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Improvement of the Sesame Value Chain by Introducing a Sesame Processing Unit in Bobo Dioulasso/burkina Faso

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Abstract

Sesame is one of Burkina Faso's largest commodities. It is counter-seasonal cash crop, harsh weather tolerant and requiring less input such as fertilisers and pesticides. In Burkina Faso, sesame grains are produced all over the country from organic to conventional and most of the grains are being exported. The main constraints of local sesame oil processing are the capacity, the equipment, the skill and above all, the energy cost. Difficulties in accessing finance, low level of organisation, the low involvement of scientific research, non-compliance with the regulations, Variation of the sesame price low quality of sesame difficulty in stabilising the supply chain are also the challenges that the product has to face. The country has one of the most expensive electricity costs in the world. On the other hand, solar energy is available abundantly. Therefore, development of decentralised solar-powered oil production system at cooperative level in rural areas has a huge potential to address the challenges. As the sesame oil is a very good one, it is open to a large market. Quality parameters of the oil such as free fatty acid, peroxide value, vitamin E, oxidation stability and water content were analysed. It was found that the quality of sesame oil produced from the solar-powered oil press was comparable with the sesame oil sold on the European market and fulfilled the EU standard requirements. The current local market pricing is about 4.89 €/L sesame crude oil. When the system run only during the day and during harvest season in a year, the fastest payback period was estimated at 2 months. (Pilot Project “Solar-Powered Sesame Oil 2017”). The estimations show that this project is affordable and promptly profitable.

Keywords: Sesame, solar, value chain