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for adults if served in the common 31/2-ounce portion. A few. indeed, wouldn't even meet the recommendation for infants. But a 31/2-ounce serving of fresh-squeezed juice would usually contain more than enough vitamin C for an adult's recommended daily allowance.

Moral: You can't rely on a small glass of frozen orange juice to meet your day's needs.

The chart below shows the levels of vitamin C we found in each concentrate brand. It seems unlikely, however, that the C content of a brand stays constant throughout the year. When we did new lab tests on four national brands months after the original tests, we found virtually the same vitamin C content in two brands and a much higher C content in two others. For details, see the caption below.

Given the importance of citrus fruit as a supplier of vitamin C, we believe that processed juices should be blended to contain a reasonable minimum of vitamin C, and the vitamin C content should be noted on each product's label. Meanwhile, consider that a small glass of orange juice may not provide your recommended quota of vitamin C content. Drink more juice, or make sure your daily diet includes other citrus fruits or such vegetable sources of vitamin C as brussels sprouts, broccoli, tomato, kale, potato, or uncooked green pepper.

## TESTS FOR DEBRIS

Certain strains of bacteria seem to be associated with the processing of orange juice. They can cause spoilage once juice is squeezed, as can yeasts and molds. Bacteria, yeasts, and molds, however, can be controlled by the heat imposed during processing-and apparently are. When we conducted bacteriological and yeast/mold tests according to USDA guidelines and other standard procedures, every product proved to be within acceptable limits.

We wish we could say the same about insect debris. Tiny, so-called scale insects are among the insect pests most com-

mon to oranges, along with thrips, mites, and the larvae of fruit flies. Soon after they hatch, orange-scale insects affix themselves to the fruit, where they are soon protected by subsequent waxy secretions from the insects themselves. They're pesky to remove during processing-but not impossible. Our tests showed a number of brands to be virtually free of them. A few other brands, however, could most charitably be described as highly questionable.

Our consultants took samples of roughly eight ounces from each of six separate containers of each brand and analyzed them by a standard method. Given that scale insects are ubiquitous in citrus crops, some products nonetheless verged on the immaculate. Worthy of particular note are 15 concentrates (including the high-rated Ralphs and Donald Duck), all samples of which yielded few whole scale insects, or none at all, and were essentially free of other insect contamination as well. The Ratings note those brands that were relatively free of insect debris.

The same analysis turned up two notable offenders. Our six eight-ounce samples of Tree Sweet concentrate carried a grand total of several dozen whole scale insects, along with a smattering of scale fragments, mites, and fly parts. The Texsun concentrate came out considerably worse; its totals came to more than 300 scales and a few dozen insect fragments. One or the other Texsun sample also contained an odd mite, thrip, or fly part as well.

Who's watching the juice factories? Well, the USDA does -when called upon, and paid, by a processor for the inspection service. But to judge by our findings, the inspection is no guarantee of exceptional cleanliness. The Food and Drug Administration does set a limit to the amount of allowable filth in citrus juices, but it covers only products in cans and sets limits only on mold, and on fruit flies and their eggs and larvae, not on debris of the kinds we found.

A couple of questions suggest themselves: Why does the FDA sets limits only for canned juice when frozen condon't pests notioi fects: to den How able". not p laden

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## **RECO**

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-JUICE SAMPLES













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C content, in milligrams, we found in 31/2 ounces of each brand. However, vitamin C might vary widely within the same brand bought at different times. To check that possibility, CU retested four national brands months after we had gotten the lab results shown here. The average C content of Minute Maid and A&P hadn't changed at all. But Tropicana's C content increased from