



Empowering communities through innovative mushroom production: A step toward food security and sustainable agriculture in Cameroon

In Dschang, Cameroon, a new wave of agricultural innovation is emerging - one that transforms simple farm residues into nutritious food, new income opportunities, and more sustainable livelihoods. The Agribusiness Vocational Training Centre (AVTC) recently organized a practical, hands-on training on how to grow edible mushrooms (*Pleurotus spp.*). The training equipped participants with the skills and tools they need to transform agricultural by-products into high-value products.



Group photo of all participants at the conclusion of the mushroom cultivation training, celebrating their learning and commitment to sustainable agriculture.

The initiative, held in April 2025, was organized by the Institute of Agricultural Research for Development (IRAD) and funded by the AfricaRice Center through the EU-funded HealthyDiets4Africa (HD4A) project. It brought together young agripreneurs, students, and smallholder farmers to learn practical techniques in mushroom production using rice bran-enriched substrates - a method that shows how agricultural waste can be reused in a circular, resource-efficient agriculture.

A Sustainable solution rooted in local resources

As communities across Africa face rising food insecurity, mushrooms are gaining attention as an affordable, nutritious, and sustainable solution. They are rich in protein, fibre, and essential minerals but low in fat, making them an affordable and healthy alternative to animal protein. Due

to these benefits, mushroom are now recognized as one of the most promising solutions to enhance food and nutrition security across Africa.

Unlike many traditional crops, mushrooms do not require arable land or chemical fertilizers. They can be cultivated on locally available agricultural waste such as maize stalks, rice bran, or even sawdust - materials that are often discarded. This makes mushroom farming both environmentally sustainable and economically accessible for rural producers and suited for year-round production.



Mushroom growth stages on rice bran substrate: from initial inoculation to full maturity, ready for harvest.

“By using what we already have - agricultural by-products - we are proving that food production can be both profitable and sustainable,” explained Dr. Dieudonné Marcaire POMO KAMPTOUM IRAD expert and mycologist. This innovation aligns perfectly with the needs and realities of smallholder farmers. Even more importantly, investing in youth through this approach strengthens resilient local economies by building practical expertise and supporting mushroom-driven startups that foster creativity and create valuable employment”

Building skills and inspiring youth

About 30 participants, of which thirteen were women, took part in the training, including students from AVTC and the University of Dschang, along with other local agricultural institutions. Through a mix of theory and practice, they learned the full mushroom cultivation process - from substrate preparation and sterilization to incubation, harvesting, and post-harvest handling.



Participants engage in hands-on mushroom cultivation techniques during the practical training session, gaining essential skills for sustainable production.

The sessions were led by experienced IRAD researchers and myciculture specialists who combined scientific rigor with local knowledge. Beyond production, the workshop also addressed entrepreneurship, value addition, and the nutritional benefits of mushrooms, empowering participants to view the crop not just as food, but as a viable agribusiness opportunity.

Technical skills alone are not enough to ensure success in today's agricultural landscape. For young people and smallholder farmers, understanding how to manage, market, and grow their agribusinesses is equally critical. Training in entrepreneurship helps participants develop business plans, identify market opportunities, and access financing, while value addition ensures they can move beyond raw production to create more competitive, profitable products. "The training opened my eyes to the potential of using simple materials like rice husks to produce mushrooms. I now feel confident to start production at a small scale, hopefully make an income from it, and even train others in my community of MingMeto," shared Nzewola Andrew Meyeni, and young entrepreneur and trainee of this programme.

By coupling technical know-how with entrepreneurial mindset, the training equips participants not only to cultivate mushrooms but to build sustainable enterprises that can thrive in local and regional markets.



Transforming food systems, one community at a time

For communities in Cameroon's rice-producing regions, the training represents more than a new skill — it's a pathway to resilience. By promoting local, year-round mushroom production, the initiative supports food diversification, income generation, and environmental conservation, while reducing post-harvest losses and waste from rice cultivation. This aligns with HD4A's broader goal of transforming food systems across Sub-Saharan Africa - linking nutrition, sustainability, and livelihoods through research, innovation, and capacity building.

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ABOUT THE HEALTHY DIETS FOR AFRICA (HD4A) PROJECT

Funded by the European Commission through the European Research Executive Agency (REA), the Healthy Diets for Africa (HD4A) project is a six-year research initiative dedicated to leveraging food system diversification to tackle malnutrition and improve food and nutrition security, while minimizing its environmental footprint. Operating in eight African countries—Benin, Cameroon, Côte d'Ivoire, Ghana, Nigeria, Liberia, Kenya, and Uganda—the project is implemented by 21 consortium partners based across Africa and Europe.

HD4A unites 21 consortium partners from Africa and Europe, and combines expertise from different disciplines to develop practical, real-world solutions. Through research, innovation, and policy engagement, the project drives systemic change, ensuring food system diversification leads to measurable health and economic benefits across Africa.