Estimate of sweet potato productivity based on vegetation indices of drone imagery

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INTRODUCTION

Technological innovations is constantly growing in the agricultural field, the use of Drones has been showing significant results in the monitoring of different cultures, making it possible to diagnose tensions before physiological, environmental or economic damage and, consequently, the ability to estimate productivity with vegetation indices (VI). Thus, the objective was to evaluate using a multirotor drone in the cultivation of sweet potatoes in na area of arround 2,000 m^2.
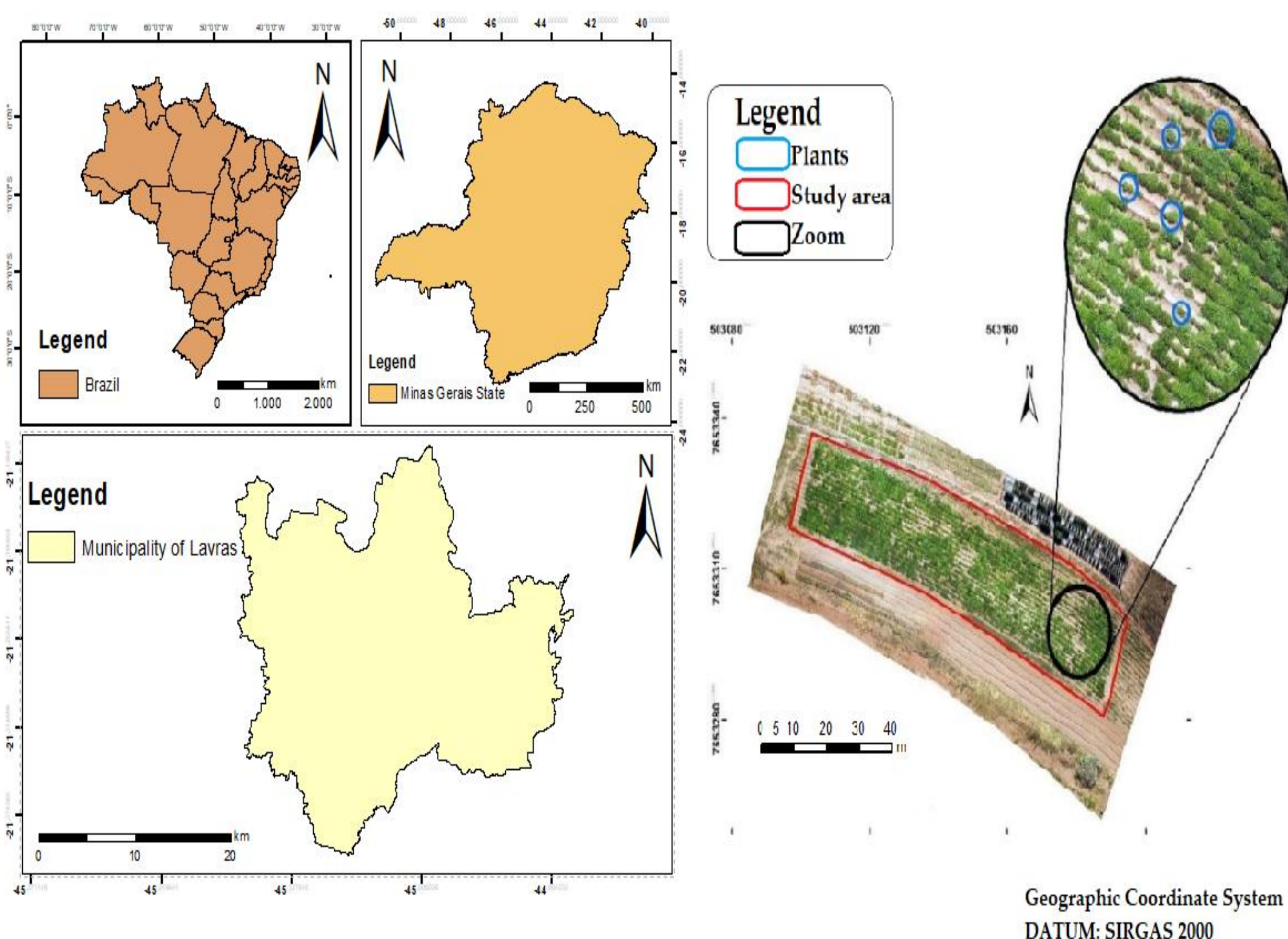
MATERIAL AND METHODS

Figure 1: Study area location at Lavras Municipality, Minas Gerais State.

