

**All Gardens
Great & Small**
by
York Co.
Horticultural Agent
Tom Becker



Reduce the Effects of Drought by Irrigating

Adequate soil moisture is essential for good crop growth in August. A healthy plant is composed of 75-90% water. Plants use water for vital functions including photosynthesis, support (rigidity), and transportation of nutrients and sugars to various parts of the plant.

Options for applying water to plants include: a watering can, a garden hose with a fan nozzle or spray attachment for containers, small gardens or individual plants and portable lawn sprinklers, a perforated plastic soaker hose, drip or trickle irrigation, or a semi-automatic drip system for lawns and gardens.

The Virginia Consumer Horticulture Guide to Nutrient Management suggests using these basic techniques and principles for watering.

- Adjust the flow or rate of water application to about one-half inch per hour to avoid caus-

ing run-off. To determine the rate for a sprinkler, place small tin cans at various places within the sprinkler's reach, and check the level of water in the cans at 15 minute intervals.

- When using the oscillating type of lawn sprinkler, place the sprinkler on a platform higher than the crop to prevent water from being diverted by plant leaves. Try to keep the watering pattern even by frequently moving the sprinkler and overlapping about one half of each pattern.

- Do not sprinkle foliage in the evening. Wet foliage overnight may encourage disease. Morning watering is preferred.

- Perforated plastic hoses or soaker hoses should be placed with holes down (if there are holes), along one side of the crop row or underneath mulch. Water will slowly soak into the soil.

- Frequent, light waterings will only encourage shallow

WOLCOTT, N.Y. — The apple trees on the hillsides of the 1500-acre Cahoon Farms in Wolcott, NY, are dotted with lots

rooting, causing plants to suffer more quickly during drought periods, especially if mulches are not used. On the other hand, too much water, especially in poorly drained soils, can be as damaging to plant growth as too little water.

Your lawn can use an inch or more of water per week in hot, dry weather. The lawn should be watered when the soil begins to dry out, but before the grass actually wilts. Loss of resilience can be observed when footprints make a long-lasting imprint instead of bouncing right back.

Critical watering periods for selected vegetables include head development for broccoli, cabbage and cauliflower, pod filling for beans and peas; seed emergence and root development for carrots and silking; tasseling and ear development for corn, flowering or fruiting for eggplant and tomatoes; flowering and fruit development for cucumber and melons; head development on lettuce.

Questions on the above information can be directed to Thomas Becker, Extension Horticultural Agent, York County, at 112 Pleasant Acres Road, York, PA 17402 or call (717) 840-7408.

Apples By The Slice

of tiny, new apples. Hundreds of 17-bushel crates lie empty in the long warehouses, waiting for the fall harvest. But, thousands of slices of fresh apples are moving along conveyor belts in Nature's Pleasures, Cahoon's new 7,000 square foot processing plant.

Fresh apples that have been in controlled-atmosphere storage since last fall are cut into wedges, dipped in a solution of ascorbic acid to prevent contamination and browning, blow dried, and packed in modified atmosphere packaging for consumer use using "minimal process" technology. That technology was developed at the New York State Agricultural Experiment Station in Geneva, NY, in the laboratory of Cornell University food scientist C.Y. Lee. From dump room to pack-out takes 15 minutes.

In today's run, fresh Granny Smith, Empire and Gala apples are being cut into wedges with the skins on, dipped, dried, and packaged with either caramel or peanut butter dip under colorful labels that feature Bugs Bunny and his Looney Tune friends. The 2.4 oz. fresh-fruit packs are bound for school lunchrooms in Dayton, Philadelphia, Grand Rapids, Chicago, Long Island and New York City.

"We co-pack these apples packs for Tanimura and Antle, Inc.," said third-generation owner Jeff Cahoon. "The food service company introduced them last fall to satisfy the federal minimum daily requirement of one-half cup serving of fresh fruit or vegetables in school lunch programs." Perhaps more importantly, kids really eat them. "The reorder rate from school districts is 100 percent," said Cahoon. "They are one of the most popular items on the school menu."

When he isn't co-packing for other companies, Cahoon packages his own Nature's Pleasure product of fresh-cut apples in 2 ounce, 8 ounce and 32 ounce packages. Consumers and food service companies use the larger

sizes to make apple pies. He recently negotiated a contract with U.S. Airway to offer the 2 ounce snack-pak—with or without cinnamon—on flights from New York to Boston and Washington, and expects to negotiate a contract with U.S. Air Express out of Dulles in the next month.

Cahoon believes the time is ripe for marketing apples by the slice. "People have been educated about the health benefits of consuming five portions of fruits or vegetables a day. With the fast-paced lifestyle, this is an even easier, more convenient way to eat apples," he said.

"We developed the technology for minimal processing using ascorbic acid dip and modified atmosphere packaging in the early '90s," said C. Y. Lee, "but it took several years for commercial adoption by the food industry."

"Cahoon Farms uses a dip of 80,000 ppm of Vitamin C to prevent browning and contamination by microorganisms, followed by a unique method of blow drying and quick cooling that increases the efficacy of Vitamin C on the surface of the dried apple slices," said Lee. The process improves the appearance, maintains apple texture, extends shelf life to about three weeks, and maintains the nutritional benefits. Because ascorbic acid is so expensive, food scientists also had to develop a way to pasteurize the Vitamin C dip solution so it could be re-used in processing.

Lee and his group are now conducting research on the antioxidant activity of fresh apples. Lee is a strong believer in the health benefits of fresh fruit consumption—particularly apples—and says there is even stronger evidence that consumers should follow the old adage "an apple a day keeps the doctor away."

Americans consume about 20 pounds of fresh apples and 28 pounds of processed apples per person per year.



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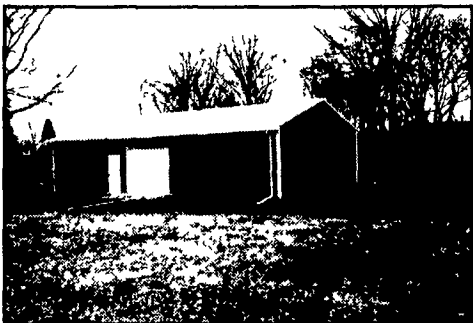
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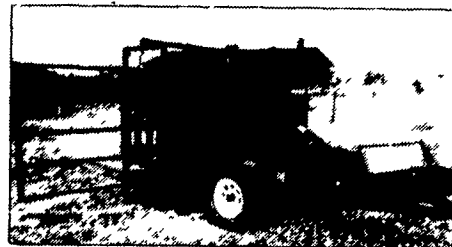
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