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Deprived or Depredated?

One of my thorough readers, John "Eagle-eye" Miller, noted in the last issue that I had beekeepers requesting "deprivation" permits for bears. He noted that the bears were depriving the beekeepers of their bees and honey, so the bears should be requesting the permits. The beekeepers request "depredation" permits. The definition of the word "depredate" is pretty strong in the dictionary - it means "to lay waste." I guess there are many people who do not want to have a bear wasted.

Honey Locator

This information is worth repeating. The National Honey Board is making an all out effort to include every possibly interested person or company on its online list of honey sources. The list will be available to

anyone in the world who contacts the web site.

The web site listing is "free" for those who already have paid at least \$60 in assessments to the National Honey Board in fiscal year 2000. If that amount, or a portion of that amount, has not been paid, then the applicant would have to submit a fee to bring the total to \$60. That is probably the least expensive, world-wide advertising one can purchase.

The four-page "Listing Request" is pretty thorough. It lists products, types and sizes of packs, floral varieties (this is the anticipated strength of this service), and categories of preferred customers.

The first compilation of information will go online (www.honey.com and www.nhb.org) around the end of April. So, the deadline for

submission has passed. But, the list will be updated frequently, so get your products listed with the world by calling (888) 421-2977, pressing 5 at the prompt, and leaving your request for the paperwork. If you haven't paid the \$60, you might wish to call (800) 553-7162 and speak with someone about tying up that loose end.

We're Number Two!

According to the official statistics released by the federal government, California ranked number two (30.80 million pounds) in state honey production in 2000. That was 0.5 million pounds more than in 1999. The reported colony average of 70 pounds per colony was 10 pounds higher than 1999. California's colony count was 440,000 in 2000, a major reduction (12.9%) from the 505,000 recorded in 1999.

The top state production occurred in North Dakota (33.35 million pounds), with a 115 pound per colony average. The total number of colonies in the U.S. dropped from 2.69 million in 1999 to 2.63 million (2% decrease) in 2000.

Egg Laying Rates in Oregon

Dr. Michael Burgett, in the November/December 2000 issue of The Bee Line (Newsletter of the Oregon State Beekeepers Associ-

ation) describes the rate at which queens lay eggs during the year in Oregon.

I borrowed that information, with some modification, and present it here.

One reflection of the cycle of the bee year is seen in the number of eggs a queen honey bee will produce on a monthly basis. A queen honey bee has two primary functions in a colony: 1) to produce the necessary pheromones that promote what scientists sometimes call "social adhesion" and 2) to produce the eggs necessary to maintain the adult bee population. In her lifetime a queen will produce about one-half million eggs, and these eggs are normally laid over a two-year life span. Yes, certainly, some queens live longer than two years, but the average life span, which really means egg-laying duration, works out to be about 24 months.

About seven years ago, I had a graduate student working on a Masters degree and we decided that a good "problem" for him to investigate was the seasonal variation in queen egg-laying. So, he set about to do this. How does one accurately count the number of eggs a queen produces? His method was to establish four-frame observation colonies and visually observe queens for 15 minute periods throughout the day, counting each egg as she deposited it in a cell. In this manner he was able to compute the average

number of eggs laid in a 15 minute period for that given day and, thereby, calculate the average number of eggs per day. By repeating this with multiple observation colonies, through several calendar years, he was able to accurately describe the egg production cycle as observed in the mid-Willamette Valley.

[Mike describes a histogram with the months of the year, beginning with January, across the bottom and bars representing the eggs laid per month on a vertical scale from 0 to 18,000.]

One of the most obvious features is the cyclic nature of egg-laying, peaking in the late spring (May) and then declining to a low in November and December, thereafter climbing, again. A second observation is that the queen produces eggs every month, obviously with some big differences between months, but no complete cessation of egg-laying takes place.

January	-	3,800
February	-	7,800
March	-	14,200
April	-	15,750
May	-	17,500
June	-	13,750
July	-	11,200
August	-	5,750
September	-	5,200
October	-	2,600
November	-	500
December	-	700

This is a little contrary to what many text books tell us, which is that queens supposedly have a short period of no egg-laying; such is not the case, at least in western Oregon, with its relatively mild climate that is moderated by the nearness of the Pacific Ocean.

His work also tells us how important late winter/early spring management is to the future productivity of a colony. The steepest increase in the egg-laying cycle takes place from January through April, which translates to the period of greatest colony growth. This is the time when a queen requires an adequate brood nest within which to place her eggs. This emphasizes why reversing brood chambers (supers) is so important in early March because it allows a queen to continue her egg laying uninterrupted. The natural pattern of queen oviposition (egg-laying) is in an upward spiral, and by early to mid-March queens are normally found "upstairs" in a hive and they will slow down their egg-laying when the upper brood chamber becomes congested. In March, the colonies may appear from the outside to have two brood chambers (hive bodies), but the biological reality is that the queen and her brood nest are "confined" to the upper chamber/hive body.

