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First study of impact of using biotech/GM maize in Vietnam highlights substantial economic and environmental benefits[1]

The first assessment of the farm level impacts of using GM maize in Vietnam, published in the journal GM Crops and Food, has found that since 2015, crop biotechnology has helped Vietnamese farmers grow more food/feed and substantially improve their income levels, whilst using fewer resources. It has also reduced the environmental footprint associated with the production of maize.

Highlights in the peer reviewed[2] paper include:

- 225,000 hectares have been planted to maize containing GM traits in Vietnam since 2015 and in 2019, the technology was used on 10.2% of the total maize crop.

- The technology has enabled Vietnamese farmers to obtain higher yields from better pest and weed control: the GM varieties out-performed conventional varieties by +30.4% (+15.2% if the yield comparison is with only the nearest performing equivalent conventional varieties).

- The extra production and reduced cost of pest and weed control have provided maize farmers with higher incomes equal to an average of between US $196 per ha (relative to equivalent conventional varieties) and US $330 per ha (average of all conventional varieties).

- In terms of investment, for each extra US dollar invested in GM maize seed (relative to the cost of conventional seed), farmers gained an average of between US $6.84 and US $ 12.55 in extra income. These levels of return are at the higher end of the range of performance for similar maize seed GM technology in other adopting countries.

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[1] 'The impact of using GM corn in Vietnam: results of the first farm level survey' by Graham Brookes of PG Economics, UK and Tran Xuan Dinh, former Deputy Director-General, Crop Production Department, Ministry of Agriculture and Rural Development (CPD MARD), Vietnam is available (with open access) in the peer review journal GM Crops and Food. https://www.tandfonline.com/doi/full/10.1080/21645698.2020.1816800

[2] Peer reviewed means accepted for publication in a scientific journal after review by independent experts in the subject(s).

- Aggregate farm incomes have increased by a total of between US $43.8 million (based on the yield gains relative to the nearest equivalent conventional varieties) and US $74.1 million (based on yield gains relative to all conventional varieties).

- The maize seed technology has reduced insecticide and herbicide spraying. The average amount of herbicide active ingredient applied to the GM crop area was 26% lower than the average value for the conventional maize area and in terms of the associated environmental impact of the herbicide use[3], it was lower by 36% than the average value applicable to the conventional maize area. Insecticides were used on a significantly lower GM crop area and, when used, in smaller amounts. The average amount of insecticide applied to the GM maize crop was 78% lower than the average value for the conventional maize area and, in terms of the associated environmental impact of the insecticide use, it was also lower by 77%.

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[3] As measured by Cornell University's Environmental Impact Quotient (EIQ) indicator.