

## RESEARCH NOTES

### ETHREL:<sup>1</sup> A POTENTIAL COFFEE RIPENER

Ethrel is the trade name of a mixture of 2-chloroethanephosphonic acid and the anhydride and ester of the same acid. The compound has shown potential as a fruit ripener and growth-regulating substance.<sup>2</sup>

The extended period of coffee ripening presents a challenge both to researchers and farmers. Coffee trees normally during harvest time have ripened, unripened and hard, and unripened and soft berries on them all at the same time. If full ripening of berries took place simultaneously, a more efficient use could be made of labor during the coffee harvesting season.

Preliminary work was undertaken to study the effect of variable Ethrel concentrations on coffee ripening. Fruiting young coffee trees of the Caturra variety with some ripened berries on them were selected at the Adjuntas Substation and on a private farm at Jayuya. The trees at the Adjuntas Substation were growing without shade. At Jayuya the trees were under light shade.

The results at both Adjuntas and Jayuya, 2 weeks after the application of Ethrel, revealed a definite favorable effect on ripening. The results at Adjuntas were:

<i>Rate of application</i>	<i>Ripened berries</i>
<i>P. p. m.</i>	<i>Percent</i>
0	27.4
125	50.3
250	72.4
500	81.2
1,000	85.5

The above-noted concentrations showed little effect at Jayuya and were therefore raised to the 500–4,000 p.p.m. range. At these concentrations, coffee ripening was increased to 91.8 percent with the application of 4,000 p.p.m., compared with 26.9 percent for the check. Concentrations of 2,000 and 4,000 p.p.m. at Adjuntas caused phytotoxic effects such as tip burn and leaf and fruit abscission. Such effects were not observed at Jayuya. This

<sup>1</sup> A product of Amchem Products, Inc., Ambler, Pa. 19002.

<sup>2</sup> A summary of part of the research conducted with Ethrel has been abstracted by Amchem Products, Inc., Ambler, Pa. 19002, for use in their information sheets 35 and 38.

may be attributed in part to the differences in precipitation and the shade factor at the two locations. No beneficial effect was observed from application of a wetting agent in combination with Ethrel.

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