

## IITA alumnus named 2020 World Food Prize Laureate!

The [World Food Prize Foundation](#), on 11 June, announced leading soil scientist and IITA alumnus Dr Rattan Lal, as the 50th World Food Prize Laureate. The Foundation's Selection Committee chose Dr Lal for "developing and mainstreaming a soil-centric approach to increasing food production while conserving natural resources and mitigating climate change." "World Food Prize Foundation President Barbara Stinson announced the selection in a [pre-recorded Laureate Announcement Ceremony](#), which featured remarks from the U.S. Secretary of State Michael R. Pompeo and U.S. Secretary of Agriculture Sonny Perdue.



*Dr Rattan Lal, 50th World Food Prize Laureate.*

"Dr Lal is a trailblazer in soil science with a prodigious passion for research that improves soil health, enhances agricultural production, improves the nutritional quality of food, restores the environment and mitigates climate change," said Stinson. "His decades of work to address all of these elements fully warrants his recognition as the 50th World Food Prize Laureate."

Growing up on a small subsistence farm as a refugee in northern India, Lal's determination to learn led him to excel in school, propelling him to become one of the world's most prominent soil scientists. His pioneering research on the restoration of soil health in Africa, Asia, and Latin America led to revelations that impacted agricultural yields, natural resource conservation, and

climate change mitigation. The agricultural practices Lal advocated are now at the heart of efforts to improve agriculture systems in the tropics and globally.

Believing that the health of soil, plants, animals, people, and the environment is indivisible, Dr Lal began his research career at IITA in Nigeria, developing soil

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## COVID-19 – Work in shifts, researchers advise yam seed producers and farmers

To reduce the spread of [COVID-19](#) governments all over the world have instituted specific measures such as physical distancing and staying at home. Unfortunately, for farmers, time is of the essence since the rainy season is here and it will soon end—whether we are facing a pandemic or not. For farmers, the rains mean they must be in their fields planting or else they will miss the season. In this story, [Norbert Maroya](#), Project Leader of the Yam Improvement for Incomes and Food Security in West Africa ([YIIFSWA-II](#)) talks about yam farming in Nigeria and Ghana, where the project currently operates.



*Sprouting yam seeds.*

Maroya says CGIAR-IITA has been in contact with public and private partners over the phone, advising them how to ensure continuity even with the pandemic. “We advised our partners to work in shifts—always have at least one person who can stay on-site for 2-3 days and take care of the plants in aeroponics, hydroponics, and nurseries. If the yam plants in screen houses are not regularly watered, they will die.”

It is not just screen house plants that are at risk but also the seed tubers in storage awaiting planting. When the tubers are ready for planting, they start sprouting. When kept beyond their planting time, the tuber sprouts grow profusely.

Maroya explains that one can extend the planting time more by cutting off the shoots; however, this should only be done twice. “The more the tubers sprout, the more nutrients they lose and they become lighter in weight. If a farmer keeps cutting the shoot, the tubers become distressed due to continued loss of nutrients and moisture and eventually wither and rot. So, it is advisable to cut the shoot only twice at a one-month interval as the farmers devise safe ways of planting the tuber.”

Should farmers decide not to cut the shoot and let it sprout, they will lose much more. “If the seed tubers remain in storage for more than two months after sprouting, the farmer loses up to three-quarters of their potential yield capacity and production volume,” Maroya clarifies. He adds that if a farmer had seed yam that could cover a hectare, but due to COVID-19 stay-at-home measures, is unable to plant immediately and waits for two months, by the time he or she plants the same seed, it will cover only a half to a quarter of a hectare.

Staying at home is one measure that cannot apply to farmers during the planting season, Maroya said. Farmers cannot stay away from their fields because the world’s food and nutrition security depend on them. However, they must adhere to safety measures such as frequent handwashing with soap and running water, physical distancing, and wearing a face mask in public.

Yam is a high-value crop in West Africa. According to FAO, in Nigeria, yam has a higher production value than all the other five major food staples: maize, cassava, rice, millet, and sorghum combined.



Yam seed.

## IITA alumnus named 2020 World Food Prize Laureate! .... [Continued from page 1](#)

health restoration projects across Asia, Africa, and Latin America. He explored and transformed techniques such as no-tillage, cover cropping, mulching, and agroforestry that protected the soil from the elements, conserved water and returned nutrients, carbon and organic matter to the soil. This, in turn, improved the long-term sustainability of agroecosystems and minimized the risks to farmers of droughts, floods, and other effects of a changing climate.