It is important not to place too much emphasis on the actual number of eggs laid per month in

this study. Please remember that for this research project the queens were limited to four deep combs in a vertical configuration. A well-drawn deep comb (both sides) will have about 7,000 cells. This, multiplied by four, gives a total cell count of 28,000 for the experimental observation hives. If all the cells were available to a queen during the peak egg-laying period, this would represent about four weeks of "available" space and she could produce eggs at a "standard" rate of about 1,000 per day. (Actually, in the "perfect" hive, with "perfect" queen laying patterns, 21,000 available cells would be enough to support a colony). Such is never the case especially with observation colonies that are vertical slices of a normal hive. Observation hives do not possess multiple combs in the horizontal plane. For the four-frame observation hives used in these trials, a practical estimate of actual cells available for a queen to lay in would be around 14,000. This would mean a queen would be restricted to an egg production of about 500 to 600 per day, and that is just about what the "average" queen depicted in this study achieved in May, the month of highest egg production. This also suggests to us that a deep hive body with 9 or 10 combs, if efficiently used by the queen, will nicely accommodate the space requirement necessary for optimal egg-laying. But, by the nature of the combs, and because of individual differences between

queens, it is wise for the beekeeper to provide two deep chambers to insure adequate space for egg laying.

What this small project reveals is the "beauty" of time and pattern for a queen honey bee. It gives us a much better understanding of why certain aspects of colony management and manipulation work. It should make us better beekeepers.

Bee Sting Advice

From time to time you will be asked about bee sting allergies (you keep bees, so you are an expert!). The American College of Allergy, Asthma & Immunology (ACAAI) published a fact sheet on Insect Stings. I am transmitting it to you, so that you will have something to share when asked about allergies to insect stings. For copies of the article, contact ACAAI, 85 W. Algonquin Road, Suite 550, Arlington Heights, IL 60005.

Advice From Your Allergist ... Insect Stings

Most people are not allergic to insect stings and should recognize the difference between an allergic reaction and a normal reaction. This will reduce anxiety and prevent unnecessary medical expense.

More than 500,000 people enter hospital emergency rooms every year suffering from insect

stings. A severe allergic reaction, known as anaphylaxis, occurs in 0.5 to 5% of the US population as a result of insect stings. At least 40 deaths per year result from insect sting anaphylaxis.

The majority of insect stings in the US come from wasps, yellowjackets, hornets and bees. The red and black imported fire ants now infest more than 260 million acres in the southern US, where they have become a significant health hazard and may be the number one agents of insect stings.

What is a normal reaction to an insect sting and how is it treated?

The severity of an insect sting reaction varies from person to person. A normal reaction will result in pain, swelling and redness confined to the sting site. Simply disinfect the area (washing with soap and water will do) and apply ice to reduce swelling.

A large local reaction will result in swelling that extends beyond the sting site. For example, a sting on the forearm could result in the entire area swelling twice its normal size. Although alarming in appearance, this condition is often treated the same as a normal reaction. An unusually painful or very large reaction may need medical attention. Because this condition may persist for two or three days, antihistamines and corticosteroids

are sometimes prescribed to lessen the discomfort.

Fire ants, yellowjackets, hornets and wasps can sting repeatedly. Honey bees have barbed stingers which are left behind in their victim's skin. These stingers are best removed by a scraping action, rather than a pulling motion that may actually squeeze more venom into the skin.

Almost all people stung by fire ants develop an itchy, localized hive or lump at the sting site, which usually subsides within 30 to 60 minutes. This is followed by a small blister within four hours. This usually appears to become filled with pus by 8 to 12 hours. However, the material seen is really dead tissue and the blister has little chance of becoming infected unless it is opened. When healed, these lesions may leave scars.

Treatment for fire ant stings is aimed at preventing secondary bacterial infection, which may occur if the pustule is scratched or broken. Clean the blisters with soap and water to prevent secondary infection. Do not break the blisters. Topical corticosteroid ointments and oral antihistamines may relieve the itching associated with these reactions.

What are the symptoms of insect sting allergy?

The most serious reaction to an insect sting is an allergic

one. This condition requires immediate medical attention. Symptoms of an allergic reaction may include one or more of the following:

- Hives, itching and swelling in areas other than the sting site
- Tightness in the chest and difficulty in breathing
- Hoarse voice or swelling of the tongue

An even more severe allergic reaction, or anaphylaxis, can occur within minutes after the sting and may be life threatening. Symptoms may include:

- Dizziness or a sharp drop in blood pressure
- Unconsciousness or cardiac arrest.

People who have experienced an allergic reaction to an insect sting have a 60% chance of a similar or worse reaction if stung again.

How are allergic reactions to insect stings treated?