Flights were performed at 20, 50 and 75 m height, and the Green Leaf Index (GLI) vegetation index was applied; to determine the best altitude for the research
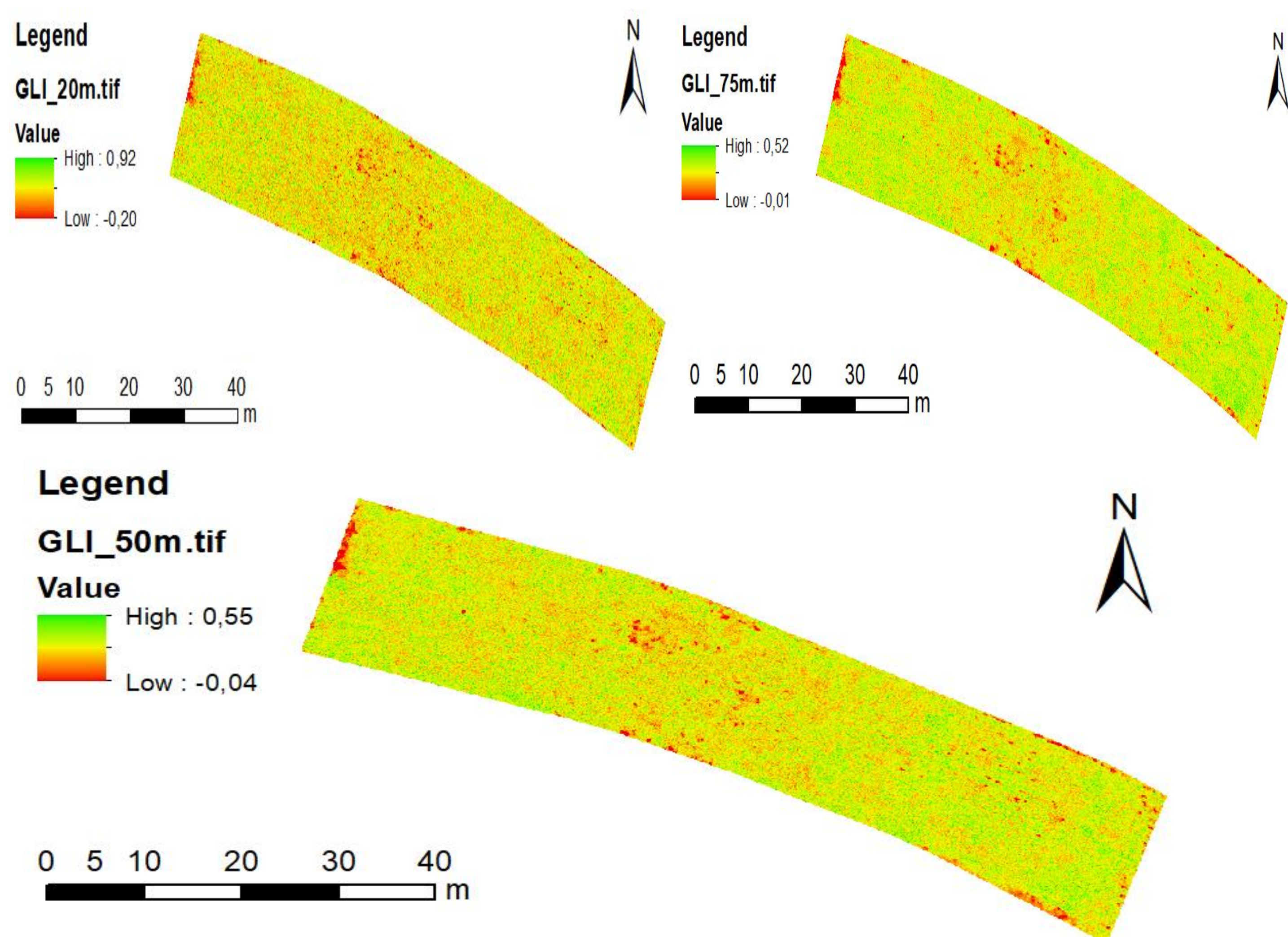
RESULTS AND DISCUSSION

Figure 2. Maps comparing the 3 flight heights.* GLI = Green Leaf Index.

The results showed that the 50 m flight is significantly better associated with the productivity of sweet potato.

CONCLUSIONS

Although it has been applied in a small area, it has the potential to be extrapolated to larger areas, however, it aims to support family farmers with conventional agricultural practices.

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