Resilient coffee cultivars: What does it mean? A Brazilian perspective

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Introduction

- The identification of resilient coffee cultivars is increasingly claimed as a major priority to many coffee stakeholders.
- There is not clear consensus for what is a resilient coffee cultivar.
- There is also no consensus on what should be the main selection criteria that guide breeders to select such cultivars.
- Therefore, the main objectives of this study was to reach a consensus on what are the main traits that define a resilient coffee cultivar.

Results/Discussion

- The survey unveiled a consensual definition of resilience from plants in general, to cultivars and coffee cultivars: A resilient cultivar is adapted / fitted to its environment and its possible abrupt changes.
- Economic profitability of the farmers was part of this environment, in addition to the bio-physical environment.
- Descriptors related to farmers economic sustainability were in the top ranking in phase 2 (Figure 1).
- Highly rated tolerance/resistance to pests and disease is good for both economics (less production cost) and environment (less contamination).
- Adaptation to agroforestry system was not judged a major descriptor of a resilient coffee cultivar
- Catuaí (26 %) and Mundo Novo (20%), long time grown in Brazil, were the two top resilient coffee cultivars. (Figure 2).

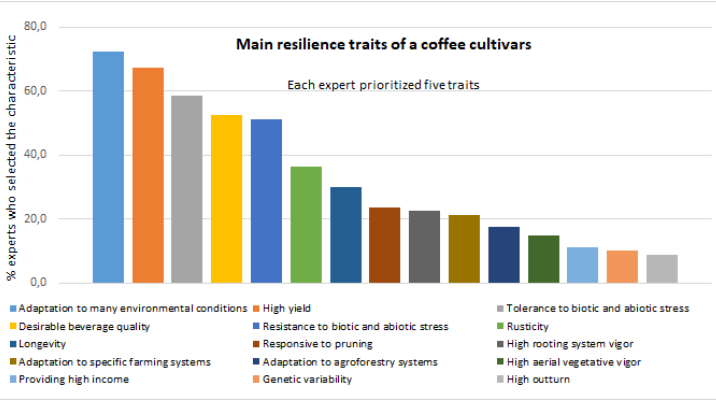

Figure 1: Main resilience characteristics of coffee cultivars, through the Delphi approach.

Methods

We used the Delphi approach, applied in **two phases**:

- **First:** 107 experts were interviewed, from two groups:

  i) 76 scientists in natural science in general, agricultural scientists, including the coffee sector; and

  ii) 31 coffee producers and professionals in the coffee sector (inclusive technical assistance and rural extension).

- **Second**: 80 experts related to the coffee sector (coffee farmers, technical consultants, researchers).

Conclusion/Perspectives

- A resilient cultivar is adapted to its immediate environment, including specific agronomic features and desired economic outcomes.
- Hence i) coffee cultivars resilience is not universal and ii) economic profitability is part of the farmers' environment.
- Major take-away: i) Resilience in the coffee production sector includes both economic and ecological dimensions and ii) breeding resilient varieties is farming systems-specific, hence the importance of characterizing farming systems.

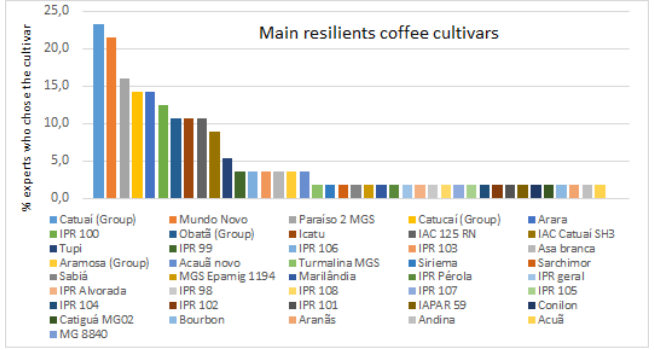

Figure 2: Main resilient coffee cultivars, through the Delphi approach.

References

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Walker, B.; Salt, D. 2012 Resilience practice : building capacity to absorb disturbance and maintain function, 225 p. Island Press, Washington, DC