

# Pack 114

Interview

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**It comes like fire: Managing late blight of potato in Nigeria**

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**Notes to broadcaster**

Potatoes are the fourth most popular food crop in the world. They contain no sodium, cholesterol, or fat, and has moderate to high levels of vitamin C, potassium, iron, vitamin B6, and dietary fibre. The potatoes can be made into a wide variety of foods, including snack foods such as crisps and fries.

In Nigeria, potato production is mostly centred in the Jos region of Plateau State, where the altitude creates a cool climate that is well-suited to potato growth.

Potatoes offer a variety of benefits to farmers and consumers. They are relatively nutrient-rich, lucrative, relatively easy and quick to cultivate, do not require a lot of land, easier to cook and digest than most other staples, and do not require any processing once harvested.

This script tells the stories of small-scale farmers from Jos, Nigeria who have suffered potato blight, in their own words. We learn about their experiences and their efforts to prevent and combat the disease. In addition, two local experts give us the facts about potato blight disease: how to recognize it, and natural and chemical ways to prevent and/or combat it.

This script is based on actual interviews. You could use it as inspiration to research and write a script on a similar topic in your area. Or you might choose to produce this script on your station, 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 the script as guidance and seek out interviewees representing the different players in the potato value chain.

If you create your own programs on Irish potatoes, talk to farmers, traders, nutritionists, extension workers, and other relevant stakeholders in your area. You might ask them:

* Are Irish potatoes grown in your area? If not, why not?
* What are the major pest and disease challenges for potato farmers in your area? What effective and affordable methods do farmers use to address these challenges?
* What services are available to help farmers manage pests and diseases?

The estimated running time for this item, with signature tune, intro, and extro, is 20-25 minutes.

**HOST:** Hello, listeners, welcome to our program. My name is \_\_\_\_\_.

Today, we will be talking about Irish potato blight disease in Nigeria. Our journey takes us to the city of Jos, in the northern part of the country. We will talk to local farmers and experts and find out about their experiences with this disease and how they have managed to combat and overcome it.

While Nigerians are mostly known for their love for yams, Irish Potatoes are actually very popular and widely-consumed in Nigeria. In fact, they are the third most important root and tuber crop produced in Nigeria after yam and cassava.

Today, nearly three hundred thousand hectares of farmland produce close to one million metric tons of potato each year in Nigeria. This yield could be the greatly improved, but famers in Nigeria face many difficulties. Difficulties include natural ones like poor weather, pests, and disease, plus social and structural challenges such as gaps in knowledge, financial difficulties, poor transport and storage facilities, and difficulty in accessing hardier and more resistant strain of seedlings (*Editor’s note: also known as seed potatoes*) and plants.

One of the main contributors to low yields is a disease called potato blight, or late blight. Almost every farmer who has ever grown potatoes has stories of this disease wiping out some or all of their harvest.

Today, we are going to interview farmers and experts around Jos, in Nigeria’s Plateau State, the key city in the production of potatoes in the country.

First, we’ll be talking to Dr. Daniel Lenka, who will give us a brief overview of potato farming in Nigeria. Dr. Lenka is a lecturer at the University of Jos, Faculty of Agriculture, and has worked with the National Root Crops Research Institute Potato Program. Welcome, Doctor.

**DR. LENKA:** Thank you for having me.

**HOST:** Can you give us a quick background on potato farming in Nigeria?

**DR. LENKA:** Well, potatoes were brought to Nigeria by the Germans 90 years ago in 1930. Irish potato is a staple crop that grows at high altitude. In Nigeria, there are about five or six places that are optimal for potato farming.

**HOST:** So, you need high altitudes because the climate there is milder?

**DR. LENKA:** Yes, in high altitudes you have cool temperatures. Potato is a temperate crop and needs a range of 5-15 degrees Celsius to grow and develop good tubers. If you can maintain that range of temperature for about two months, you can grow potatoes. The optimal temperature is about 10 degrees Celsius.

**HOST:** That temperature seems really low. Are there actually places like that in a tropical country like Nigeria?

**DR. LENKA:** Yes, as I said, there are about five or six places in Nigeria that are optimal for potato farming. But 95% of all potatoes produced in Nigeria come from the Jos Plateau. The Jos Plateau has the capability to produce 20-30 tonnes per hectare from planting about two tonnes of seed potatoes per hectare. But due to pests, diseases, and other issues, we presently produce under 10 tonnes per hectare in Nigeria.

