4th World Congress on Agroforestry

20-22 May 2019
Montpellier, France

Book of Abstracts

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Not shade, but economic pressures as important drivers of coffee rust epidemics in Nicaragua

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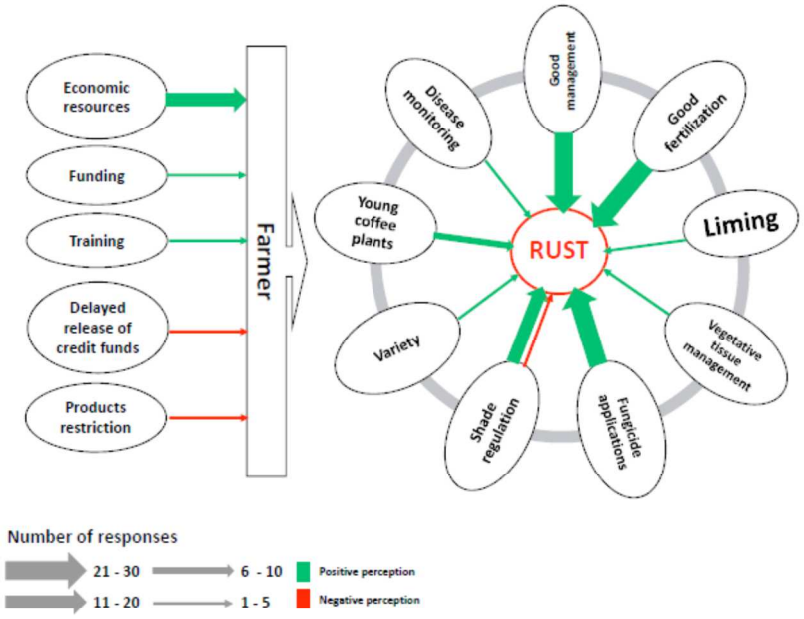
Very severe coffee rust (*Hemileia vastatrix*) epidemics of an intensity never seen before have hit Central America from 2012.
This study aimed at identifying management factors that hampered coffee rust development in Nicaragua and at learning about how producers understood these epidemics. Twenty nine pairs of coffee-based agroforestry plots (a pair was one plot severely hit and another one slightly hit in the same location) from the municipalities of Jinotega, Tuma-La Dalia and San Ramón were characterized for their management, including shade, and coffee rust impact, and their owners interviewed for studying their perception (2).
The main drivers of these coffee rust epidemics were meteorological (1). In these propitious weather conditions for rust, some producers avoided intense epidemics and losses. According to field measurements, shade did not make the difference, contrary to timely applications of fungicides and fertilizers. However, interviewed producers mentioned that shade affected rust (Figure); but this was the only controversial effect mentioned. Interestingly, this controverse also exists in scientific literature. Producers were well aware and agreed, in general, about practices to control rust. Although producers knew how to fight rust, they did not implement the required management to control this disease, mainly due to economic difficulties. To our knowledge, this is the first time that the development of severe outbreaks is related to economic drivers.



Conditions that favored or hampered coffee rust in 2012 according to producers

Keywords: Hemileia vastatrix, Outbreak, Chemical control, Fertilizer.

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1. Avelino et al. 2015. Food Security 7: 303-21. 10.1007/s12571-015-0446-9
2. Villarreyna Acuña 2014. Master Thesis. CATIE, Turrialba, Costa Rica. 80 pp.