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## In The News ...

### Research May Reduce Chickpea Blight

USDA scientists are attempting to use germplasm from wild chickpeas to create a fungus-resistant, commercial variety.

Chickpeas—also known as Garbanzo beans—are a common offering at salad bars. They were hit by a blight epidemic in the Pacific Northwest last summer after wet weather created the right conditions for the *Ascochyta* blight.

The fungus that causes this blight forms spores on cold, damp surfaces. It is spread from plant to plant by splashing rains, and to new fields by the wind.

USDA estimates that more than half of the \$6 million chickpea crop planted on 15,000 acres in eastern Washington and northwestern Idaho—the largest chickpea-growing regions—was wiped out.

For additional information, contact USDA plant pathologist, Walter J. Kaiser, Jr. (509) 335-1502.

### Everbearing Strawberries Improve Grower Income

Strawberry plants in the Northeast and Midwest are bearing fruit longer because of a genetic change that lengthens the plants' fruit-bearing season.

Several years ago, USDA scientists introduced two everbearing varieties, Tribute and Tristar. These new breeds, which went to nurseries in 1981, bear 4 months longer than spring-fruiting types.

Before the new berries could increase production, growers had to learn how to properly irrigate and nurture root systems that were smaller than those of the traditional varieties. Irrigation of the strawberries offsets the heat and lengthens the season in States from Massachusetts to Maryland to Minnesota.

According to USDA, Tribute's and Tristar's longer growing season will in-



Everbearing strawberries can be harvested the same year they are planted.

crease grower incomes. Consumers also benefit from the new varieties since they taste better, keep well, and are as juicy as standard varieties.

These everbearers have several other selling points. High yields offset their smaller size. In addition, they can be harvested in the summer and fall of the same year they are planted. Finally, they are resistant to the cold and to disease, says USDA.

For additional information contact USDA plant geneticist, Gene J. Galletta (301) 344-4652.

### An Alternative to Sulfites

Vitamin C derivatives may provide a safe alternative to sulfites for keeping salad bar fruits and vegetables fresh, according to USDA.

The compounds, which could replace sulfites as a preservative for these foods, inhibit browning of cut apples in laboratory tests.

Dipping apple slices in one of two classes of compounds closely related to vitamin C prevented browning for up to 24 hours. The preliminary results of an 18-month study indicate that ascorbic acid-2-phosphate and ascorbic acid-6-fatty acid esters were the most effective.

Use of vitamin C derivatives could benefit the foodservice industry since the Food and Drug Administration banned the use of sulfites on raw fruits and

vegetables in July 1986. Ordinary vitamin C can be used, but it is effective for only a short time.

The compounds were also tested on apple juice and potatoes. Further studies may be done on cauliflower, mushrooms, lettuce, and other vegetables and fruits.

For more information, contact chemist Kevin B. Hicks (215) 223-6417, or food technologist Gerald M. Sapers (215) 233-6458.

### New Approach for Making Apricot Juice

A new way to make a clear apricot juice may boost its use in beverages and foods.

The technique, which could provide an efficient way of making apricot juice, combines enzymes and filters already used in food processing.

Previously, apricots were dried, frozen, canned, sold fresh, or pulverized into a thick, pulpy concentrate used for nectar or other apricot-based products, such as preserves, ice cream filling, or toppings.

Strained apricot juice could be used in a broader range of products, such as fruit-added soft drinks, fruit-flavored alcoholic beverages, or frozen fruit bars. The potential new uses could increase the crop's retail value by \$15 million, says USDA.

For more information, contact USDA agricultural engineer Charles D. Hursoll (415) 486-3433.

### Individual Wrapping Maintains Freshness

Fruits and vegetables will stay fresh up to three times longer if they are wrapped in film with microscopic pores immediately after harvest, recent USDA experiments show.

According to Roger Rij, a marketing specialist with USDA's Agricultural Research Service in Fresno, CA, porous films help fruits and vegetables take in

Contributing author Susan Pollack is an agricultural economist with the U.S. Agricultural Policy Branch of the Agriculture and Trade Analysis Division.

oxygen while getting rid of excess carbon dioxide.

These films are not new. However, they differ from standard household wrap, which is usually not porous and does not allow gasses to flow through, says Rij.

