

# **Response of Arabica Coffee Seedling to Lime and Phosphorus:**

## **II. Dry Matter Production and Distribution**

**A. NETSERE<sup>1</sup>, H. GEBREKIDAN<sup>2</sup>**

<sup>1</sup>Jima Agricultural Research Center, P. O. Box 192, Jimma, Ethiopia

<sup>2</sup>Alemaya University, P. O. Box 138, Dire Dawa, Ethiopia

### **SUMMARY**

A factorial combination of six lime rates [0, 2.31, 4.62, 6.93, 9.24 and 11.55 g/2.5 kg soil (pot)] and four P rates (0, 250, 500 and 750 mg P/ pot) were laid out in randomized complete block design in three replications at Jimma Agricultural Research Center. The objectives of the study were to investigate the effect of levels of lime and P on dry matter production of arabica coffee seedlings and its distribution into component parts of the seedlings. Results revealed that both the main effects of lime and P significantly ( $p < 0.01$ ) affected stem, leaf, root and total dry matter production of coffee seedlings. The highest values of these parameters were observed on pots treated with 2.31 g lime and 750 mg P/pot. However, the former was not significantly different from seedlings grown with 0 g lime/pot. Similarly, the interaction of lime and P significantly (either at  $p < 0.01$  or  $p < 0.05$ ) affected all the parameters. The highest and non-significant values for the parameters were noticed on pots treated with a combination of 0 g lime and 750 mg P/pot and 2.31 g lime and 250 mg P/pot, respectively. It is, therefore, concluded that coffee seedlings with high dry matter content can be produced by applying P at a rate of 750 mg P/pot or by applying a combination of low lime (2.31 g/pot) and low P (250 mg P/pot) rate. But, further studies should be continued under field condition to investigate growth, yield and quality of coffee to varying levels of lime and P and establish economically optimum levels of these agricultural inputs.