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**Farmers in Ethiopia tend sorghum with care to improve their livelihoods**

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**Notes to broadcaster**

Sorghum is the dominant crop in most of the Wollo zones in Ethiopia, and plays a major role in the livelihoods of local communities. It’s used for food, local drinks, and cattle feed. In fact, this area is known as the sorghum belt and has conditions that are ideal for maximizing sorghum yields.

According to the National Statistics Agency in Ethiopia, sorghum stands third, next to teff and maize in area planted, with 1.7 million hectares of sorghum fields, and 3.8 million tonnes of sorghum grain harvested per year.

To improve sorghum yields across the country, researchers and development agents have been working with farmers to develop and promote improved sorghum production practices, including: using productive varieties, preparing their farms on time, using practices that retain moisture in the soil, and applying inputs to maximize yield. Clearing their fields of crop residues before ploughing helps farmers to break the life cycle of insect pests like stem borers and plant their seed early enough to avoid the late season dry period.

Local farmers are using techniques introduced by experts and effectively harmonizing them with their traditional skills and knowledge.

This script is based on actual interviews. You could use it as inspiration to research and write a script on sorghum or other crops in your area. You might choose to produce this script as part of your regular farmer program, using voice actors to represent the speakers. If so, please make sure to tell your audience at the beginning of the program that the voices are those of actors, not the original people involved in the interviews.

If you broadcast to a sorghum-growing area, you might want to adapt this program for your audience and then invite listeners to call or text their comments and questions. Here are some possible questions for discussion:

* If there are very dry periods or very wet periods in your area, how do farmers manage water on their farms?
* Is ploughing useful in your area for managing pests and weeds? If so, when is the best time and what the best methods for turning the soil?
* What are the major problems for sorghum farmers in your area?

**Netsanet hailu:** Good morning (afternoon, evening). Today, we’re going to talk about how farmers in Ethiopia care for their sorghum crop to improve their livelihoods.

* Have local farmers or experts devised solutions to these problems? Have these solutions worked in practice?

Estimated running time: 25 minutes, with intro and outro music

**SFX:** Sound of car driving and rain. fade under speaker.

**Netsanet hailu:** I travelled to a village to talk to sorghum farmers. I drove for seven hours to get to Kombolcha town. Kombolcha is in the Kalu District of the South Wollo zone, north of Addis Ababa, the capital city of Ethiopia. Farmers in Terefo, a rural community on the outskirts of Kombolcha, have been growing sorghum as their main crop for many years.

It is August, the rainy season in most parts of highland and lowland Ethiopia. The land is wet and the surroundings are green. The scenery is captivating. You can see baboons flying from tree to tree as we drive to our destination. The non-stop green views are mesmerizing. The sky is covered by clouds, and we can receive rain at anytime of the day.

**SFX:**  FADE OUT SOUND OF CAR AND RAIN

**NETSANET HAILU:** After booking my room and dropping my baggage, I met Kalu district crop expert, Getachew Weldearegai. The next day, we headed to Terefo village to interview some farmers. The first farmer we met was Mohammed Ali. When we arrived, he was weeding his sorghum.

**Netsanet hailu:** Hello, Mohammed.

**Mohammed Ali:** Hello, welcome to our home. *Marahaba* (*Editor’s note: This means “*I am glad you came” *in Arabic.*)

**Netsanet hailu:** Thank you! How is your family and everything?

**Mohammed Ali:** Everything is fine, thanks.

**Netsanet hailu:** Would you briefly describe where you live?

**Mohammed Ali:** The area we live in is Bahema. It’s in Kalu district, Terefo locality.

**Netsanet hailu:** I see that sorghum is a dominant crop in this district. How long have farmers grown sorghum here?

**Mohammed Ali:** Ever since my childhood, sorghum has been the major crop—in fact since the time of our forefathers. Sorghum has been here for generations.

**Netsanet hailu:** Can you tell me what you are doing right now?

**Mohammed Ali:** I’m weeding the sorghum. It is very important to avoid weeds on the farm so the sorghum can get enough water, nutrients, and air to grow fast and vigorously.

**Netsanet hailu:** What is the first thing you do if you want to grow sorghum?

**Mohammed Ali:** The very first step is clearing the land to prepare it for planting. I remove all crop residues, and then I start the first round of ploughing. This is done regardless of the availability of rain. Ploughing is the most important stage of sorghum production. If I don’t plough on time, I will miss the best time for sowing the seed.

**Netsanet hailu:** You say you clear the land before planting. How do you remove the sorghum stalks from the previous harvest?

**Mohammed Ali:** I collect them together in specific places, and then I incorporate them into the soil. I make sure that not one single stalk remains. Also, the first ploughing removes all sorghum roots from the field. The experts say that removing the roots helps farmers decrease the number of stalk borers so that growing the next crop is easier.