The films can be manufactured with a variety of hole sizes, enabling different kinds of films to be made to best preserve the freshness of individual foods.

"Peaches and nectarines, for example, store best in an environment with 5 percent carbon dioxide, while broccoli responds better to 10 to 12 percent carbon dioxide," says Rij. The films, therefore, should be specific for each item, with peaches and nectarines being wrapped in film with larger pores, and broccoli in a film with smaller ones, he explains.

According to USDA, shrink-wrapping will also help preserve foods' freshness. One example is the perishable cantaloupe. Gene Lester, a USDA plant physiologist in Weslaco, TX, says "individually shrink-wrapped melons will last at least three times longer than unwrapped melons—and still have excellent quality, firmness, flavor, color, and sugar."

These developments may open new possibilities for exporting U.S. fruits to overseas markets. "We may be able to ship melons to Japan, an idea that was impractical before because cantaloupe is so perishable, says USDA marketing specialist Thomas Camp of the Weslaco laboratory.

The cantaloupe film, manufactured by E.I. du Pont de Nemours & Co., also works on tomatoes, green bell peppers, cucumbers, and eggplant, according to agricultural marketing specialist Lawrence Risse.

For more information, contact Rij at the Horticultural Crops Research Laboratory (204) 487-5334. Lester and Camp work for the Subtropical Agricultural Research Laboratory (512) 968-

7546. Risse can be reached at the U.S. Horticultural Research Laboratory (305) 897-7300.

### **Fungus Cuts Long Grain Rice Supplies**

A fungus that is spread through the air struck the 1987 long grain rice crop, making it the second year in a row that domestic rice yields were devastated by the disease.

Damage from the disease was worse than 1986 since the fungus—called blast—hit before farmers had a chance to apply fungicide. In addition, considerably more acreage appeared to be affected than in 1986.

According to USDA's Economic Research Service, the disease could reduce 1987/88 carryover stocks to 6 million hundredweight (cwt). Carryover stocks were 30 million cwt at the end of the 1986/87 crop year and 49 million at the end of 1985/86.

World supplies are also expected to be tight because of the poor quality of 1986's Thai crop.

For more information, contact ERS economist Janet Livezey (202) 786-1840.

### **Food Consumption Survey Released**

USDA's Human Nutrition Information Service released its latest food consumption survey report covering U.S. diets in 1985.

According to the survey, food-away-from-home contributed substantial amounts of the nutrients consumed by the survey participants. However, the levels of vitamins and minerals contributed by such foods were slightly lower than levels of calories, protein, carbohydrate, and fat.

The report, *Continuing Survey of Food Intakes by Individuals*, describes the eating habits of women and children, and the nutritive value of their diets, based on 4 days of data collected over a 1-year period.

The continuing survey, which began in 1985, helps monitor year-to-year changes in American eating habits. It focuses on women 19 to 50 years old at all income levels. The same information is collected for their children ages 1 to 5.

Copies of the report, CSFII Report No. 85-4, are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

For more information, contact Nutrition Monitoring Division Director, Robert L. Rizek (301) 436-8457.

### **New Uses for Surplus Corn**

Starch from surplus corn could be used to make controlled-release products ranging from almond flavoring to zinc fertilizer, according to USDA scientists.

The process may provide farmers and gardeners with new application methods that require less fertilizer and pesticides. "The starch-based granules also should be safer to handle than a concentrate that has to be diluted before being applied," says USDA chemist Robert E. Wing.

Wing and his colleagues, chemists William M. Doane and Sukumar Maiti, have applied for a patent on the new encapsulating process.

"The number of products that could be encapsulated is limited by one's imagination. They might include insect lures, plant growth regulators, medicines, even food ingredients such as flavorings, colorings, and vitamins," says Wing.

The cornstarch matrix is made of components the Food and Drug Administration has approved for foods. It could help alleviate the corn surplus since it takes about 3,600 pounds of corn to make a ton of cornstarch, says Doane.

Unlike previously patented encapsulating processes, the new one requires no chemical modification of the starch. Furthermore, tests show that release of the encapsulated substance is more precisely regulated.

For more information, contact Wing at (309) 685-4011 ext. 353. □