

# Pack 108, Item 3

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# Women farmers using conservation agriculture offer tips to increase yield

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**Notes to broadcaster**

Many small-scale farmers are having difficulties these days because of climate change and degraded or eroding soil. But conservation agriculture shows that it is possible for them to succeed in this challenging situation.

Conservation agriculture, or CA, offers simple practices that farmers can use to address the negative impacts of climate change, build good soil, and learn how to “farm with nature.” This sometimes involves adjusting or changing traditional ways of farming to take maximum advantage of poor or erratic rainfall and other water available for crops.

Many small-scale farmers think CA can only be understood and practiced by educated people. But CA is suitable for farmers with any level of education.

Important practices in CA include minimal disturbance of the soil, crop rotation or crop associations (meaning effective intercropping), and maintaining soil cover with mulch and/or living plants throughout the year. For resource-poor farmers, CA involves minimal financial input, including less dependence on chemical fertilizers.

When farmers change farming practices, they often try out the new practices on small areas of land. This is true of CA practices too. This script interviews two women farmers who use conservation agriculture to better prepare their fields. The farmers discuss how they are overcoming challenges related to land preparation, and they talk about the different tools required in CA and the best ways to use these tools. The two women also talk about the costs involved when comparing conservation agriculture with traditional farming.

You might choose to present this script as part of your regular farming 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.

You could also use this script as research material or as inspiration for creating your own programming on women in CA or similar topics in your country.

Talk to farmers and experts who are practising CA or are knowledgeable about this type of farming. You might ask them:

* Have women in your area been involved with CA? If not, what are the barriers?
* If women have been involved with CA, what were the results? Do the women use hand tools or power equipment to prepare their land?

**Sign tune:** FADE IN, THEN FADE UNDER HOST

* What problems have they encountered practising CA, and how have they addressed them?

Estimated running time for the script: 15 minutes, with intro and outro music

**Host:** Hello and welcome to your favourite farming program, *Conservation Agriculture Today*.

(PAUSE) Women make a vital contribution to agriculture and to rural economies, contributing more than half of agricultural production in Africa. There has been a big increase in the number of small-scale women farmers who are practising conservation agriculture, or CA, to improve their food security and make ends meet. But these women face a number of challenges implementing CA practices.

Today, we’re fortunate to meet Ms. Jemima Josephat and Ms. Ester Kitojo, farmers in Mchemwa village, about20 miles from Dodoma, Tanzania’s capital city. One of the challenges they face is that there is a shortage of labour to help prepare land for CA. These women are addressing the labour shortage by training more oxen. We will also hear step-by-step practices for land preparation, and learn what farmers should and should not do when getting ready for conservation agriculture.

Wherever you are, stay tuned for more. My name is Sylivester Domasa, and I will be your host.

**Music:** SIGN TUNE FADE UP AND THEN OUT

**SFX:** SOUND OF A MOVING CAR.SLOWLY CROSS-FADE TO SOUND OF FOOTSTEPS, THENSOUND OF CHICKENS PANICKING, THEN FADEOUT UNDER HOST.

**Host:** With the challenge of climate change, conservation agriculture is becoming a hope for sustainable land use to improve people’s livelihoods, especially in dry areas. Dodoma is one of the semi-arid regions in Tanzania where farmers are moving quickly to adopt CA practices. It is farming season here and farmers are busy in their fields. Ms. Josephat is at Ms. Kitojo’s farmyard, where we will conduct our interview.

**sfx/MUSIC:** FARM SOUNDS, THEN FADE UNDER CONVERSATION.

**Host:** A respectful good day to you both.

**Ms. Josephat and**

**MS. KITOJO:** Good day and welcome.

**Host:** Thanks. Let's start our discussion right away. Ms. Kitojo, may I start with you? You are known as a farmer who gets very high yields. Is it possible for you to explain your secret?

**Ms. Kitojo:** (COUGHS A LITTLE AWKWARDLY) I don't really think I am that famous. But two words: conservation agriculture. CA is a way of farming where the land is minimally tilled or not tilled at all. It uses sustainable farming practices, and aims to ensure food security, productive farming, and improve biodiversity and the farming ecosystem.

When CA was first introduced in this village by people from the Diocese of Central Tanganyika, I took it serious. Although I have been farming traditionally for many years, shortly after I started practising CA with sorghum, I noticed a huge change in my yields.

Our CA specialists advised us on land preparation and on equipment to be used, and ever since, I have kept an eye on both those things in order to get good yields.

**Host:** So how do you prepare your land and what are the special tools you use?

**Ms. Kitojo:** I started with a quarter acre, and now I am using three acres. You might be surprised, but we’re advised to start small to master CA procedures.

As a conservation farmer, you need some land to farm, a tape measure, a rope, a hand hoe, sticks, mulch—dried grass and/or leaves—ashes, composted manure, and seeds. And, depending on the size of the farm, you may also need either a Magoye ripper, power tiller, or tractor to prepare your land. If you use a Magoye ripper, you will also need a minimum of two donkeys or oxen.

When you have these tools, you can start preparing your field.

To prepare your land for planting, you use two sticks to mark the end points of the farm. You take the rope and stretch it tight from one stick to the other. This gives you clear and straight rows. Next, you use the hand hoe to till small planting holes inline with the rope.

**Host:** From the look of things on your farm, and how well you have described the procedures for preparing the land, I guess your skills at understanding and implementing the practices are one reason women are taking a lead role in CA. Ms. Josephat, how do you use a tape measure for spacing in the field?

