To:

The Editor, Nature Communications

August 28, 2018

Dear Editor,

Please find attached for your review the manuscript titled "A Multi-pathway Model to Assess the Threat of Invasive Agricultural Pests: Case Study of *Tuta absoluta* in Asia", to be considered for possible publication in Nature Communications.

In this manuscript, we develop an agent-based model to study invasive species spread capturing self-mediated as well as human-mediated pathways of spread. It is applied to study the risk of spread of T. absoluta in the region of South and Southeast Asia, a region at the fronier of its current range. This pest of tomato has gained a lot of attention in the last decade since its introduction from South America to Spain in 2006. This paper is relevant to Nature Communications both from the perspective of understanding the dynamics of T. absoluta as well as the modeling methodology. To the best of our knowledge, this is the first work on T. absoluta which accounts for vegetable production and trade as a pathway of spread.

This work has not been published in any journal, nor is it currently under review elsewhere. All authors have seen and approved the manuscript and have significantly contributed toward the paper. We appreciate your time and consideration.

Thank you, Abhijin Adiga Research Assistant Professor Biocomplexity Institute of Virginia Tech abhijin@gmail.com, abhijin@vt.edu