

Barry Callebaut's approach to the responsible management and use of pesticides

Introduction

Cocoa is native to South and Central America and has been moved around the world, transforming West Africa and South East Asia into significant cocoa producing regions. Wherever cocoa is grown, it is subject to losses due to pests and diseases. Black Pod disease infects cocoa globally, Witches Broom and Frosty Pod Rot diseases are present in the Americas, mirid insect pests infest cocoa in West Africa, and cocoa pod borer causes losses in Asia.

Cocoa cultivation, unlike many other food crops, is still largely dependent on manual labor in many cocoa growing regions. Almost two-thirds of global cocoa is produced in Côte d'Ivoire and Ghana. According to Agri-Logic data¹, in Côte d'Ivoire, farms are around 5.12 hectares in size, with an average of 3.61 hectares primarily dedicated to cocoa. The yield sourced from, on average, 1,352 cocoa trees per hectare, is around 341 kg². This means farmers face a challenge when it comes to making a living from a small farm.

It is also difficult to increase cocoa production without investing in labor-intensive and time consuming pre-harvest activities and costly farm inputs. Pre-harvest activities include tasks such as pruning, weeding and application of fertilizer and pesticides. The usage of pesticides can support the control of pests and diseases in cocoa, which is an essential part of sustainable cocoa farming.

However, due to a lack of protective measures, cocoa farmers can be at risk of suffering from health problems caused by pesticide misuse. In addition, the NORC Report² showed that of the 1.56 million children in child labor in

¹ According to the Agri-Logic report "FFB Côte d'Ivoire company report Barry Callebaut", on the state of the cocoa sector in Côte d'Ivoire analyzing data collected between March 2020 and February 2021.

² NORC Report (2020), Assessing Progress in Reducing Child Labor in Cocoa Production in Cocoa Growing Areas of Côte d'Ivoire and Ghana. Chicago: University of Chicago.

Côte d'Ivoire and Ghana, 1.48 million are undertaking hazardous child labor. Hazardous labor includes the spraying of pesticides or being exposed to pesticides.

Furthermore, ecosystems and biodiversity can be impacted by the overuse of pesticides.

Our approach to pesticide use and supporting farmers to improve cocoa yield

At Barry Callebaut, our focus is to support farmers to modernize agriculture and cultivation methods, increase yields, diversify income and professionalize farming practices. We are doing this by focusing on three main components: improved planting material, productivity packages, including fertilizers, herbicides and pesticides, and financial support for third-party labor services.

The combination of soil inputs and adequate pruning enables cocoa trees to produce more fruit, which can lead to an increase in quality and yield. In order to help farmers perform the time-consuming and labor-intensive work of pruning, Barry Callebaut, together with a number of global customers such as Mondelez International, Nestlé, Ben & Jerry's, and customers of the [Cocoa Horizons Foundation](#), has launched a program to support farmers in Côte d'Ivoire and Ghana by offering them access to external labor resources. The paid labor teams focused on the tasks of pruning and weeding, and the correct application of fertilizers and pesticides.

In addition, we focus on reducing on-farm chemical use while ensuring cocoa yield and cocoa quality, as well as recognising and diagnosing cocoa pests and disease. Identifying a disease early can often mean faster interventions, better control and less need for agrochemicals in the longer term. Cultural control practices such as removing diseased plant material, as well as using clonal planting material that are resistant to some diseases, can also mean more effective overall disease control.

Responsible pesticide use and an Integrated Pest Management Approach

To reduce the use of pesticides and their negative consequences, we adopt an integrated pest management (IPM) approach. IPM involves combining different management strategies and practices to produce healthy crops and reduce the use of pesticides. An IPM approach is defined by the Food and Agriculture Organization (FAO) as "the careful consideration of all available pest control techniques and subsequent integration of appropriate measures that discourage the development of pest populations and keep pesticides and other interventions

to levels that are economically justified and reduce or minimize risks to human health and the environment.”³.

In terms of a IPM approach, Barry Callebaut follows the guidelines from the Rainforest Alliance, which supports pesticide waste policies that are based on the Extended Producer Responsibility approach⁴. The certification standard set out a [list of banned](#) and allowed substances as well as the measures to prevent and reduce the use of chemicals. The certification standard requires that:

- The use of agrochemicals is safe, effective, and efficient.
- Only the application of allowed substances is permitted.
- Pre-harvest intervals, maximum residue levels, and human exposure limits are observed.
- Measures are taken to prevent diseases and break disease cycles.
- Agrochemicals are managed with advanced measures that ensure their safe storage and use, preventing human exposure to them.

We strive to use a minimal volume of pesticide, enough to effectively tackle the pest but not cause residue issues in the crop. Care is taken to only spray well in advance of the harvest, and we strive to only target diseased or infested cocoa farms. Another approach we have initiated in Indonesia is an EWS (Early Warning System). This is to determine the level of the infection, with spraying only taking place when it is above a defined threshold.

Where potential cases of child labor, specifically hazardous labor and including either children spraying or being exposed to pesticides, are reported via our Child Labor Monitoring and Remediation Systems (CLMRS), we adopt a specific remediation activity on an intervention based on pesticide sensitization.

In addition, through our agroforestry and reforestation efforts, we aim to mitigate the impact of climate change and restore natural biodiversity while helping farmers to prosper and increase their long-term productivity. This is why, as part of our [Agroforestry](#) strategy we are focussed on the enhancement of on-farm ecosystems that support the development of cocoa farms that are more resilient to drought and disease, have a reduced use of pesticides and better soil quality. By carefully observing the local natural ecosystems, we can determine the best mix of native species to promote cocoa and soil regeneration, and attract pollinators, such as birds, bees and other insects, while providing extra income for farmers and removing carbon.

For more information about our approach to supporting cocoa farmers, their families and communities, as well as our commitment to ecosystem restoration, biodiversity and agroforestry, please see our latest, third-party verified [Forever Chocolate Progress Report](#).

³ FAO. (2020). Integrated pest management. Rome: Food and Agriculture Organization of the United Nations. www.fao.org/agriculture/crops/core-themes/theme/pests/ipm/en/

⁴ OECD. (n.d.). Extended Producer Responsibility. Paris: Organisation for Economic Co-operation and Development. www.oecd.org/env/tools-evaluation/extendedproducerresponsibility.htm