generation (1-5) is expected in tropical regions, but an increase of 1-2 generations/year can be potentially expected in most subtropical and temperate regions. Similarly, whitefly activity will be severely affected by rising temperatures in tropical and subtropical regions, but an increase in the potential growth of *T. vaporariorum* is expected in temperate zones of North America and Europe. Early predictions could help to adapt to climate change by developing and supporting farmers with adequate pest management strategies to reduce greater crop and quality losses. Adapting to avoid risk at the farm level implies an ecological and economic control of leafminer based on integrated pest management by promoting natural regulation and combining cultural practices with physical and chemical control.

Sweet potato Whitefly, *Bemisia tabaci* (Gennadius) biotype B

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The sweetpotato whitefly *Bemisia tabaci* biotype B (Hemiptera: Aleyrodidae), native to eastern Asia, is a polyphagous pest with over 500 species of 63 families. The sweetpotato whitefly thrives worldwide in tropical, subtropical, and less predominately in temperate habitats. Cold temperatures kill both the adults and the larvae of the species. Feeding by immature *B. tabaci* has been associated with several physiological disorders of plants, such as tomato irregular ripening and squash silverleaf disorder. In addition, *B. tabaci* is a vector of many viruses, particularly of begomoviruses (*Geminiviridae*: *Begomovirus*): whitefly-transmitted viruses (WTVs) is among the most destructive plant viruses and early virus infection often results in total crop loss. Life cycle is completed between 15 ºC (156.54 days) and 32 ºC (35.73 days), with the optimum temperature for overall population growth between 20-25 ºC. The establishment risk index (ERI), the generation index (GI), and the activity index (AI), allowed predict and explain the future distribution and abundance potential of the pest under different climate change scenarios. An ERI of 0.8-1 under climate conditions of the year 2000 represent the regions where the likelihood of establishment is highest, being a serious pest problem in tropical and subtropical areas of Africa, Asia, Oceania, South and Central America. Global predictions for 2050 indicate a potential reduction of high-risk areas (ERI> 0.8) in tropical regions and an increase in subtropical regions. A slight range expansion to temperate zones as North America but with a low establishment potential of the pest (ERI <0.45) is observed. Generation index ranged from 8-14 and 6-8 generation/year in tropical and subtropical regions, respectively. The GI change indicates an increase of 1-3 generations by year in most tropical and subtropical regions: North and Eastern South America, southern Africa, The Caribbean, Asia (Indonesia, Malaysia, and Philippines) and Oceania (Papua New Guinea). In temperate regions like in North America and Europe only a low increase between 0-1 generation per year is expected. Global maps of the AI in year 2000 estimates a high activity of B. *tabaci* biotype B in tropical regions of South America, the Caribbean, Africa, Asia and Oceania. Predictions of changes for the 2050 scenario show a decrease in the potential growth of *B. tabaci* biotype B in most tropical and subtropical regions, and an expansion on temperate regions of North America and Europe is expected.

Maize pests

Spotted stemborer, *Chilo partellus* (Swinhoe)

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Maize (*Zea mays* L.) is a major staple food crop in Africa. However maize production is severely reduced by feeding Lepidopterous insect pests. In East and Southern Africa, *Chilo partellus* (Lepidoptera: Pyralidae) is one of the most damaging cereal stem borers mainly found in the warmer lowland areas. In this study, it was hypothesized that the future distribution and abundance of *C. partellus* will be affected greatly by global warming. The temperature-dependent population growth potential of *C. partellus* was studied on artificial diet under laboratory conditions at six constant temperatures (15, 18, 20, 25, 28, 30, 32 and 35˚C), relative humidity of 75 ± 5% and a photoperiod of L12: L12 h. Several non-linear models