

The “bean tegument” innovation system: bringing back to smallholders’ cocoa farms the fertility lost or transferred to agro-industry.

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ABSTRACT

When they sell their beans to a grinding company, growers give up a source of organic fertilizer: the tegument (the skin of the bean). The vast majority of growers are still unaware of this. Similarly, for the grindings multinationals, the teguments have long been considered bulky waste in the parks of the factories which had to be rid of. Part of it was recently sold to industrial sweet banana plantations. But at least in the San Pedro region, since the early 2010s, a whole network of smallholders, cocoa traders and intermediate staff in cocoa grinding factories had gradually realized the interest of teguments as fertilizers in cocoa farms. A few smallholders’ testimonies were collected around San Pedro as part of a research program on innovation tracking. Then in order to verify the claim, we launched a survey based on a questionnaire passed with some 80 smallholders in two villages. Clearly, a remarkable innovation system has been built from ‘below’. Quite informal channels have been set up to bring this tegument from the factories back to the cocoa farm plots, often going through a burning stage. Smallholders call this form of tegument ash “potasse” Smallholders who have tested it, mainly in the form of burnt tegument, announce yield gains of 50% for 2 years after application. In the village studied near San Pedro, the rate of adoption of this “new fertilizer” increased from 0 to 70% of planters in 5 years. The idea is to convince the grinding giants to fill their trucks with the dose of teguments in proportion to the tonnage of beans received, around 7-10%. For a load of 30 tons of beans, the truck would leave with at least 2100 kg of tegument. Two cooperatives (actually ‘pisteurs’ who have renamed their private business as a cooperative) have started to take into account the demand of smallholders and sell them bags of “potasse”, produced by intermediaries. The grinding industry doesn't seem to know... But if the grinding and chocolate industry were to become an active partner in this system of innovation, if the industry really wanted to play the “sustainability” game, the potential beneficiary smallholders would number in tens of thousands of villagers. In the context of the war in Europe and the inflation exerted in particular on fertilizers, those who govern the cocoa value chain could reconsider the interest of this village innovation.

Keywords: Organic fertilizer, fertility transfer, Inflation