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### **OF ABSTRACTS BOOK**

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### S3-P-06

## On-farm performance of Arabica F1 Hybrids in the western highlands of Cameroon

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# RATIONAL

Benefits of the use of Arabica coffee F1 hybrids in agroforestry (high productivity, cup quality, resistance to drought, pest and diseases) have dominated scientific debates in efforts to promote the use of such hybrids over conventional varieties. However, arabica F1 hybrids are relatively new to most farmers, especially those in the Western highlands of Cameroon, a major arabica coffee growing area, where the plant is mostly grown in association with food and fruit trees. Selecting shade trees is also important for maximising ecosystem services.

### METHODS

From July 2018, a multi-site trial was conducted in six localities of different altitudes (950 to 1,400 m asl) in the western highlands of Cameroon to compare the H1 and Starmaya F1 hybrids with conventional cultivars (Marsellesa and Java). The experiment was laid out in a complete randomised design with eight varietal plots of 12 trees each of the H1, Starmaya hybrid and the control cultivars (Marcellesa and Java). The coffee plants were planted at 3.0 m spacing between rows and 1.5 m spacing between trees along a row, giving a total of 96 coffee plants per variety per site. The study incorporated a semi participatory methodology involving farmers to gain an on-farm assessment of the challenges, environmental feasibility, economic profitability and sociocultural acceptance of Arabica coffee hybrids. Shade tree advice tool, tree inventories and household interviews will be conducted to characterize Arabica coffee farms and farmers ecological knowledge on the provision of ecosystems services by associated shade trees.

## RESULTS

First phenotyping data showed that the growth of the Starmaya and H1 hybrids variety are earlier and superior to the control varieties Java and Marsellesa. Both hybrids were also more stable and resistant to drought compared to pure line varieties in all altitudes. We also found that the use of shade tree advice tool could guide farmers in selecting appropriate trees that best meet their needs and provide essential ecosystem services.

## **CONCLUSION & PERSPECTIVES**

Farmers appreciate and support the arabica hybrids due to their fast growth, production and drought resistance. The first true harvest is scheduled for October 2021. A national wide sensitization on Arabica coffee F1 hybrids could create awareness, generate a huge leap in livelihoods as well as get the attention of the government for policy drive. The overall impact of the study could be ensured through implementation of business driven- Agroforestry coffee clusters and innovation platforms.

Keywords: Agroforestry coffee clusters, Cameroon, F1 Hybrids, Starmaya, Shade tree advice

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