

# Fall Urea Sprays

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It is certain that nitrogen plays a key role in bacterial canker management. A fall application of lo-biuret urea can supplement a grower's nitrogen program and should be a standard practice in orchards chronically affected with this disease. In our trials with replanted peaches, 100 pounds of lo-biuret urea at the beginning of leaf fall (around November 1) made the trees more resistant to bacterial canker. I do not know if we would have the same effect at lower rates. My guess is that lower rates would be less effective.

**What about foliar urea on “healthy” orchards?** Studies have shown that foliar urea sprays can increase flowering, fruit set and yield of citrus. I conducted two trials to see if fall foliar urea might increase almond yields in “healthy” orchards. We applied 0, 25, 50 or 100 pounds of lo-biuret urea per acre in replicated trials in almond orchards in Patterson and Modesto. Both orchards have some ring nematodes but no bacterial canker. Past yields in these two orchards have been OK, but have not lived up to expectations. Neither orchard was nitrogen deficient according to leaf analyses. Yields for the urea treatments are listed below.

| Nonpareil Yield (lb per acre) |                   |                 |
|-------------------------------|-------------------|-----------------|
| Rate of Lo-biuret Urea        | Patterson Orchard | Modesto Orchard |
| 0 lb                          | 1323              | 1140            |
| 25 lb                         | 1405              | 1256            |
| 50 lb                         | 1382              | 1194            |
| 100 lb                        | 1356              | 1279            |

**Observations from these trials:**

- Yield increases from urea sprays were not statistically significant at  $P \leq 0.05$
- There was certainly no yield benefit to applying more than 25 lb per acre
- We had shoot burn in the lower canopy in both locations at 100 lb per acre
- Trees sprayed with 100 lb urea flowered 1-2 days earlier than untreated trees

**Other thoughts on lo-biuret urea:** In a three-year trial conducted several years ago by former UC Soils Specialist Roland Meyer, fall sprays with ten pounds of lo-biuret urea resulted in yield increases of 274, 44 and 187 pounds per acre over unsprayed trees. However, just as in my two trials, these increases were never statistically significant. My feeling is that fall urea sprays may slightly increase yields in some cases, but don't expect miracles. If you have a bacterial canker problem, 100 lb urea will help with that. If canker is not an issue, fall urea sprays may help with yield a little, but there is probably no need to apply more than 10-25 pounds. Thanks to Joe Martini of Sun Flower Ranch and John Regusci for participation in these trials.