**HOST:** Thank you, doctor. You’ve given a brief history and background, but what is the current situation on ground?

**DR. LENKA:** Well, the yield has been decreasing due to pests and diseases. There are viral and bacterial diseases but the most common challenge recently is loss to yields due to late blight disease, a fungal disease that affects potatoes.

Because it is a fungal disease, if environmental conditions are conducive, the disease can spread rapidly. It affects the leaves and stem, causing them to turn black. Without leaves, the plant cannot manufacture food for itself and eventually dies.

In modern times, potato blight was first found in 2014 in the Bokkos Local Government are, a region in Plateau state. Bokkos is responsible for producing about 40% of the potatoes in Nigeria and farmers were just ravaged by the disease. About 500 hectares of land were damaged and within a week, it had spread across the state and there was no area that was free from it. The cost was astronomical—not just in lost produce, but the human cost as well. A lot of farmers committed suicide after visiting their farms and finding everything lost, almost in the blink of an eye.

**HOST:** That’s really sad.

**DR. LENKA:** Yes, it was. The government intervened but the disease spread too quickly for them to prevent catastrophic losses. Most of the potatoes were not mature enough to be sold.

**HOST:** Thank you, Dr. Lenka. We will be back with Dr. Lenka later in the program. But now, let’s talk to a couple of farmers who have undergone potato blight. First, we have Bob Ezekiel, an experienced potato farmer who has been farming since he finished secondary school. Welcome to the program, Mr. Ezekiel.

**BOB EZEKIEL:** Thank you. I’m happy to be here.

**HOST:** Can you tell us how you got into potato farming?

**BOB EZEKIEL:** It runs in the family. My parents were potato farmers and I was always interested. When I finished school, I joined them.

**HOST:** How has the journey been?

**BOB EZEKIEL:** It has been ok, with some difficulties. We have been able to feed ourselves and sell a bit to make some money. I sold about 50,000 naira of potatoes (about US $150) in my last harvest.

**HOST:** What were your difficulties?

**BOB EZEKIEL:** There have been many challenges. For me, the number one challenge has been acquiring seedlings. If you get the best seedlings from the start, you can start counting your gain. Alas, some of the seedlings I’ve gotten have not been of a good quality and that really affects the yield. Finances are also a big problem, because they can affect a lot of things: your planting schedule, the quality of seedlings you get. and that indirectly affects your yield. Like with fertilizer: you have to apply it at a specific time, and if you don’t have the finance to apply it when you should. you may not get the yield you thought you would.

Pests and diseases are also big issues. One year, rodents removed half of my farm. Also, millipedes and other pests sometimes attack my plants. But the big problem is the blight, which usually comes when there’s a lot of rainfall.

**HOST:** Can you share your experience of late blight with us?

**BOB EZEKIEL:** I noticed that there were black spots on the green leaves of my plants. Before I knew it, the leaves dried and withered. There was a lot of rainfall at the time.

**HOST:** Were you able to combat it?

**BOB EZEKIEL:** At that time, I was not able to. However, I was told to use a particular chemical three weeks after planting. I was told to apply it to my crops once a week until they were ready for harvest. I will see the results this harvest.

**HOST:** Thank you, Mr. Ezekiel. Next, we will talk with another farmer, Joseph Dangyang, who has been farming for 10 years. Welcome to the program, Mr. Dangyang. Can you tell us how you got started in potato farming?

**JOSEPH DANGYANG:** Thank you. Well, I was born into a family of farmers and developed an interest in farming from a young age. I farmed many crops, but potato was the one I enjoyed farming the most.

**HOST:** Any challenges in cultivating the potatoes?

**JOSEPH DANGYANG:** Sometimes, we have the challenge of seedlings. Some are diseased—they look fresh but when you plant them, they get to a certain point and just die. That shows you that the seedlings had a problem. My worst harvest, though, was caused by potato blight. It is a prominent disease that a lot of us farmers are dealing with.

**HOST:** Can you describe the disease?

**JOSEPH DANGYANG:** In the first stage, the leaves become discoloured with black spots, and they eventually wither and die. This affects the growth of the plant.

**HOST:** What measures did you take to combat the blight?

**JOSEPH DANGYANG:** When I discovered blight, I realized that it came during the heavy rains and the temperature was a bit cold. So I decided to plant the potatoes a little earlier, just before the first rains, so that I could escape the worst weather. The blight usually comes around July or August, so if you start early, your potatoes are ready to be harvested before that and you can miss blight season.

