

# Look What's Out There

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<http://www.wvu.edu/~agexten/>

## Honey Bee Genome Sequenced

A draft version of the honey bee genome has been made available to the public - a move that should benefit bees and humans alike.

The honey bee (*Apis mellifera*) is multi-talented. It produces honey, pollinates crops and is used by researchers to study human genetics, ageing, disease and social behaviour. "Without bees and pollination, the entire ecosystem would crumble," says Richard Gibbs, who led the sequencing effort at the Baylor College of Medicine, Houston.

Its genome is about one-tenth the size of its human equivalent, containing about 300 million DNA base pairs. Because the genome is relatively small, genes should be easy to identify, says bee researcher Steve Martin from the University of Sheffield, UK. Many of these will be similar to their human counterparts, he says.

The bee genome may also help us understand the genetics of ageing and social behaviour, says Martin. Queen bees, for example, can live five times as long as their subordinates. Unpicking their genes may help researchers understand why.

### Honey monsters

The genome's publication is good news for beekeepers and victims of bee stings alike.

Across the globe bees are threatened by a pesticide-resistant mite called varroa. The bug, which has spread from Asia, weakens the insects, making them susceptible to fatal infections. "The new information may help researchers generate varroa-resistant bee

strains," says Claire Waring, editor of the beekeeping journal *Bee Craft*. Such insects would be healthier and produce more honey.

It may also help us understand aggressive bee behaviour, says Gibbs. Stropy swarms of Africanized bees can attack and kill people and animals. The genome may reveal the genes linked to bad bee behaviour. "This may help us deal with the problem," he says.

Researchers have deposited the draft sequence with GenBank, a public database run by America's National Institutes of Health. It will also be published on European and Japanese databases.

The project began in 2003, when the US Department of Agriculture and the National Human Genome Research Institute donated more than US\$7 million. This is the first time that the amassed sequence data have been made publicly available.

(By: HELEN R. PILCHER, January 9, 2004)  
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## Pesticide Testing: From Lab to Label

Agricultural chemicals or crop protection chemicals, collectively known as pesticides, are vital to American food and fiber production. These products - herbicides, insecticides, fungicides and plant growth regulators - help farmers battle weeds, insects and diseases. Pesticides help to produce safe, abundant and affordable supplies of food and fiber economically and efficiently.

U.S. food production would drop dramatically if pesticides were not available to farmers and growers. Whole groups of fruits and vegetables

now available would be in short supply. Consumers would face sharply higher food prices.

### **The Research, Testing and Registration of Agricultural Chemicals**

- On average, only one in 20,000 chemicals makes it from the chemist's laboratory to the farmer's field.
- To ensure that a product, when used properly, will not present any health or environmental concerns, it is subjected to up to 120 separate tests.
- Pesticide development, testing and EPA approval takes eight to 10 years and costs manufacturers \$35 million to \$50 million for each product.

(CropLife American Publication, 2003)

### **Pesticide News**

#### **\* NATIONAL RECALL OF PINE CONES WITH INDIAN ORIGIN**

APHIS (Animal and Plant Inspection Service) has issued a national recall on pine cones originating in India. These pine cones are sold both singly and in potpourri. The recall was issued because two different insect pests have been intercepted: *Chlorophorus strobilicola*, a wood-boring beetle native to India, and larvae of a seed-feeding moth belonging to the genus *Cydia*. Both pests are not known to exist in the United States.

As of December 18, 21 UPC codes are listed in the recall, however the number of recalled UPC codes continues to expand as State and Federal inspectors locate additional product. Pine cones infested with live insects have been found in at least 11 states, including New Jersey, New York, Maryland and Delaware. Stores named for the recall are JO-Ann Fabrics, Lowe's, Dollar Tree, Safeway Frank's Nursery and K-mart.

Consumers and store managers should take note of potpourri and pine cone products purchased in the last few months. The cones should be

checked for small, circular holes (exit holes) near the base of cones. Sawdust-like material in the bottom of wrapper bags and boxes or in the cracks between the scales of pine cones are good indications of insect activity.

Potpourri and pine cones with any indication of insect activity should be double-bagged and tied securely, and then placed in the freezer for a minimum of 2 days. After that time, the bags can be disposed of in the trash.

Some states have reported that live beetles have been emerging from pine cone packages. Homeowner with infested pine cone potpourri may notice small (0.5 inch long) *Chlorophorus strobilicola* beetles, especially along window sills and ledges. The beetles are black with silver grey lines, and have very long antennae. In this instance, potpourri should be double bagged, frozen, and then disposed of.

Pine cones recalled will be destroyed in an APHIS-supervised procedure. APHIS will now require mandatory fumigation for all pine cones from India entering U.S. ports of entry. Products packaged in impermeable wrappers will be refused entry unless they are removed from the packaging to allow effective treatment.

For additional information or questions, call Faith Kuehn, DDA Plant Industries, toll free at 800-282-8685. (Press Release, December 18, 2003).

#### **Events:**

- **February 26-27, 2004**

#### **Lawn and Ornamental Workshop**

Ramada Inn, Morgantown, WV.

<http://webdev.wvu.edu/~agexten/temp/04Turfwrkshp.pdf>