



Tropentag, September 15-17, 2021, hybrid conference

“Towards shifting paradigms in agriculture  
for a healthy and sustainable future”

## Environmental Effects of Predominant Practices for the Passion Fruit Production in the Huila Department, Colombia

LUIS AUGUSTO OCAMPO OSORIO<sup>1</sup>, JEISSON RODRIGUEZ VALENZUELA<sup>2</sup>

<sup>1</sup>*Corporación Colombiana de Investigación Agropecuaria Agrosavia, Nataima Research Center, Colombia*

<sup>2</sup>*Corporación Colombiana de Investigación Agropecuaria Agrosavia, Obonuco Research Center, Colombia*

### Abstract

Due to its environmental conditions, Colombia is characterised as one of the countries with high diversity in the production of passifloras crops in the tropics. Among the fruit species from this group, passion fruit (*Passiflora edulis*) stands out for its high demand. Huila is one of three departments in Colombia with the highest production of this crop, however, the most predominant management practices for its cultivation have been traditional, without considering technological recommendations under the One Health approach (food, human, animal, and ecosystem safety). Therefore, the purpose of this study was to analyse the management practices of this crop that are employed by producers in the municipalities of La Plata, Guadalupe, and Suaza in the department of Huila, and consequently to observe the potential effects and impacts of these traditional technologies. A participatory research process (workshops) was carried out with passion fruit producers in the three municipalities described above, in addition to inspection visits to the farms producing this species. The results showed that one of the major limitations of this crop is the high incidence and severity of pests, and consequently, the phytosanitary control implemented by the farmer is through the inappropriate use of chemical pesticides. Among the impacts of these practices, farmers report contamination of water sources and soil. Furthermore, there is evidence of loss of insect pollinators, which has caused the necessity of manual pollination in this crop. Concerning the quality and safety of the fruit, this does not meet the requirements to expand its commercialisation at the international level. Another result to highlight is that because the crop requires a tutoring system of trellising for its installation, the producers use woody species of the area to carry out this work, which has caused significant deforestation in areas of protection of water sources. Therefore, despite the profitability and high demand for this fruit at the national level, some agricultural practices of the crop have a significant impact on the environment in the study area.

**Keywords:** Deforestation, losses of pollinating insects, One Health approach. , soil and water pollution, tropical fruit, unsuitable agricultural practices