

## Can Informed Buyers Improve Goods Quality? Experimental Evidence from Crop Seeds

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*Can the presence of more informed buyers in a market improve the quality of goods that are provided? We study this question in a context – rural markets for hybrid maize seed in Kenya— where goods quality is difficult to directly observe and substandard products are common.*

### Introduction

High-quality agricultural inputs play an important role in boosting agricultural productivity and supporting food security in low-income countries. However, the quality of agricultural technologies such as hybrid seeds, fertiliser, and pesticides is often difficult to directly observe. Diluted, expired, and counterfeit products often appear similar to genuine high-quality versions of the product. The inability of buyers to detect product quality may enable low-quality products to persist in the market as sellers are disincentivised from offering high-quality products. This study uses a field experiment to study whether improved consumer information can affect the quality of product that buyers obtain in the market. The study was conducted in the context of rural Kenya in markets for hybrid maize seed, a critical input for the region's main staple crop.

### Data and Methodology

Markets were sampled from rural areas in Bungoma, Busia, Kakamega, and Transnzoia counties in Kenya. The main study sample consists of 302 markets. About half of these market areas were randomly selected to be “treated” with a community-wide information campaign to train farmers to better detect seeds that are not certified, which we verify are of lower quality.

In January to February 2020, the team conducted baseline surveys at all markets. In treatment areas, the team conducted an information campaign to inform farmers of methods to better detect poorer quality seeds using observable markers. In a typical treated market area, about 9% of customers were trained face-to-face by research staff. We measured seed quality in several ways. We used a market audit exercise in which research staff posed as farmers to buy seeds from retail shops over the course of three planting seasons post-treatment. This allows us to document observable quality markers and send seed samples for lab testing. We also measure self-reported crop yields from farmers using household surveys.

## Findings

Among packets sampled by secret shoppers, 38% of them lack one or more quality markers. Treated buyers had greater knowledge of observable quality markers and were more likely to successfully use detection techniques in subsequent planting seasons. Treated buyers frequently reported that the information that was provided affected their purchasing decisions, both which seed packets to buy and which seed seller to buy from. Consistent with these accounts, we confirm that farmers in treated market areas were more likely to leave the local market to purchase seeds. Examining agricultural outcomes, we estimate that treated farmers experienced about 3% higher maize yields overall, though not statistically significant. Farmers in more remote market areas, which had lower initial seed quality, experienced an estimated 8% increase in yields. Meanwhile, we do not detect effects on quality offered to uninformed buyers in the same communities, as revealed by data from the market audit exercise.

## Conclusion and Policy Implications

These findings suggest that farmers stand to gain from receiving improved information related to quality certification. The information campaign affected farmers' purchasing decisions and led to gains in maize yields, particularly in more remote areas where observable quality markers were associated with greater gains in quality. Policy communication therefore may be an important lever to influence food security. Yet an intensive one-time effort to disseminate information was insufficient to induce market-wide changes in prices or quality that would be expected to benefit even uninformed buyers in treated communities. This suggests that more sustained information dissemination may be needed to induce market-wide changes in quality. This study pursued an in-person community approach to disseminating information. However, other strategies such as using mass media or more accessible language on existing packaging may also be effective and may have potential to spread information in a low-cost and sustained fashion.

## Moving Forward

This research studied the effects of a large one-time information intervention in the hybrid maize seed market in Kenya. One key question that follows is: how might market responses be different at higher levels of information saturation, which may be expected under a sustained approach to disseminating consumer information?

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