**MS. JOSEPHAT:** We use the tape measure to get the right distance from one knot on the rope to another. We tie a knot at every 20 cm of the rope in the row. We also separate each row by the correct distance. This is all done after the field has been well cleared. The planting basins are15 cm deep and eight cm wide. Before planting, we add half a litre of composted manure and a teaspoon of ashes, and then cover it almost to the top with soil, but leave some space to capture rainwater.

When we have done this throughout the farm, we spread mulch between the rows. We then plant sorghum in the basins and cover the seed with clod-free soil when there has been adequate rain.

I should say that we’re advised not to burn the mulch because it contain nutrients for the soil. Mulching helps prevent weeds. If we are short of maize or sorghum stalks to act as mulch, we intercrop the sorghum with legume cover crops such as cowpeas, because the cover crops also help manage weeds.

**Ms. Kitojo:** If I may add, this is the procedure commonly used when you have a hand hoe. It changes a bit if you use power tillers or a Magoye ripper. These two kinds of equipment create a long planting basin. A farmer just needs to make sure the distance between planting basins is the same.

**Host:** Applying manure can encourage weed growth. How do you use manure without creating weed problems?

**MS. JOSEPHAT:** We prefer using manure that is well-processed with no viable weed seeds, such as compost.

**Host:** Does that mean that weeds don’t germinate?

**MS. JOSEPHAT:** No, they germinate. But as soon as they start emerging, we remove them. Poor weed control can reduce yields by half. We weed as frequently as necessary. But, if you use enough mulch, only a few feeble weeds will germinate.

**Host:** You have mentioned some practices that involve different tools. Are these tools essential? Where do you get them?

**Ms. Kitojo:** Most of the tools are common. They are at the house and available in the village. Whether it’s ashes, organic fertilizers, hoes, ropes, or stalks, we have them around. Our problem here as women farmers is labour.

If you are using hand hoes to make planting basins, this will take more time than simply gathering and burning residues. But using oxen in CA takes far less time than making hand basins.

Another factor is that our children who are supposed to assist in farm work go to school. So farm work is difficult when you don’t have money to hire some youth in the village to help. We used to have oxen that helped the village when we used the Magoye ripper, but the owner decided to sell them, and thus we have all gone back to using hand hoes.

**Host:** Were the oxen privately owned or owned by a group of farmers?

**MS. JOSEPHAT:** They were privately owned. Now it’s a bit challenging to scale up our conservation practice. A Magoye ripper was freely donated to the village, and we paid a fee through our farming group to use it. You only needed to pay for the oxen and the man or woman holding them. It cost17,000 Tanzanian shillings [US$7.50] per acre to hire a Magoye ripper that takes less than 30 minutes to rip an acre. By comparison, conventional ploughing costs between 25,000 and 30,000 shillings [US$11-13] per acre, and it takes about six hours to complete the task.

**Host:** So what do you do as an alternative to hiring labour, Ms. Kitojo?

**Ms. Kitojo:** Shortage of labour hasn’t been a huge problem because we’re training some other oxen which we rented from a villager who bought them. We’re also training young women to operate the Magoye ripper. We’re doing this because having men available for labour is becoming more unreliable, and so we will have women who can operate these kinds of equipment. We’re also doing this because we women want to be involved in this work. The team from the diocese has been conducting trainings and is helping to end labour problems, and we hope we’re in the right path.

**Host:** Is this labour shortage the reason why most women are not involved with CA? Or have they been reluctant to get involved for other reasons?

**Ms. Kitojo:** I think the explanation is related to CA practices. I am practising CA, but, it is more time-consuming preparing planting basins with hand hoes than simply burning the residues. But it is different and much quicker if you have access to tools such as a Magoye ripper or a tractor. Also, most farmers, including me, don’t start to prepare their fields early enough during the dry season, despite advice from experts.

**MS. JOSEPHAT:** We have a new man in the village who was not part of our farming group, but who attended the CA trainings after learning about the benefits. He is planting more than 10 acres with CA practices and hires youth to get the job done.

We work on the farm and have to struggle to work as farm labourers to get money to support our families, and sometimes even to buy seeds. Last year was not a good season, and so we have to work tirelessly to make ends meet.

**Host:** Ok, thank you.

I just want to remind the listeners that, although oxen are used with the Magoye ripper, the animals should not be allowed to eat the crop residues or mulch in the fields. The presence of cattle in the fields, especially when it has rained, also compacts the soil, and this should be minimized.

We are at the end of today’s program.

**Music:** FADE IN SIGN TUNE, THEN UNDER HOST

**Host:** Thank you, Ms. Josephat and Ms. Kitojo, for having us in your village. We have seen and heard what you are doing regarding conservation agriculture.

My name is Sylivester Domasa, and I was your host throughout the program. I wish to thank you for tuning in and listening. Until next time.

FADE UP SIGN TUNE, HOLD, THEN OUT.

## Acknowledgements

Contributed by: Sylivester Domasa, writer, Dar es Salaam.

Reviewed by: Saidi Mkomwa, Eng., Executive Secretary, African Conservation Tillage Network, Nairobi, Kenya.

**Sources of information**

Interviews:

Mr. Samwel Elinuru, extension officer, Mchemwa village, December 2017

Ms. Jemima Josephat, farmer, Mchemwa village, Dodoma Municipal, December 2017

Ms. Esther Kitojo, farmer, Mchemwa village, Dodoma Municipal, December 2017

Ms. Hellena Mazoya, farmer, Chihanga village, Dodoma Municipal, December 2017

Ms. Faith Kusenha, farmer, Chihanga village, Dodoma Municipal, December 2017

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