**HOST:** How has the weather changed since you started farming?

**JOSEPH DANGYANG:** I have been farming for 10 years and the weather has changed. I definitely see more pests on my farmland now. It’s usually rats which I combat with chemical rodenticides. I feel like the change in weather also makes it possible for blight to thrive.

**HOST:** Thank you, Mr. Dangyang. Let’s call back our experts to further explain the symptoms of blight. Gbenga Oni is a researcher with over a decade’s experience in potato farming and combating potato blight. He has worked with many local and international institutes including the National Root Crop Research Institute and the German developmental agency, GIZ. Welcome to the program, Mr. Oni.

**GBENGA ONI:** Thank you.

**HOST:** We’ve heard the effects of blight on the success of potato farming in Nigeria. What is your take?

**GBENGA ONI:** Well, blight comes like fire; that’s the best way to describe it. An unexpected and devastating fire. As a researcher with international development organizations, we tried all sorts of measure to help farmers improve their yields—planting better strains or teaching better farming practices or even improving the value chain from farm to market. We could do all these things and the blight would come like a fire. Imagine waking up one morning and it looks like a fire burned through your crops, burning off all the leaves.

**HOST:** And everything is lost.

**GBENGA ONI:** Not necessarily. In places with good technology, if the harvest is close by, you just slash away the affected leaves and remove the affected parts so the infection doesn’t get to the soil. This allows the crop to stay in the ground for some extra time for the skin to become hard and tough. However, here in Nigeria, when farmers see blight, they quickly harvest. And once you harvest too early, it can affect the potato flesh. It is rough, uneven and so on. This has a big effect in the market as those battered-looking potatoes do not fetch a good price.

**HOST:** We interviewed some farmers earlier who had suffered blight and it seems that early detection can help to salvage the harvest. How can you tell when blight is near? What are the symptoms?

**GBENGA ONI:** The leaves curl, turn black, and burn off overnight. Your farm can go overnight from lush green to looking like someone came and set it on fire.

**HOST:** Thank you, Mr. Oni. We now welcome back Dr. Lenka. Doctor, what are the some of the causes of potato blight? What makes farms more susceptible to blight?

**DR. LENKA:** Blight comes from the potato tubers. If the tuber is infected and there is a conducive environment for the fungus—such as damp conditions for multiple days—the cotton-like blight spores will thrive.

The spores can also thrive on farm tools, the infected parts of the plant, and in the soil. Because they are cotton-like, they can easily travel in the air to infect other crops.

Some planting systems also create situations for blight to thrive. For example, our farmers plant potatoes twice a year, which means that the tubers are more susceptible to disease. We also tend to overcrowd when we plant.

**HOST:** What does overcrowding mean in this case?

**DR. LENKA:** The seed potatoes are planted too close together, which leads to increased humidity and creates conditions optimal for blight to germinate. Another planting technique that can favour late blight is intercropping if you plant the intercrops in close proximity to each other. This also increases humidity that can lead to the germination of spores.

Another possible cause is global warming. Perhaps the change in climate has allowed the fungus to become more prolific and voracious.

**HOST:** Thank you, Dr. Lenka. Now let’s talk to a few more farmers. Nandul Binkur has continued his parents’ legacy as farmers and has been farming for more than a decade. Welcome to the program, Mr. Binkur.

**NANDUL BINKUR:** Thank you.

**HOST:** How did you get into potato farming?

**NANDUL BINKUR:** I was always interested because my parents were farmers.

**HOST:** What has been your experience of growing potatoes?

**NANDUL BINKUR:** It’s been bittersweet, really. When the yields exceed expectations, you feel great, and when it doesn’t meet your expectations, it’s painful. I like potato farming because when you plant one potato, you don’t just get one back. So when you’re counting the yield from just one potato seedling, it gives you joy because you know your effort has not been in vain. (LAUGHS)

I’m actually quite happy—I made my best harvest this year from a commercial perspective, and it’s very exciting as this is actually my first good harvest on my own.

**HOST:** That sounds great! You mentioned it was bittersweet. Have you had some difficulties with potato farming?

**NANDUL BINKUR:** Yes, what we used to experience then and now is quite different. Most of the things you plant now get attacked by disease. It has really affected harvests.

The common one is potato blight. I noticed that, when my plants began to mature, the leaves withered and died. It usually happened at the peak of the rainy season.

**HOST:** How do you combat the disease?

**NANDUL BINKUR:** I was advised to plant early, at the first rain. You know when the first rains come, it takes some time before the rain comes frequently. If you plant at the first rain, your plants are mature and ready to harvest when blight comes.

