Are seed barons holding up

Even though experts insist the seed strain that most farmers use has outlived its usefulness, suppliers have ignored newer varieties provided by researchers.

Fact File

**34 YEARS**
Age of the popular H614 strain

**33 MILLION BAGS**
Annual production of maize

**45 MILLION BAGS**
Demand for maize in Kenya

The Report

Food production estimates

The price of maize in Kenya, at about Sh120 per two kilogramme packet, is among the highest in eastern and southern Africa.

Source: Food and Agricultural Organisation

By GEOFFREY KAMADI and GATONYE GATHURA

Are Kenyans being deliberately kept hungry by seed barons and researchers taking advantage of an indifferent government bureaucracy?

The country with some of the world's top maize research institutions still relies on the hybrid seed variety H614, which should have been retired more than 34 years ago.

Researchers at Tegemeo Institute of Egerton University, and the Michigan University in the US, say the failure to replace this overworked and outmoded seed variety is a major cause of stagnating maize production despite a huge infusion of farm inputs by the Government.

The H614, developed by Kenya Agricultural Research Institute (KARI) in 1976, is owned and distributed by Kenya Seed Company (KSC).

In other parts of the world, such as Asia, a seed will remain in use for a maximum of three years before being replaced with newer varieties, says Prof Thomas Jayne of the Department of Agricultural, Food and Resource Economics, University of Michigan.

The professor has worked extensively in Africa, conducting research focusing on how agricultural policies and public investments can contribute to sustainable development.

Maize production in Kenya has been fluctuating over the last 10 years with the country unable to meet the demand of an increasing population.

According to the Food and Agricultural Organisation of the United Nations, Kenya's maize production ranges between 24 and 33 million bags per year against an estimated demand of 45 million bags annually.

The UN body says the price of maize in Kenya, at about Sh120 per two kilogramme packet, is among the highest in eastern and southern Africa.

With the country's population projected to grow to 43.1 million by 2020, the demand for maize is then likely to be five million metric tonnes.

"This means that based on the prevailing maize production rates, the maize deficit will be around 1.2 million metric tonnes in 2020."

Researchers John Olwande of Tegemeo Institute and Melinda Smale of Michigan University says that, while there are several reasons for the poor maize production in Kenya, the reliance on old seed varieties is also to blame.

"What matters most for the national maize productivity in the country today is the dynamic replacement of older strains with newer materials," the duo say in a paper presented at an international conference in Brazil last August.

In their survey, the two found varieties distributed by the Kenya Seed to be older than strains from other companies and with the KSC claiming 80 per cent of the local maize seed market.

"The average age of maize hybrids grown in Kenya is old at about 18 years," says John Olwande in a presentation at a regional maize conference in June.

But Kenya Seed's Francis Mwaura has defended the H614 seed strain. "The variety is still stable in performance, and exhibits excellent post-harvest qualities when it comes to storage compared to the later variants."

Mwaura says new varieties do not possess much of the attributes that farmers look for in terms of taste, yield potential, pest and disease tolerance as well as their ability to cope with drought conditions.

Dr Evans Sikinyi, the chief executive of the Seed Traders Association of Kenya (STAK), agrees with Mwaura. He says newer strains are not as hardy as the H614 variety.

Slime and Olwande argue that there is no rationale for introducing new varieties unless they truly represent a significant improvement over those to be replaced.

Over the years, KARI scientists have developed and released other varieties such as H625, H626, H628, H6210 and H6213, and claimed they have superior properties. However, the uptake by farmers has been slow, a factor that has the KARI management worried.

"As far as research into new seed varieties goes, demand is the overriding factor driving the development of new varieties," says Dr Joseph Ochieng, an Assistant Director in the Department of Food Crops at KARI.

Either deliberately or as an oversight, the Government has not aggressively marketed the new varieties, leaving the
plans to raise maize yields?

Flop: Project fails to deliver new maize variety 13 years after it was launched

By CATONE GATHURA

One of the best-funded maize improvement projects in Kenya has failed to deliver on its promise to develop maize varieties that resist insect pests.

Launched 13 years ago, the Insect Resistant Maize for Africa (IRMA) has failed to reduce maize losses even though it had stated it would cut such losses by up to 15 per cent. An independent review of the project says IRMA, which is funded by private foundations and biotechnology seed companies, has failed to deliver on a genetically modified technology called Bt maize. IRMA had repeatedly told farmers it would reduce the use of insecticides and cut crop losses.

Jasvin Mabeya, a Kenyan at the University of Toronto, Canada, attributes IRMA's failures to various factors, including unhealthy competition among project managers, disagreements over ownership of some technologies and over-ambitious promises to farmers.

In a report published in the journal Agriculture & Food Security, Mbaya tells of a case where project planners acquired genetic engineering technologies from the University of Ottawa, Canada on the assumption that they could be used for free.

However, the project was later to learn that it could not commercialise products from these technologies since they were owned and patented by overseas private firms and hence could not be utilised without attracting legal sanctions.

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At the individual level, the problem stemmed from competition for the position of the project coordinator, while at the institutional level, there was a perception of inequality and favouritism among the partners, with KARI feeling that they were being treated as a junior partner.”

The institutions being referred to here are the Kenya Agricultural Research Institute and the International Maize and Wheat Improvement Centre.

Although the project has delivered some traditionally bred maize varieties, it is the failure to present the Bt maize that is of great concern to project partners.

According to an interviewee from KARI, the organisation and the government are concerned about the delivery of a Bt maize even after KARI opened a modern biotechnology centre where trials on the variety had been conducted.
practice to phase out a seed variety after sometime, this should not be the case with the H614 maize variety, says Dr Stephen Mugo, a maize scientist with the International Maize and Wheat Improvement Centre (CIMMYT).

“Rather than phasing it out completely, researchers ought to come up with other varieties to complement it,” he says.

The current H614 variety in use is the fourth in the series, known as H614D, which replaced the original H614C in 1986.

Although Kenya Seed Company puts a strong defence for the H614, the reality on the ground may be different, indicating that the ministry has failed to reach farmers with information on newer varieties.

Olwande and Smale, in their survey, established that younger farmers with more education have adopted newer varieties because they can independently access information on new technologies.

FACTFILE

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— Dr Stephen Mugo

The researchers also introduce a new dimension to the debate. They say the failure of the Government to dismantle counterfeit seed cartels could also be contributing to the problem.

“Is it that the existence of counterfeit seeds in the market has made many farmers shy away from trying newer varieties to avoid risk of selecting seeds that are not genuine?” asks Olwande.

Is it also possible that government agencies are overprotective of seed companies to the detriment of the country's food security? When the maize crop was hit by an unidentified disease last year the Ministry of Agriculture was at pains to absolve seeds as the cause of the disease even before an investigation had been carried out.

A report then prepared by the Kenya Plant Health Inspectorate on the disease and handed to the ministry indicated that the disease had been seed borne.

The Kephis report had indicated that the disease originated from a maize seed production farm in Taveta, which, it claimed, had a similar problem in 2003. These claims, despite being made by the national body responsible for mapping plant diseases, were quickly swept under the carpet.

At the time farmers in Nandi County where the disease had ravaged acres of the crop, claimed it was only affecting the H614 variety and not others.

Speaking then to the Standard in Kapsabet, their spokesman, Stephen Rono had wanted the Ministry of Agriculture to explain why hybrid H614 was the only variety affected.

Another group of farmers in Kibiyet division had also claimed that only one variety in their plantations had been affected. The ministry quickly absolved the H614 from any blame even without offering any evidence.