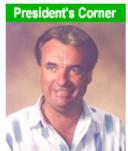


Ethylene Control is celebrating its 10th year and continues to pioneer new developments in the field of ethylene management on an international level. The California company has played an important role in improving fruit and vegetable quality for consumers has played an important role in improving fruit and vegetable quality for consumers worldwide.

vegetable quality for consumers worldwide.

Shelf life has been extended for many commodities and that has meant fresher, more flavorful produce for consumers.



#### **Upcoming Events**

Annual Produce Conference - June 8-11 - Monterey, California

Floral Marketing Association & Super Floral Show - June 13-15 Houston, Texas

California Association of Flower Growers/Shippers - July 19-22 La Jolla, California

Citrus and floral handlers are rediscovering the importance of having an ethylene management program.

## **Ethylene Control Celebrates 10th Year**

A decade ago, working in a spare bedroom and an over-crowded two-car garage, Dave Biswell started a new company he called Ethylene Control Inc. The name describes what his business is all about - controlling ethylene gas for the fresh produce industry.

Things have changed over the years. Biswell no longer has to work out of his garage. He built a new facility located north of Selma, CA., nestled in the middles of the San Joaquin Valley's rich fruit-growing region.

In the early days, Biswell visited dozens of packinghouses throughout the valley and sold his tiny bag-like "sachets' filled with environmentally safe purple pellets that oxidize ethylene gas. He first developed the product in the kiwi market and packers of the fruits placed sachets in their flats to help guarantee good arrivals and longer shelf life for retailers. In the process, Biswell has made several improvements in the way the pellets are packaged and even developed large filters with the purple Power Pellets for use in long-haul trucks and sea contains. Efficient EC-3+ filtration systems handle ethylene control for large cold storage facilities.

Today, celebrating its 10th anniversary, Dave Biswell and his Ethylene Control team can look back on their endeavors and see that they have played a unique role in helping to revolutionize how the giant fresh fruit and vegetable industries in the United States and abroad, ship and store their perishable commodities. ECI is the largest company of its kind in the world, serving the produce industry.

## **Pride Packing Company: A Family Operation**

Pride Packing Company of Wapato, Washington is a family operation that was founded in 1974 by Ernie Spada. Today, Pride Packing farms some 14,000 acres of peaches, nectarines, apples and pears and packs and ships only its own fruit for customers throughout the United States and around the world.

"We bring some 30,000 bins of fresh fruit into the warehouse every year," said Sherry White, warehouse

manager and a 21-year employee with Pride Packing. "Crops are normally harvested at the end of August through the end of October and then the fruit is held through the first of January in regular storage and through June in controlled atmosphere storage rooms. By mid-November, regular storage began having trouble with over-ripe fruit."

White was visiting California when she toured the Wes Pak facility in the San Joaquin Valley and saw Ethylene Control filtration systems in operation for the first time. After some research she purchased two EC-3+ filtration units in an effort to solve their ethylene problems.

"Apples produce a lot of ethylene and in the past we got leakage of ethylene gas into an adjacent room used to store pears," she said. "We are already seeing a big difference in the holding quality of our pears."

### **Outfitted For CA and Conventional Storage**

According to White, Pride operated three 2,000-bin rooms, three 1,000-bin rooms, two 1,900-bin room, and one room each that holds 2,500-bins, 1,500-bins and 1,800-bins, respectively. All these are used for CA cold storage. The firm also has two additional 2,000-bin rooms that can be used as either CA or conventional storage.

Pride Packing now operates its hand packing lines nearly 11 months a year with three crews working during peak months. Besides regular packing operations, Pride also puts up a specialty combination pack that includes both apples and oranges. Premium labels include Merit 'O Pride and Mary's pride named after the owner's mother.

Ernie Spada also owns United Salad Co., of Portland, Ore., a firm that handles fresh produce and vegetables and specializes in banana ripening for Oregon and Washington markets. United Salad was established by his mother, Mary Spada, who began packaging cole slaw salads in her Portland garage in 1939.

