Mitigating the risk of the coffee berry borer in Colombia: using smart technologies and greener science

STDF webinar series - Exploring the Impact of Climate Change on the Global Food System

Climate Change and Plant Health

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Biopesticides at [https://www.cabi.org/](https://www.cabi.org/) applied research and extension
Chemical PPPs: issues

- Repeated use of specific PPPs leading to increased pest resistance
- **Serious issues of biodiversity loss and soil degradation, fewer natural enemies, soil microbiology damaged, poorer growth less resilient farming ecosystems**
- Some PPPs are particularly toxic to humans, compounded by bad storage and disposal
- Policy pressure to make a change
- Consumer pressure to make a change
- Various PPPs being withdrawn and rate of replacement slowing down
- **Lack of information and knowledge and ultimately trust on alternatives**
- Lack of alternatives
The coffee berry borer: spreading but still hiding

Reaching higher altitudes as temperatures rise: increasing spray frequencies, deforestation as farmers look to escape it, but still the borer thrives
There needs to be a shift to nature-based controls for coffee berry borer – which do exist in the Colombian market.

But to make this change we must understand the needs of the farmer and then respond to these needs.

Quantitative baseline survey

- Face to face; on farms, at homes and at market places, over several months
- 126 farmers interviewed, 52 females, 74 males
- Knowledge of pesticides, biopesticides, where farmers get information, who they trust, the decision makers
Quantitative baseline survey

Results – Quantitative data
• Coffee berry borer is their no. 1 pest
• 95% of males had heard of biopesticides vs 76% of females
• 49% said they didn't know of any advantages of biopesticides
• 1% said they were not economical (i.e. cost not seen as an issue)
• Farmers said reduced efficiency of biopesticides vs chemicals was the main disadvantage
• 95% of male farmers knew tradenames of biopesticide products vs 38% of female farmers
• Most popular source of info is the agronomist; though younger females less so than older females
• All farmers felt SMS would be a useful mechanism to provide information
Our female farmer champion group

- Weather stations installed on their farms (20)
- Provide the farmers with an alert of when the borer will be outside the berry and hence best time to spray a biopesticide
- Weekly visits to each farmer for 18 months
- Provide complementary biopesticide info via SMS
- Established a Colombia site on the CABI BioProtection Portal
Number of Green Berries >0.6cm

Number of Green Berries >0.6cm

Calendar Time

Average Peak in Flowering
Average Peak in Vulnerable berries (>0.6)

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Prepare to spray Spray Don’t spray Prepare to spray Spray Don’t spray

27/10/2018 04/02/2019 15/05/2019 23/08/2019 01/12/2019 10/03/2020 18/06/2020 26/09/2020

KNOWLEDGE FOR LIFE
Information, training and engagement

- Weekly visits for 18 months to the farmers
- Biopesticide training to both farmers and agronomists
- Delivery of a series of SMS messaging on chemical risks and biopesticides
- Biopesticide brochures
- Engagement with biopesticide manufacturers
Encuentre productos de bioprotección en Colombia

Descubra más de 200 productos de biocontrol y biopesticidas permitidos en Colombia.

Q. Encuentre un producto

Una herramienta gratuita para mejorar el conocimiento y la aceptabilidad de los productos de biocontrol y bioplaguicidas por parte de los agricultores.

CABI BioProtection Portal https://bioprotectionportal.com/

Capsialil
Ingrediente activo: Extracto de ajo y aji Ecoflora Agro S.A.S.

Brocaril WP
Ingrediente activo: Beauveria bassiana Laverlam S.A.

Timorex Gold 238 EC
Ingrediente activo: Extracto de arbol de té Stockton Colombia S.A.S.

Adral
Ingrediente activo: Beauveria bassiana Bio-Crop S.A.S.

Tricho D. WP
Ingrediente activo: Trichoderma harzianum Bio-Logique S.A.

Bovetropico WP

Ficha de datos de seguridad

Ficha informativa del fabricante

Este producto biológico ha sido registrado para su uso en Colombia por el Instituto Colombiano Agropecuario (ICA).
Scale-out and key messages

Potential to reach 000’s farmers in Colombia and beyond

- CBB remains a major threat to livelihoods and, indirectly, to ecosystem services and resilience
- Biopesticides can support CBB control and will help protect ecosystems
- In Colombia CBB biopesticides are there in the market
- Farmers will need support to trust and to deliver biopesticides
- With pockets of new data the CBB alert can be scaled-out across a wide geography in Colombia (then further)
- SMS and a ‘coffee advice’ area on the BioProtection Portal should be used to deliver key information
- Long-term, a clear pathway for sustainability of the CBB alert is needed
CABI is an international intergovernmental organisation, and we gratefully acknowledge the core financial support from our member countries (and lead agencies) including: