

  
Director

PUBLICATION

Penalty for Private Use \$300

POSTAGE PAID  
U.S. DEPARTMENT OF  
AGRICULTURE  
AGR 101



THIRD CLASS  
BULK RATE

## Research in progress

### Squid processing machine

Squid long have been a source of food in Mediterranean and Oriental countries, but remain an underused source of protein in this country, largely because of low consumer acceptance of whole raw squid and the high cost of manually processing squid into more acceptable products. R. Paul Singh, agricultural engineer and food scientist at U.C. Davis, believes he and his co-workers may solve part of the problem with a machine that automatically cleans and skins squid. A small laboratory-scale version of the machine has been operated successfully, and with the aid of Sea Grant funding, the researchers are building a field scale unit to test at high operating efficiency at a cannery in Monterey.

### New yeast genus

Scientists in the Food Science and Technology department at U.C. Davis have discovered a new yeast genus which produces an unusual carotenoid pigment (astaxanthin) with valuable economic potential as a constituent of diets fed pen-reared salmon and trout. Such fish often lack the coloring commonly associated with them, reducing their market value. The U.C. researchers have found that the new yeast, which they have named *Phaffia*, when incorporated in the diets of pen-reared fish, not only provides valuable

nutrients but also results in pigmentation that makes the artificially-reared fish virtually indistinguishable from their wild counterparts.

### Monorail fruit transports

A Japanese monorail system that makes harvesting of fruits on steep slopes easier and safer is being adapted for California hillside avocado orchards by U.C. researchers. With the monorail system developed by Ventura county farm advisor B.W. Lee, pickers working from a path above each tree row place the avocados in standard field boxes for movement by mechanized wheelbarrow to the monorail, which delivers the fruit up or down the hill to a central collecting point. Pickers using the old method have to carry the fruit up or down the hill to a terrace road—a “fatiguing, time-consuming, sometimes dangerous, and costly” procedure.

### Livestock improve deer range

Research at the U.C. Hopland Field Station shows little overlap in the diets of deer and sheep except during wet months when both feed on grass. At other times deer mainly eat browse—the tender tips of shrubs and other woody plants—and livestock mainly eat grass. Both types of animals are needed to make efficient use of all classes of forage, says W. M. Long-

hurst, U.C. wildlife and range scientist. When sheep are excluded from ranges, native grasses tend to crowd out introduced annuals which deer depend on.

### Parallel flow prune drier

An improved method for dehydrating prunes has been developed at U.C. Davis. The new system involves moving cars holding prune dehydration trays through conventional drying tunnels with the hot air flow in the same direction, rather than opposed. This parallel flow dehydration, characterized by very fast drying conditions in the area of the tunnel where the fruit is still very moist, allows up to a 50 percent increase in the capacity of conventional dehydrators and makes possible significant savings in energy.

### Injecting trees for chlorosis

A portable pressure injection machine originally developed at U.C. Davis for injecting antibiotics into pear trees to control pear decline disease looks good as a new and better tool for correcting iron deficiency in many fruit, nut, and ornamental trees. The device was perfected by Wilbur O. Reil and James A. Beutel. With it, a grower can inject a quart of inexpensive ferrrous sulfate solution into a tree in 1 to 20 minutes, depending on the tree species.