JOURNAL OF AGRICULTURAL AND RURAL RESEARCH VOL. 3, ISSUE 3, PP. 100-126.
http://aiipub.com/journal-of-agricultural-and-rural-research-jarr/

CUP QUALITY AND YIELD EVALUATION OF THE ETHIOPIAN GERMPLASM COLLECTION OF *Coffea arabica L.*

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ARTICLE INFO
Article Type: Research
Received: 11,Sep. 2019.
Accepted: 27, Sep. 2019.
Published: 27, Sep. 2019.

Keywords:
Coffea arabica, germplasm, cup quality, yield, breeding, specialty coffee.

ABSTRACT
This study was undertaken to characterize phenotypic variation for agronomic traits and cup quality in a collection of Ethiopian accessions of *C. arabica* as part of the Cenicafe coffee breeding program in Colombia. *C. arabica* is a perennial, self-pollinated species of a woody plant, and germplasm collections must be maintained as living trees or shrubs. To make these collections useful for breeding, plants must be managed in replicated trials over several years, and evaluated for genotypic and phenotypic variation. In this study, 300 Ethiopian accessions of *C. arabica* were evaluated in 6 experiments, with 50 introductions/experiment and two controls, in a completely randomized design with 8 replications. The variables measured were the yield, growth characteristics, granulometry, rust resistance and cup quality. Differences among accessions were highly significant for all variables evaluated. We report here the results of yield and cup quality evaluation, currently, the most important traits for coffee breeding. Several accessions showed high yield, comparable to *C. canephora* control, and others had outstanding organoleptic characteristics of great interest for breeding. Our findings document the extent of phenotypic variation for highly valued traits in the *C. arabica* germplasm collection and point the way toward use of the collection in future breeding efforts. The overall objectives of the study were a) to characterize the *C. arabica* genetic resources maintained at Cenicafe for yield and cup quality, b) to identify accessions with outstanding yield and cup quality to use as progenitors in the development of new varieties, and c) to expand the genetic base of cultivated *C. arabica* in future breeding efforts.

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