**Netsanet hailu:** What type of sorghum seed do you use?

**Mohammed Ali:** Me and other local farmers prefer to use *Tengelay*. This is an early-maturing variety, and it’s much more productive than traditional seeds.

This year, I planted it in May. It grows faster than other varieties. We talk to our neighbours every year about what type of seed we should use. We usually use the same seeds as other local farmers. This helps us to cope with challenges together.

**Netsanet hailu:** How do you cope with lack of moisture in the soil when you plant early-maturing varieties?

**Mohammed Ali:** The shortage of rainfall can cause a lack of moisture in the soil. Our area gets less rain than other districts in this region. We plant early-maturing varieties of sorghum so we can harvest the crop before the dry period later in the season.

To cope with a shortage of rainfall, we store rainwater by building tied ridges around the perimeter of the farm. Then, when the rain comes, we direct the water to these tied ridges to store it. If there is a lack of rain, we open the tied ridges and direct the water through the furrows. This helps us to maintain soil moisture until harvest time.

**Netsanet hailu:** How do you keep the crop from rotting when there is rain at harvest time?

**Mohammed Ali:** If it’s raining, we have a custom of harvesting the crop together quickly over a few days. We call this *Debo*. Debo is the practice of teaming up and working together. This helps us accomplish a job within a few days that could take weeks when working alone.

**Netsanet hailu:** Can you tell me how you deal with stalk borers?

**Mohammed Ali:** Stalk borers are the most serious threat to sorghum production in this area. In the past couple of years, crop experts taught us how to use anti-stalk borer chemicals. We can easily get them from local farmer associations. They have been effective so far.

**Netsanet hailu:** How important is it to plant your sorghum on time?

**Mohammed Ali:** Planting on time is important for increasing sorghum yield. To plant on time, it’s very important to prepare the land before ploughing. If you don’t plant on time, sorghum yields fall. The recommended planting time is one week after the first rain, provided that there is sufficient moisture in the soil.

**Netsanet hailu:** What have you learned from growing sorghum?

**Mohammed Ali:** For years, we have been growing sorghum traditionally. Production was low and we couldn’t even cover essential needs for our children. We got 500 or 600 kilograms from a quarter hectare. After experts advised us to use tied ridges, row planting, fertilizers, and other practices, we doubled or tripled our production from the same quarter hectare of land.

**Netsanet hailu:** How has increasing production changed your life?

**Mohammed Ali:** I’m able to take care of my cattle. I have six children—four sons and two daughters. One of them is already married, while the rest are in school. I have also built a better house. The fact that my wife works hard strengthens me; she supports me in many ways. We discuss and do things based on a common understanding.

**Netsanet hailu:** Thank you for your time.

**Mohammed Ali:** You are welcome.

**Netsanet hailu:** Dear listeners, after visiting Mohammed Ali’s farm, let me take you to another farmer’s house. Her name is Sendel Ahmed, and she lives in Terefo village. After exchanging greetings and explaining the purpose of my visit, I got her consent to record our talk, and I sat down with her for an interview.

**Netsanet hailu:** How do you preserve moisture in the soil?

**Sendel Ahmed:** By harnessing the rainwater that passes through the farm. This enables me to keep my soil fertile as well as retain moisture.

**Netsanet hailu:** How do you prevent stalk borers from causing damage to your sorghum?

**Sendel Ahmed:** I usually uproot and expose the previous season’s sorghum stalks to sunlight and the stalk borers die. After harvest, I thoroughly remove the stalks from the farm, including the roots of other plants which harbour stalk borers.

I also collect urine from my cattle. I keep it in a container for two weeks, then spay it on the farm at the early stages of plant growth. This is a traditional and no-cost way of preventing stalk borers before they cause much damage. When I find a stalk that is damaged, I remove it from the field. We have also learned how to apply chemicals.

**Netsanet hailu:** How did you gain your knowledge of these issues?

**Sendel Ahmed:** Apart from listening to experts, I also listen to farming programs on the radio. In particular, I listen to the twice-weekly program on Amhara Radio station. I record it and listen to it with my listening group, and then we discuss it for 15 days in groups. We ask questions of each other and develop a better understanding. Many women in our village have been inspired in this way and their confidence is boosted.

**Netsanet hailu:** Is it important to plant sorghum on time?

**Sendel Ahmed:** I prepare the land well before the planting season arrives. I think of planting seeds and the seeds becoming productive as being like raising my children. Just like children need enough care to be healthy and grow well, so do seeds. I believe the productivity of the crops is determined by the nurturing we give to the seeds.

