TECHNOLOGY

Varsity to host innovation centre

University of Nairobi Vice Chancellor Prof Stephen Kiama and Elgon Kenya MD Dr Bimal Kantaria sign an MoU for construction of an Agricultural Technology and Innovation Centre at UoN Towers.

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It's a new dawn for university students interested in a career in agriculture and small-scale farmers seeking to step up their venture. The University of Nairobi and farm inputs producer, Elgon Kenya, have signed an agreement to set up an agricultural technology and innovation centre.

The innovation hub will be located at the university's Kabete campus and funded by Elgon Kenya, where best practices and new ways of farming will be showcased. The Agricultural Technology and Innovation Centre (ATIC) will be hosted at the College of Agriculture and Veterinary Services, Upper Kabete Campus.

"The venture is born out of the need to foster innovation, promote resource mobilisation and commercialisation of products and services. It will train and mentor innovators and entrepreneurs to increase chances of commercial success and accelerate uptake of technology along the agricultural value chains," said Vice Chancellor Stephen Kiama, during the signing ceremony at the UoN Towers.

Elgon Kenya Managing Director Bimal Kantaria welcomed the partnership, terming it the missing link between research and industry. "To succeed in agricultural transformation, we need a focal point between research, technology and the industry," he said.

He called on other like-minded institutions that back agricultural transformation to support ATIC, and grow it into a centre of excellence and offer the critical nexus between learners, research and industry. "Students graduating from the university will be sharpened at the centre and instill in them street smart skills to serve the agriculture sector," he said.

Kiama said despite agriculture being the backbone of the economy, the sector has not been backed by research, leaving farmers at the mercy of cultural and traditional practices leading to low yields affecting food security.

"Agricultural re-engineering ensures use of latest scientific technology in designing new machinery for efficiency and effectiveness," he said. East African Community PS Dr Kevit Desai lauded the new centre, terming it a first in East Africa, and that will be useful in enhancing research needs for the region on matters trade and agriculture.

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Experts' advice on manure handling

By Sonja Leitner, David Ngome and Daniel Mulat

Animal manure is a valuable resource in the farm as it contains important nutrients that are vital for plant growth. Today there is a growing trend of farmers who do not have livestock in their farms purchasing animal manure from farmers with livestock. This is because animal manure can be used to increase crop yields and improve soil fertility at a cheaper cost compared to synthetic fertilizer. However, if not handled properly, crucial nutrients can be lost in the collection and storage process. Biovision Africa Trust in collaboration with the International Livestock Research Institute (ILRI) share the following tips on proper manure handling to ensure nutrients are retained for plant use.

Keep your animals in a housing with a roof that allows easy holding and collection of manure

Animal manure contains a solid component – the dung – and a liquid component – the urine. Both dung and urine contain valuable nutrients. Dung can be easily collected when livestock are confined at least some of the time and manure accumulates. However, urine can easily drain into the soil if there is no floor.

House your animals in an enclosure with a roof to protect animals and manure from sun and rain. The housing should have a solid floor that allows urine and dung from the livestock to sit until collected, or to drain into a central collection point.

If you cannot have an enclosure with a solid floor, use bedding materials that soak up urine and prevent its loss and hold the dung for easy collection.

In all animal housings, both dung and urine should be collected as frequently as possible, ideally once a day, to preserve the nutrients and to keep the area where livestock are kept clean and safe.

Properly store manure to avoid nutrient loss through exposure to elements and contamination. Once you have collected manure from the animal enclosure, store it in a way that preserves the nutrients and prevents contamination until the manure is used.

If it is dry enough, manure can be stored by stacking it in a heap and letting it sit, or it can be composted to further improve its value. Heaped manure can be compressed to reduce the loss of nutrients.

Cover the stored manure to protect it from sun and rainfall

If manure is not covered properly, nutrients will be washed away by rainfall or can be destroyed by the sun. You can construct a simple roof over the manure using low cost and locally available materials.

Another way to protect the manure is by covering it with a plastic sheet or with banana leaves. Any material that prevents the manure from getting wet and protects it from the sun can be used as a covering.

Store your manure on a waterproof surface to prevent nutrient leaching. Roofs and coverings can already reduce the loss of nutrients from manure during storage. But manure that is stored on top of bare soil can still lose nutrients through leaching of urine and water. You can avoid this by constructing a floor beneath the manure heap.

Floors should be constructed from solid, waterproof materials that eliminate contact with the soil surface and prevent nutrients from being lost.

A good type of flooring is concrete, since it is very solid and will prevent any leaking of nutrients into the soil. If concrete is too expensive or not practical, you can place a plastic sheet beneath the manure heap. The plastic sheet should be made of sturdy materials and should be free from holes.

Composting of the manure to improve its quality and remove pathogens that cause diseases

In addition to building a roof and waterproof floor, a very good way to improve manure quality and make it safe for use is active composting.

The biggest benefit of composting is the development of heat. A compost heap gets hot on the inside, and this heat kills any dangerous pathogens and bacteria that can cause animal and human diseases. It also destroys weeds and reduces the need for weeding on the farm later.

Also, during composting beneficial soil microorganisms eat the bulk materials in the manure that are not useful to plants but preserve the valuable nutrients. This makes the handling of compost much easier.

Composting can be done on any farm, no matter its size. There are two common methods of composting which include; the heap method suitable for areas that receive a lot of rainfall and the pit method, which is good for dry areas.

By applying manure, you will improve your soils, increase yields and save money that would have been used to purchase synthetic fertilizer.

This article has been adopted from the script ***Simple manure management to retain plant nutrients*** for farmer training video developed by The International Livestock Research Institute (ILRI) Program for Climate Smart Livestock Systems. For more information visit ***https://www.ilri.org/programme-for-climate-smart-livestock-systems.***

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