regressions, there would seem to be very few locational influences remaining for the soil-type variable to pick up.

The General Practices regressions produced significant results in virtually all areas of cultural practice, including fertilization, irrigation, integrated pest management, and general crop management. Significant coefficients were more common for insecticides in tomatoes and fungicides in strawberries. Different forms of fertilizer used in cultural production were found to be influential on residue levels. Distributing fertilizer through the irrigation system, or fertigation, was significantly associated with lower fungicide residues in both tomatoes and strawberries. This implies that applying fertilizer in small amounts on a more frequent and regular basis, which is typical of fertigation, helps reduce fungus problems. It is not known for certain why liquid and foliar fertilizers would be associated with higher residues in tomatoes or dry and foliar fertilizers would lower residues in strawberries. Organic fertilizers were found to contribute to insecticide residues in strawberries and fungicides in tomatoes. The application of plant nutrients from organic forms may contribute to micro-environments more favorable for certain pest infestations. If so, this would necessitate the use of more chemical pesticides. Since organic fertilizers have both agronomic and environmental benefits, it would be inappropriate to recommend reduced reliance on this input strictly on the basis of these results.

Integrated pest management practices were most influential on insecticide residues in tomatoes. The consideration of beneficial insects in pesticide treatments, the use of pheromones for pest monitoring, and the application of biological agents for pest control were all significant in reducing residues in tomatoes. Other forms of IPM practices such as adjusting planting dates, soil testing for pests, and sprayer calibration confounded expectations by being positively associated with residues. Instead of representing substitutes for chemical pest control activities, these activities may actually be serving as indicators of pest management intensity within an operation. Thus a positive relationship was identified. For example, growers who rely more heavily on chemical pesticides for pest management, apply pesticides more often and therefore need to calibrate their equipment more frequently.

Although there was no indication that modifying irrigation practices as part of an integrated pest management program had any influence on residue levels, the use of different irrigation technologies apparently does. This may be a consequence of how different technologies impact the micro-environment of the plant or field, or more directly, how they impact the environmental fate of pesticides after they are applied. Overhead and micro-jet irrigation technologies wet all or part of the leaves, stem, and fruit of the plant. Consequently the use of such systems may encourage pest infestations in crops, especially fungi. On the other hand, overhead and micro-jet irrigation systems could wash off any residues already on the plants at the time the water is applied. Drip irrigation places water only near the roots of the plant and the rate of application is more gradual. In the empirical analysis, drip irrigation was found to negatively influence residue levels in both strawberries and tomatoes. Micro-jet which was only used on strawberries, was a positive factor for fungicide residues. Overhead irrigation had a positive influence on insecticides but negatively impacted fungicides in strawberries. This contradicted initial expectations and