Insect sting allergy is treated in a two-step approach. The first step is the emergency treatment of the symptoms of a serious reaction; the second step is preventive treatment of the underlying allergy with venom immunotherapy.

Life-threatening allergic reactions can progress very rapidly and require immediate medical attention. Emergency treatment usually includes

administration of certain drugs, such as epinephrine, antihistamines, and in some cases, corticosteroids, intravenous fluids, oxygen, and other treatments. Once stabilized, these patients are sometimes required to stay overnight at the hospital under close observation.

Injectable epinephrine for self-administration is often prescribed as emergency rescue medication for treating an allergic reaction. People who have had previous allergic reactions and rely on epinephrine must remember to carry it with them at all times. Also, because one dose may not be enough to reverse the reaction, immediate medical attention following an insect sting is recommended.

What is venom immunotherapy?

The long-term treatment of insect sting allergy is called venom immunotherapy, a highly effective vaccination program administered by an allergist-immunologist, which can prevent future allergic reactions to insect stings.

Venom therapy involves administering gradually increasing doses of venom which stimulate the patient's own immune system to reduce the risk of a future allergic reaction to the same as the general population. In a matter of weeks to months, people who previously lived under the constant threat of severe

reactions to insect stings can return to leading normal lives.

Ask your doctor to refer you to an allergist-immunologist, a physician who is a specialist in the diagnosis and treatment of allergic disease. Based on your past history and certain tests, the allergist will determine if you are a candidate for immunotherapy.

How can I avoid insect stings?

Knowing how to avoid stings from fire ants, bees, wasps, hornets and yellowjackets leads to a more enjoyable summer for everyone. Stinging insects are most active during the summer and early fall, when nest populations can exceed 60,000 insects. Insect repellents do not work against stinging insects.

Yellowjackets will nest in the ground and in walls. Hornets and wasps will nest in bushes, trees and on buildings. Use extreme caution when working or playing in these areas. Avoid open garbage cans and exposed food at picnics. Also, try to reduce the amount of exposed skin outdoors.

Effective methods for insecticide treatment of fire ant mounds use attractant baits consisting of soybean oil or corn grits and chemical agents. The bait is picked up by the worker ants and taken deeper into the mound to the queen. It can take

weeks for these insecticides to work.

Allergists-immunologists recommend the following additional precautions to avoid insect stings

- Avoid wearing sandals or walking barefoot in the grass. Honey bees and bumble bees forage on white clover, a weed that grows in lawns throughout the country.
- Never swat at a flying insect. If need be, gently brush it aside or patiently wait for it to leave.
- Do not drink from open beverage cans. Stinging insects will crawl inside a can attracted by the sweet beverage.
- When eating outdoors, try to keep food covered at all times.
- Garbage cans stored outside should be covered with tight-fitting lids.
- Avoid sweet-smelling perfumes, hair sprays, colognes and deodorants.
- Avoid wearing bright-colored clothing.
- Yard work and gardening should be done with caution.
- Keep window and door screens in good repair. Drive with car windows closed.

- Keep prescribed medications handy at all times and follow the attached instructions if you are stung. These medications are for immediate emergency use while *en route* to a hospital emergency room for observation and further treatment.
- If you have had an allergic reaction to an insect sting, it's important that you see an allergist-immunologist.

Summer Regional Conferences

This summer you will have an opportunity to attend one or more very interesting and enjoyable regional beekeeping meetings.

Chronologically, the first opportunity is the **Eastern Apicultural Society** conference being held at the Massachusetts Maritime Academy Campus, alongside Cape Cod Canal in Buzzards Bay, from August 6-11. Their program includes national and international speakers on many topics and a full day of workshops. Since all hotels and motels in the area are filling rapidly, it would be a good idea to go to the Cape Cod Chamber of Commerce website for help with making arrangements for your stay. The full conference information and registration packet is at that website: www.capecod.com/bcba/eas2001.html.

Right on the heels of the EAS conference is the Annunal Conference of the **Western Apicultural**

Society. It begins on Wednesday, August 15th and ends on Friday, August 17th (except for the Board members' next morning breakfast).

The Conference will be held on the Oregon State University campus. Speakers include Dr. Nicola Bradbear (England), Dr. Jim Tew (Ohio State U.), Kim Flottum (Bee Culture Magazine), Dr. Lynn Royce (Oregon State U.), Ms. Jynene Black (Oregon State U.), Dr. Steve Sheppard (Washington State U.) and Jack Matthenius (New Jersey), as well as yours truly.

Pre-registrations can be submitted at any time. Advanced pre-registration fees are \$50 per person or \$75 per family (\$15 more at the door). Food and lodging are combined into a package price of \$105 double occupancy or \$145 single. The salmon bake (\$35) and WAS Banquet (\$18) have an additional per person charge.

Please mail in your fees or
contact Mrs. Deanna Watkins for
more information at: Department of
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