

# MATCHING NITROGEN SUPPLY TO DEMAND IN RASPBERRY PLANTS



UK raspberry growers feed and water pot-grown raspberry plants through a drip feed irrigation system (Figure 1), employing standard feed recipes based on historical research. In some seasons, the plants receive more nitrogen than they need, which is expensive and leads to over-vigorous growth and increased cane management costs.

Niab has developed a mathematical model which predicts the plant's nitrogen demand based on the water requirements of the plant along with environmental variables such as temperature, allowing it to account for changing nitrogen use throughout the season.

When compared to a commercial control, the model gave rise to a 76% reduction in nitrogen and 37% reduction in water use.

Using the model also resulted in less leaf and cane growth compared to the commercial control, where extra labour was needed to thin canes and remove leaves (Figure 2).

Figure 1. Drip feed system in raspberry



Figure 2. N model (right) reduced N use by 76%



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