**Open Data**
- Photo training data set of labelled cherries
- Trained and validated AI model
- 2200 farmers received digital advisory
- Scientific and Technical Publications
- API for external access and collaboration

**Where we are**

Colombia  Peru  Uganda

**Arabica**  **Robusta**

**What is it?**

Croppie is a mobile app designed to support decision making of smallholder coffee producers. It uses AI to estimate coffee yield and provides recommendations based on the analysis of farmers’ agricultural practices.

- 50% faster than existing methods
- Offline use
- Standardized sampling
- Digital evidence
- Georeferenced information for full traceability

**About us**

The Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT) provides scientific solutions that take advantage of agricultural biodiversity and transform food systems in a sustainable way in order to protect and preserve the environment.

Producers Direct is founded and run by farmers. It aims to create new opportunities for the development of small farmers, in which they assume leadership and develop innovative solutions to face the day-to-day challenges of their work.

Tecnicafé, a private-public non-profit organization, is the first global coffee technological innovation park, located in the department of Cauca in Colombia. It aims to carry out transformative innovation in the world of coffee through sustainability.

**Beneficiaries and use cases**

- Producers
- Cooperatives
- Financial institutions
- Insurers
- Exporters

Improving cooperative performance and sales planning
Facilitating smallholder farmers’ access to loans and credits
Improving index-insurance products
Allowing coffee traceability and avoiding deforestation leakages (carbon footprint)
Tailored agronomic support advice and targeted extension

www.croppie.org  www.croppie.org
### How it works

We provide a simple mobile app-based sampling protocol which leverages artificial intelligence (AI) to count coffee cherries and estimate yield on coffee farm plots.

1. **Sampling + estimated total number of trees**
2. **Branch sampling + counting**
3. **Image collection**
4. **Image interpretation**
5. **Yield estimate**

\[
\text{Quantity of cherries per ha.} \times \text{Average No. of cherries per tree} = \text{Yield Kg x ha.}
\]

### Dashboard

The dashboard proposes recommendations and alerts synchronized with the local cropping calendars in 10 critical moments of coffee production.

Identifying the potential for improvement in each cycle is crucial to obtain high quality coffee, improving plantation performance, and increasing the resilience and sustainability of practices.

#### Recommendations

- Temperature should be regulated and air flow increased in order to improve drying without affecting flavors.