Where in Europe will the next insect pest infestation occur?

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Climate change means that Europe's insect pest invasion is going to get worse. Scientists in the Department of Biology at the University of Fribourg, in collaboration with the Swiss Research Station Agroscope ART and the University of Neuenburg, have discovered factors which have an effect on the probability of insect pests taking hold in Europe.

In this study, which was published in the online journal *Diversity & Distributions*, researchers in the Department of Biology at the University of Fribourg have established the influence of global trade in agricultural products, cultivation of host plants and climate on the probability of insect pests taking hold in Europe. The scientists discovered that though all three of these factors exert a strong influence on where Europe will be infested with insect pests, it is actually the size of the area under the cultivation of host plants that is crucial. The research team has put together a list of European countries which – according to their calculations – are most likely to become the next "victims" of an invasion by insect pests. Italy, France, Spain, Hungary and Germany feature on this list. The scientists also drew up a list of the most likely insect candidates. Amongst others, the list features the Oriental Cotton Leafworm, (Spodoptera litura), the Northern Corn Rootworm (Diabrotica barberi) and the Sugarbeet Wireworm (Pheletes californicus).

According to the results of the study, north-eastern European countries in particular will be exposed to the risk of new invasions by insect pests as climate change progresses, rather than central European countries, whose risk will even diminish. These results have the potential to aid national plant protection authorities in, for example, developing specific control strategies geared to the level of risk of the affected countries.

The study, which bears the title "Quarantine arthropod invasions in Europe: the role of climate, hosts and propagule pressure" is a follow-up study of the research project "Gaps in Border Controls are related to Quarantine Alien Insect Invasions in Europe", which was able to show that defective border control of agricultural products can lead to invasions of insect pests in Europe.

More information: "Quarantine arthropod invasions in Europe: the role of climate, hosts and propagule pressure." Steven J. Bacon, Alexandre Aebi1, Pierluigi Calanca, Sven Bacher. *Diversity and Distributions*. Article first published online: 9 NOV 2013. DOI: 10.1111/ddi.12149

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