**Netsanet hailu:** Do you use fertilizer?

**Sendel Ahmed:** We use DAP at planting and apply NPS 28-30 days after planting. We also use organic fertilizers, but there is no recommended amount.

**Netsanet hailu:** What benefits do you get from nurturing the crops?

**Sendel Ahmed:** We don’t have any problem with productivity. We get good production because we provide organic fertilizer to the crop. We can sell the crop for a good price: 600 birr [US$25] for 100 kilograms. Now I have a stable income and I can store my sorghum so that I don’t need to sell it during the cheap season immediately after harvest.

I am able to do this because I get enough yield. I have four children. One of my daughters is a teacher. My son is a driver. I have a married daughter. One of my sons is staying at home with me and I am trying to get him a job. We are self-sufficient.

**Netsanet hailu:** Thank you.

**Sendel Ahmed:** Thank you, too.

**Netsanet hailu:** Dear listeners, I also talked about sorghum production in Kalu District with Getachew Weldearegai, a crop production expert in the district.

What challenges do farmers face growing sorghum in this area?

**Getachew Weldearegai:** We face different challenges, including a shortage of rain, stalk borers, and using too much seed when planting.

To cope with these challenges, we have been training farmers for years to plant seeds in rows. We tell farmers to leave a 75-cm gap between rows and 20 cm between plants in a row. Most of the farmers use this spacing. This makes it easier to manage moisture and weeds, and to prevent stalk borers.

**Netsanet hailu:** What methods do you recommend for keeping moisture in the soil?

**Getachew Weldearegai:** The first thing is to create a trench at the top of the farm. (*Editor’s note: This area is mountainous, and fields normally have a slope.)* This helps contain rainwater during the rainy season, which can wash away fertile soil. Storing the water in the trench raises the water table in the soil, which helps to retain moisture.

The other method is to create tied ridges every two or three metres in each row so the water can flow through the rows, and every plant gets moisture.

When the rain comes, we advise farmers to be prepared to manage the amount of water in the farm. If there is heavy rain and a lot of water, farmers open the tied ridges and draw water away from the farm. This reduces excess moisture and also prevents soil erosion.

This is very important for getting a good sorghum yield. There can be water shortages in September, so saving moisture in the soil before that helps the plants cope with this shortage of rain.

**Netsanet hailu:** What challenges have you faced in applying these methods, and how have you solved them?

**Getachew Weldearegai:** The main challenge is convincing farmers of the benefit of these methods. But the majority are using them and seeing an improvement in their productivity. They are serious and determined to succeed, and have already started to advise their neighbors. So sorghum productivity is increasing from year to year in our district.

**Netsanet hailu:** How can farmers prevent damage from stalk borers?

**Getachew Weldearegai:** In our area, there is a very strong infestation of stalk borers. Because the problem is so big, we take it very seriously and start protecting crops right from the beginning at land preparation.

The first step is to dry and remove the crop residues from the previous harvest, including the whole root. But we know that this will not completely eliminate stalk borers. So, after planting the sorghum, we make sure that chemical pesticides arrive on time for every farmer. Farmers’ associations provide the chemicals.

 We advise farmers to spray the chemicals three times: first, when the plant is below knee height. The second round is two weeks to a month after the first application. The third round may not be needed; it depends on the severity of the problem. Sometimes, extension agents and other experts help farmers decide whether a third application is needed.

The other way to prevent stalk borers is called the push- pull method. This is a biological method that involves planting Desmodium and Brachiaria grasses. Stalk borers like Brachiaria very much. So when farmers plant Brachiaria grass along the perimeter of the farm, it attracts or *pulls* the adult stalk borers—which are butterflies—away from the sorghum. And stalk borers do not like Desmodium. So when farmers plant Desmodium between the rows of sorghum, the plant repels—or *pushes*—the stalk borers away from the sorghum.

Also, Brachiaria has a natural ability to kill stalk borer eggs. Only a few farmers are using the push-pull method currently. We are working to expand it in the future.

**Netsanet hailu:** Thank you very much.

**Getachew Weldearegai:** You are welcome.

**Netsanet hailu:** Dear listeners, we have talked to sorghum farmers about how to retain moisture in the soil, build tied ridges every 2-3 metres in the rows to manage water flow in the field, how to prepare land at the right time, and how to prevent damage from stalk borers.

Farmers told us how carefully tending sorghum helps them improve their livelihood. The expert also talked about farming practices that help to increase sorghum yield. I hope you learned something today from these interviews in Terefo community.

 I’m Netsanet Hailu. See you next time.

## Acknowledgements

Contributed by: Netsanet Hailu, journalist, Addis Ababa, Ethiopia.

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**Sources of information**

Interviews:

Mohammed Ali, August 24, 2017

Sendel Ahmed, August 24, 2017

Getachew Weldearegai, August 25, 2017

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