

BITTER PIT IN APPLES

Bitter pit causes sunken, irregularly shaped spots on the apple skin. They vary in size, but many are about 1/4 inch (5-6 mm) in diameter. Peeling the apple discloses brown, corky pockets which are more concentrated near the skin, but some may be found deep in the apple tissue. These corky pockets have a bitter flavor, hence the name bitter pit. There are usually more spots toward the blossom end of the fruit.

This is not a disease caused by a fungus, bacterium or virus. It is a physiological disorder associated with low levels of calcium in the fruit. There may be plenty of calcium in the soil and even in the leaves and bark of the tree, but there is not enough in the fruit.

Bitter pit may be due, in part, to competition between shoots and fruit for calcium. Heavy dormant season pruning which increases shoot growth also increases the amount of bitter pit. Excess fertilization with nitrogen also increases bitter pit.

Bitter pit usually occurs in years of light crops and not in heavy crop years. Some varieties of apples are more prone to bitter pit than others. It is sometimes apparent at harvest time, but with some varieties bitter pit may appear only after a period of storage. The problem increases in severity with longer storage.

If bitter pit is a problem, here are some suggestions:

- (1) Prune trees in the summer to reduce tree vigor;
- (2) Do not fertilize trees, especially with nitrogen fertilizers. Mature apple trees seldom need fertilizing. Over fertilized trees produce late, poorly colored fruit;
- (3) Spray several times in the summer with calcium nitrate or calcium chloride at the rate of 5 tablespoons per gallon. Sprays must cover the fruit as calcium will not move to the fruit from other parts of the tree. Spray in mid-May, mid-June and mid-July; and
- (4) Some home gardeners feel they have reduced the problem with lime and borax. In October, place 25-30 pounds of lime under a large, mature tree. Apply one pound of agricultural borax or laundry borax in February. Use correspondingly less for smaller trees.

Revised by Ross Penhallegon, 6/99.