In his remarks, Secretary Pompeo noted the problem of resource sufficiency and the need for more productive and efficient use of what is available in the face of the continuing growth of the world’s population. “Dr Lal’s research in soil science shows that the solution to this problem is right under our feet. He’s helping the earth’s estimated 500 million small farmers be faithful stewards of their land through improved management, less soil degradation, and

the recycling of nutrients. The billions of people who depend on these farms stand to benefit greatly from his work,” he said.

Secretary Perdue highlighted the importance of the award, noting how it ties into the USDA motto: “To do right and feed everyone”. He said: “The scientific innovations, like those developed by Dr Lal, embody this motto in the work that he and we are doing. The agricultural practices Lal developed and advocated for are now at the heart of efforts to improve agricultural systems.”

During the subsequent [World Food Prize Digital Dialogue](#) broadcast, Lal expressed gratitude for the recognition from the Foundation. “The unbound joy and excitement of receiving the 2020 World Food Prize reminds me about the gratitude, privilege, and honor of working for farmers from around the world,” he said. “Yet, the urgent task of feeding

humanity is not fulfilled until each and every person has access to an adequate amount of nutritious food grown on healthy soil and in a clean environment.”

Lal’s career is in its sixth decade, spanning five continents. He is currently the Distinguished University Professor of Soil Science and founding Director of the Carbon Management and Sequestration Center, [College of Food, Agricultural, and Environmental Sciences](#) of the [Ohio State University](#) (OSU) in Columbus, Ohio. He is the recipient of several other awards including a recognition certificate from the Nobel Peace Prize, the [Medal of Honor](#) from the Menéndez Pelayo International University, and the [Japan Prize](#) for outstanding achievements in soil management.

Dr Lal will officially receive the World Food Prize at a formal ceremony in October 2020.

Source: [Soil Health Trailblazer Honored as 2020 World Food Prize Laureate](#)

## Got a story to share?

Please send your story with photos and captions every Tuesday to [iita-news@cgiar.org](mailto:iita-news@cgiar.org) or Katherine Lopez ([k.lopez@cgiar.org](mailto:k.lopez@cgiar.org)) and Uzoma Agha ([u.gha@cgiar.org](mailto:u.gha@cgiar.org)) for headquarters and Western Africa, Catherine Njuguna ([c.njuguna@cgiar.org](mailto:c.njuguna@cgiar.org)) for Eastern and Southern Africa, and David Ngome ([d.ngome@cgiar.org](mailto:d.ngome@cgiar.org)) for Central Africa.



# Production and distribution of Aflasafe KE01™ continue despite COVID-19 restrictions

As Kenya has put in place measures to protect lives from the devastating COVID-19 pandemic, efforts are also ongoing to ensure that food is safe and free from the equally devastating aflatoxin. The team from the Kenya Agriculture and Livestock Research Organization (KALRO), [CGIAR-IITA](#), and their private-sector partner, has been working to ensure Aflasafe KE01™, the effective natural product for controlling aflatoxin, is made widely available and on time for the farming community.

The COVID-19 pandemic and the corresponding total lockdown of Nairobi coincided with the long rains, and soon it will be time to apply Aflasafe KE01™ to the maize crop as recommended, 2–3 weeks before flowering.

The Aflasafe KE01™ manufacturing plant at the KALRO-Katamani station was officially commissioned in late 2019 by the Hon. Minister of Agriculture, Livestock and Fisheries. With the selection of a local distribution and marketing agent, the private sector consortium of Koppert, UPL, and Arysta LifeScience, and the recruitment of staff, the factory is now fully operational. KALRO is in charge of product manufacturing, while IITA provides technical backstopping.

Koppert's target is to distribute a minimum of 160 tons in the first year and over 2,200 tons in year five. They have collected 73 tons, and their current projection for 2020 stands at 190 tons. The factory is planning to commence immediate production with sorghum previously procured and, at the same time, begin procurement of other raw materials. So far, the factory has repackaged 114 tons and plans to produce 25 tons.

Peter Kibet was appointed Plant Manager, with Henry Momanyi as the supervisor and Dr Nancy Njeri to coordinate all the regional mycotoxin lab activities and technical support to the manufacturing plant. The KALRO DG officially welcomed the new staff on 11 March. Once on board, they immediately embarked on the renewal of statutory obligations, licenses, and the redesign of packaging materials to reflect the new changes in the production and distribution of Aflasafe.