# New Products & Uses

The Banana industry is becoming a big believer in the need for controlling the ripening process prior to the fruit hitting retail grocery store shelves. Shippers are discovering that the same ethylene which helps them ripen the bananas, needs to be controlled at times to assure that the fruit will arrive in good condition and will hold for an adequate period of time on the shelf.

In addition to the banana industry, citrus packers and shippers are also seeing the advantage to manage their ethylene gas volumes. More and more packers are using ethylene control products to maintain high quality standards for the consumer of citrus. Both are new users of ethylene control products.

## Inking: A Peach/Nectarine problem

Skin discoloration in peaches and nectarines has become a frequent problem in the last 10 years in California and other fruit-growing states and countries, report Carlos H. Crisosto, pomology, University of California, Davis.

Inking symptoms appear as discolored brown and black spots or stripes but are restricted to the skin. Abrasion damage in combination with heavy metal contamination are requirements for inking development. The damaged skin cells collapse and their contents reacts with heavy metals turning their color dark

brown/black. Iron, copper and aluminum are the most deleterious contaminants, Crisosto said. Even 5 to 10 ppm iron is enough to induce inking at the physiological fruit pH and this contamination can occur within 15-20 days before harvest, during harvest or packing. Foliar nutrient, fungicide and insecticide preharvest sprays which contain heavy metals in combination with abrasion damage, have the capacity to induce inking on peach and nectarine fruit. Crisosto shared the following tips for controlling this condition:

- 1. Reduce fruit abrasion damage
  - Pick fruit gently
  - Avoid long hauling
  - Keep picking containers dirt free
  - Supervise harvest
- 2. Reduce contamination of fruit
  - Keep harvest equipment clean
  - Avoid dust contamination on your fruits
  - Check water quality for heavy metals
  - Don't spray foliar nutrients with heavy metals during fruit maturation.
  - Tentative preharvest application intervals for the following fungicides and foliar nutrients were developed:
    - $\hat{Z}$ .I.P. $\hat{A}$ ® = 20 dbh; Benlate $\hat{A}$ ® = 12 dbh;\*
    - Roval® = 7 dbh; Fungonex® = 3 dbh;
    - Ronilan® = 1 dbh
- 3. In case of a possible inking situation, delay your packaging for 48 hours to detect fruit inking damage during your grading operation.
- 4. As a long term solution, it is suggested that chemical manufacturers identify and remove the sources of contamination from their products that any cause inking before distributing them.
- \* Days before harvest

## **Spore Kill Efficacy Study Impressive**

### **Ethylene Table provides guidelines**

A study conducted in May 1995 by Quality Consultants of Upland and San Francisco showed that Power Pellets were effective in controlling the incidence of sour rot, green mold, blue mold and brown rot.

The objective of the study was to determine the kill efficacy of Power Pellets granule-filled filters for airborne spore contamination for a variety of molds and rot fungi. Some of the possible sources of the spore contamination: spores found in ambient air pumped through the empty column, and spore contamination during time of plating water specimen while plates were exposed. Spore colonies found in control plates were typical of blue mold.



"We change the power pellets in our machines every four weeksâ€\A couple hundred dollars for pellets is much cheaper than losing fresh produce valued at thousands."

Delta Produce Marketing, San Antonio, Texas, Scott Jensen, operations



"By using an Ethylene Control filter in my walk-in, I have the assurance that my fresh produce is not going to decay in a few days."

Jimmy's American Café, Des Moines, Iowa, Steve Winders, Manager

"We are very happy with how our EC-3 machines absorb unwanted ethylene gases in our cold storage rooms. This lets us offer our distributors the best quality imported Chilean and New Zealand fruits and vegetables possible."

Lucca's Freezer & Cold Storage, Hammonton, New Jersey, Rusty Lucca





Back To Top - Back To Main Page

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