

°AHOra, a web and mobile app that turns local weather data into management indicators for banana and plantain

COLOMBIA, PERU, DOMINICAN REPUBLIC



Webstory



Technological solution

Most family growers of banana and plantain keep no digital records of weather or crop growth, and decide on irrigation, fertilisation and harvest without regard to the abiotic factors that govern them. Market software comes from United States or European sources and is not specific to these crops; before the project no free application combined the five modules °AHOra offers. The application allows fertilisation to match actual nutrient extraction rather than fixed rates, irrigation to follow a water balance rather than a fixed turn, and harvest to be timed by accumulated degree days rather than finger calibre.



Technological description

°AHOra is a free web and mobile application that takes data from weather stations near the farm (temperature, solar radiation, rainfall and potential evaporation) and converts it, through field-validated models, into five management indicators: potential leaf emission rate, optimal harvest date from accumulated degree days, potential bunch weight, nutrients to be replaced based on extraction per tonne harvested, and water requirements from a crop water balance. The equations were calibrated with farm data from Colombia, Peru and the Dominican Republic, with a country-specific version hosted on state institution servers.



Impacts and results

Validation on farms in Colombia, Peru and the Dominican Republic allowed the models to be adjusted to each producing region. In the banana zone of Magdalena and La Guajira, scheduling irrigation by water balance cuts consumption by 20 %, from 75 to 52.5 litres per plant per day. Matching fertilisation to calculated demand reduces fertiliser spending by at least 30 %: the plan in use before the project exceeded the recommended nitrogen rate by 46 % and the sulphur rate by 93 %. Three versions of the application were released, six weather stations were placed at the service of family growers, and 1,189 people were trained, 354 of them women, across 30 events.



10745

Trained persons



30

Researchers



1189

Trained persons



1429

Survey



5254

video views



3

Researchers



17

Documents submitted



15

Tutorial videos

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