

Helicopter Aerial Fertilization in Planted Eucalyptus Forests

The management of eucalyptus planted forests in steep slope areas implies a greater financial outlay, compared to the operation in flat areas, due to the difficulties of mechanization and, consequently, a large number of manual operations. The objective of this study was to evaluate mechanized fertilization using helicopter. The use of helicopters was considered for hilly conditions, due to the ease of landings and take-offs, with no need for landing strips, and the ability to fly with less height and speed.

In the field tests, approximately 2,300 hectares were fertilized with doses ranging from 100 to 400 kg per hectare of N:K fertilizers. Compared with manual operation, the productivity gain was approximately 4 times, and a 10 times reduction in the number of people in the field, reflecting a reduction in workers exposure risks. In addition to these benefits, this application technology was promising because it presented a good input distribution uniformity. The application quality was analyzed based on the application maps recorded by the aircraft's onboard system and detection of the fertilizer presence in the soil, observed with field collectors.

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