This study assessed the potential economic impact of the introduction of *Diadegma semiclausum*, an exotic parasitoid of the diamondback moth (*Plutella xylostella*, DBM), on cabbage production in Kenya. The study first established yield losses caused by DBM through two methods: measurements from farmer-managed fields and through farmers' interviews. Crop losses were calculated at 31% from farmer-managed fields, and at 36% from farmer interviews. With a crop loss of 31%, yield loss was estimated at 6.8 tons/ha or US$ 452.9/ha, and at US$ 7.9 million per year for the whole country. Control costs as provided from the interviews, amounted to US$ 118.9/ha.

The project costs amount to a net present value of US$ 1.2 million. Based on an annual cabbage production of 256,524 tons, a cabbage price of US$ 66.3/ton, a 30% abatement of yield losses, a 7.9% reduction in cost of production, a supply and a demand elasticity of 0.9 and −1.4 respectively, and an annual increase of consumption of 2.6%, the economic surplus produced by the release of the parasitoid was estimated at US$ 28.3 million for 25 years. Consumers were estimated to get 58% of the benefit and producers 42%. The benefit–cost ratio was estimated at 24:1, with an internal rate of return of 86%, indicating a high return to the investment.

Keywords

Economic impact, Biological control,Diamondback moth; Parasitoid