## Teething challenges

After the appointment of the local distributor, the plant received an immediate order of 70



Top: Repackaging Aflasafe at the new plant. Bottom: Preparing packaged Aflasafe for dispatch.

tons from the government. However, the plant recalled the first 35 tons delivered due to issues with wrong expiry dates.

The return of Aflasafe to the factory for repackaging coincided with the COVID-19 lockdown. The teams, therefore, had to devise ways of delivering the correct packaging from Nairobi and worked full 24-hour shifts to meet the deadlines set by the distributor and the urgency from the government.

## Regional mycotoxin lab

Apart from the repackaging exercise, the regional mycotoxin lab carried out aflatoxin tests on maize grown by the National Irrigation Board (NIB) at the Galana irrigation scheme and prepared a comprehensive report signed off by KALRO. There is a significant shortage of

maize, and the government is scheduled to destroy a substantial amount of maize at the National Cereals and Produce Board (NCPB) that does not meet standards for human consumption.

The government is currently struggling to get safe maize, and the maize from Galana will come in handy. It is worth noting that Galana is an aflatoxin hotspot, and maize grown in the scheme has been repeatedly treated and monitored by NIB with IITA providing technical backstopping.

In 2016, drought-stricken residents of Tana-River and Kilifi counties received 62,000 bags of maize harvested from the Galana-Kulalu Irrigation Project.

<https://www.standardmedia.co.ke/article/2000222444/galana-project-provides-starving-kenyans-with-62-000-bags-of-maize>

# Nodumax set for full production despite the COVID-19 pandemic

The COVID-19 pandemic is impacting global food systems, disrupting regional agricultural value chains, and posing risks to household food security. It has created a heightened awareness of food safety among producers, businesses, governments, and consumers. The agricultural input production and supply industry is facing many challenges around production and logistics. This affected the unit at the [IITA Business Incubation Platform](#) (BIP) that produces Nodumax, a biological inoculant developed by IITA researchers and partners.

The team, with support from BIP partners United Phosphorus Limited (UPL)/Springfield which pre-financed all the inputs, needed to continue minimum scale production of the rhizobium/inoculum. IITA BIP has strategically ensured that production continues so that soybean farmers can have access to this yield-increasing inoculant.

Nodumax is an inoculant and biofertilizer with rhizobium as its active ingredient that boosts the yield of soybean by 30—40%. It contains 50% of culture (rhizobia) and 50% of the carrier material (peat). Also, it serves to replace nitrogen in the soil. One sachet of Nodumax will mix 10 kg of soybean seed; only five sachets are needed for planting 1 ha.

Soybean is among the major industrial food crops grown in every continent. Its cultivation in Nigeria has expanded as a result of its nutritive and economic importance and diverse domestic usage.

Soybean has an average protein content of 40% and is more protein-rich than any of the common vegetable or animal food sources found in Nigeria. The seeds contain about 20% oil on a dry matter basis, and this is 85% unsaturated and cholesterol-free. To ensure the continuous production of this crop and for farmers to have better yield and return on their investment, the Nodumax team will continue producing the inoculant with the support of investors UPL/Springfield.

Supplying Nodumax is one of the initiatives of various stakeholders, which include the Nigerian government soybean value chain, UPL/Springfield, Weed Science department in IITA, SeedCo, IITA soybean breeders, and the IITA BIP to increase the average soybean yield in Nigeria to 3–3.5 t/ha. This is to ensure that farmers achieve better yield and income, consumers have food on the table, and industries have raw materials for production.

Despite the COVID-19 pandemic, the Nodumax team has continued with production and is set to go back to full-scale production. This will ensure that farmers in Nigeria have access to this biofertilizer made in Nigeria.

Visit [www.iitabip.org](http://www.iitabip.org) to learn more about BIP and Nodumax. Inquiries: Victoria Ayeni, [v.ayeni@cgiar.org](mailto:v.ayeni@cgiar.org), +234-803-9784232 or Frederick Schreurs, [f.schreurs@cgiar.org](mailto:f.schreurs@cgiar.org).



Top: Nodumax production team before the COVID-19 pandemic.

Bottom: IITA-BIP team and partners at a strategic meeting before the pandemic.

## Take responsibility! Stop the spread of COVID-19!

Wash your hands regularly with soap and water; practice physical and social distancing; wear face masks; avoid crowds and public places; keep a 2-meter distance from the next person; practice general sanitation and hygiene.