizer, or 2 g, plus 2 three-finger pinches of 15 15 15 fertilizer – 6 g. When the first shoots of your millet or sorghum start to appear, you need to tuck a three-finger pinch or 1 g, of urea, into the soil next to the young plants.

**Idi:** I know that the classic method involves scattering fertilizer over the whole field, and this one involves applying it in small doses. But applying it in microdoses will mean much more work! If you compare the two techniques, what is the conclusion? Does microdosing offer more advantages?

**Modibo:** Absolutely. The microdosing technique makes it possible to increase crop yields significantly with a very low investment in mineral fertilizer for the farmer. It also allows farmers to use fertilizer more efficiently. As regards applying microdoses, the producers' organization of which you are a member trains men and women farmers in this technique through Farmer Field Schools and demonstrations. All you have to do is sign up with a Farmer Field School or ask the input shop manager to give you training in the microdosing technique and the application of different types of fertilizer for the correct and targeted use of inputs in your field.

**Idi:** *Incha allah*, I will sign up next season for the Farmer Field School training that our organization will be launching. But for now, I am going to the input shop for some fertilizer, so that I can apply some to my young crops. Thank you Modibo and Mintou for your advice!

**Modibo:** You know Idi, today the right conditions for improving a farmer's agricultural output are all there. Improved seed, fertilizer and quality pesticides are available, and access to them has become easier through the setting up of a great many input shops. Another advantage is that fertilizer is now packaged in small quantities, to answer the needs of the poorest farmers. If you want to buy one, two or three kilos of fertilizer, you can. Everyone can! So all that remains is for us to hope that the rainy season will be a good one!

**Music:** *Cue in closing theme music. Keep for 20 seconds and crossfade.*

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**End of Episode Two**



Projet Capitalisation  
FAO Niger  
BP 11246 Niamey  
Tel + 227 20723362  
km-gender@fao.org  
[www.fao.org/knowledge/km-gender/capitalisation-bp/fr](http://www.fao.org/knowledge/km-gender/capitalisation-bp/fr)



Intensification of agriculture by  
strengthening input shops  
cooperatives project  
FAO Niger  
BP 11246 Niamey, NIGER  
Tel + 227 20373236  
contact@iarbic.net [www.iarbic.net](http://www.iarbic.net)