**HOST:** Is there anything else you do?

**NANDUL BINKUR:** Well some people have used some chemicals to fight blight, but it doesn’t always work, so I am unsure about that. So far, this early planting method has been working for me.

**HOST:** Has the weather changed since you started farming? And has it caused more diseases?

**NANDUL BINKUR:** A lot has changed since I started farming over ten years ago. The weather has changed a lot and I think it has led to more pests and diseases. The weather is also more unpredictable. Before you could predict when the rain would come, but sometimes it delays now.

**HOST:** Thank you, Mr. Binkur. We now welcome back Gbenga Oni to the program. He will tell us how best to combat potato blight.

**GBENGA ONI:** Hello again. If you think of what oil is for the people in the Niger-Delta in Nigeria, potato is that for the people of Plateau State due to its climate. So you can imagine the effects of a bad harvest. It’s very important that we not just find cures or ways to combat the blight, but also share them with farmers.

There are a few ways we can combat blight—directly and indirectly. The first way is to use clean, disease-free seedlings. One of the major causes of blight is the fact that farmers re-use the seedlings. Infected seedling that are stored and then used during the next planting period are actually the number one cause of blight.

Another way we can combat blight is through good land hygiene and preparation practices. Make sure your tools are sterilized and your fertilizer and soil are free from infections. Don’t plant crops too close together.

Then planting at the right time. I notice one of the farmers said she only plants in the dry season. This is a good idea, but it is also very expensive or labour-intensive to get access to water.

**HOST:** What is the right time to plant?

**GBENGA ONI:** Plant early, between March and May, so you can harvest before the heaviest rains in September and October. Keep in mind that the weather is unpredictable and rain might be late, so you might need alternate plans for irrigation so the fertilizer doesn’t burn your crop.

There are also some early-maturing varieties of potato on the market that mature in less than three months. This would also ensure that the potatoes were ready before the heavy rains.

Then there is the use and correct application of fungicides. There are a few effective fungicides and you can talk to your local extension agent to get their advice on which product to use.

**HOST:** You mentioned correct application. What did you mean by that?

**GBENGA ONI:** It’s like the polio vaccine. You have to give it to the child at the right time. You don’t just give it to the child when it is a few years old and expect it to work, because by then it might be too late. When it comes to blight, prevention is better than cure. You need to apply the fungicides before the rains start or they will be just washed away.

Finally, we need to educate the farmers about this disease and other threats to their farms and let them know about good agronomic practices.

**HOST:** Thank you, Mr. Oni. Dr. Lenka, do you want to add anything to Mr. Oni’s information?

**DR. LENKA:** Yes, I just wanted to add the timelines for the application of fungicides. A soon as the crops sprout, you start applying the fungicide. It depends on the product you use, but typically you apply it every two weeks for a maximum of six applications before harvest, and avoid using it too close to harvest.

**HOST:** Can you use fungicides once an attack has started?

**DR. LENKA:** At the early stages after you detect the fungus by observing spots on the leaves but before the leaf turns black, you can apply the fungicide on the affected areas, and destroy the fungus that causes the disease. If this course of treatment is successful, there will usually be holes left on the leaf where the fungus attacked it. However, once the leaf is destroyed, there is no hope.

**HOST:** Thank you, Dr. Lenka. Well, we have come to the end of our program today.

It seems like potato blight is very common and spreads easily. But by reducing the conditions that allow it to thrive, planting a bit earlier to avoid the peak of the rainy season, planting clean seed, using early-maturing varieties, using hygienic practices, and by regular and correct use of fungicides, farmers can still achieve a healthy yield.

I hope this information helps you all on your farms. Good luck!

## Acknowledgements

Contributed by: Ted Phido, writer, The Write Note, Lagos, Nigeria

Reviewed by: Lucas Garba, Director of Extension, Plateau State Agricultural Development Programme, Jos, Plateau State

**Sources of information**

Dr. Daniel Lenka, lecturer at the University of Jos, Faculty of Agriculture, February 9, 2020

Bob Davou Ezekiel, farmer, Plateau State, February 4, 2020

Joseph Dangyang, farmer, Plateau State, February 4, 2020

Gbenga Oni, consultant, ACCEPT (Agric-Community Engagement-Conflict Resolution-Education-Training), and former researcher, National Root Crop Research Institute, February 6, 2020

Nandul Edward Binkur, farmer, Plateau State, February 4, 2020

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