

MINIMIZING FERTILIZER CONTAMINATION OF GROUND WATER BY FERTILIZER  
AND IRRIGATION MANAGEMENT OF AVOCADOS

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Nitrate contamination of ground water by non-point sources (e.g., agriculture) has received increasing attention over the past few years. The purpose of this project is to study ways to manage fertilizer and water application such that nitrate contamination of ground water is minimized while an acceptable yield of avocados is maintained.

The objective for the first few months of this project has been to identify an appropriate site to conduct the study. A site has been located that will allow us to monitor the nitrate movement not only in the soil water, but in the ground water as well, since the ground water is relatively shallow. In the next few months, after the experimental system is designed and found to be valid for statistical purposes, the irrigation system and soil-water sampling tubes will be installed.

Studies of nitrate movement under avocado trees at the Corona Foothills project site are contributing to the information base for this project. Data have been collected from two fertilizer applications. The amount of fertilizer applied the second time was one-half the amount used in the first application. Decreasing the fertilizer application amount by one-half resulted in, on the average, more than a 50% decrease in the nitrate concentration in the soil water below the root zone. Considerable variation in the soil-water nitrate concentration was observed among individual trees.