INLAND BEEMAIL

Monthly newsletter of the Inland Empire Beekeepers Association

Volume 12, Issue 7 — July 2007 — www.inlandbeemail.com

Presidents Corner:

Here it is July all ready. Where has the year gone? Next month the fairs start with Idaho and then with Spokane, Kelly and Roger will be looking for helpers please don't forget to sign up. How are your hives doing? I am having a problem with several of my hives. They won't accept new queens and they make their own queens. But there are no new eggs in the cells and the bees are very aggressive. I have asked Bob Arnold if he could have a program this month of the introduction of queens into a hive. I just asked Bob at the writing of this article and he has not had time to respond. So come and we will see what he has to show us.

The business meeting will be short again this month with a program to follow.

August is our annual picnic. We will have it at the same place as last several years, Planters Ferry. (I think I have the name correct). Lunch will be at noon and you should bring a covered dish. At the July meeting we will discuss what the IEBA will provide. The date is Sunday, August 12th come early and help bag honey straws.

Come and enjoy the beekeeping with friends and family.

See you July 13th.

Jim Miller
President

Insecticides And CCD, Part I

By: Malcolm T. Sanford

Courtesy Bee Culture

Do these Ag chemicals play a role?

With the recent flap about CCD, insecticides have inevitably been identified as one of the possible causes of larger-than-normal bee loss. The history of the relationship between beekeeping and insecticide application goes back a long way. In the 1950s it took some sleuthing to finally figure out that arsenic dust was being collected by bees in the field as pollen to both their and their colony's detriment. Given the advantages of hindsight, who now could possibly argue that dusting with this extremely toxic substance does not affect honey bees. This even includes the active material in treated wood.[1] Another situation arose with the use of microencapsulated pesticides in the 1970s, especially a product called PennCap-M®.[2] The capsules were like pollen-grain-size and were a time bomb in colonies because they could be brought back without harm to the forager and only became a problem when consumed by young bees in an effort to feed larvae.

Insecticides were such a problem to beekeepers in the late1970s that congress authorized the beekeeper indemnity program, which provided payments to beekeepers from colonies lost to chemical application in both agricultural and urban (mosquito control) situations.[3] However, this program became unwieldy because it was difficult to tell the difference between legitimate and falsely reported claims, and was finally discontinued. This era brought into use the current information on the effects of pesticides on honey bees, pioneered by Dr. Larry Atkins at the University of California, Riverside for which most extension publications

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continue to draw their information.[4] This was based on topical exposure to workers in small cages (LD50), however, there is evidence that bees may be exposed through other routes, including contaminated nectar, and that measurement of toxicity (LC50) might be significantly different.[5] In Florida, this became a hot issue with a material called Temik® used in citrus groves.[6] The active ingredient in this material, aldicarb, is a systemic insecticide and was thought to translocate into the blooms contaminating nectar. And although the active ingredient is certainly harmful to honey bees, there is evidence that the metabolites (break down products) of this material are even more toxic than the parent substance.

U.S. beekeepers crossed the Rubicon of pesticide application when *Varroa* mites were introduced in the late 1980s. They literally 'tore down the fence,' as one wag put it, quickly transforming themselves from anti-pesticide fundamentalists into willing pesticide applicators.[7] Thus, beekeepers became much like those other agriculturalists that in the past they had reviled for 'poisoning their bees,' the result of what one writer characterized as the 'alchemy of greed.'[8] This led to several potential effects, including contamination of the world's beeswax supply via 'biomagnification' of pesticides in the comb.[9] Because of this, one large-scale beekeeper in Florida did away with all his natural comb and moved to plastic, which he believed would provide a reduced-pesticide environment for his bees.

The use of pesticides inside colonies to control *Varroa* mites inevitably brought more direct exposure to chemical pesticides. The candidates used to control *Varroa* mites on any scale also became more toxic as time went on.

Treatments began with the rather benign fluvalinate, a synthetic pyrethroid, (Mavrik®) first soaked into wooden strips with an 'emergency' Section 18 label,[10] quickly replaced by a formulation on a plastic strip (Apistan®) with a broader use (Section 3) label. Beekeepers got 10 years use out of this material until mites became generally resistant due to lack of resistance management in many cases.[11]

The next material to receive a label was called Bayer Bee Strips®, later formulated as CheckMite +®. The active ingredient is coumaphos in the class of pesticides known as organophosphates. When this material first became available, I wrote the following, 'Coumaphos is in a class of highly toxic materials known as organophosphates (OPs). It is a cholinesterase inhibitor, which attacks the nervous system. Developments of this insecticide type were associated with German studies on related compounds, the so-called 'nerve gases' (sarin, soman and tabun). Suffice it to say OPs are among the most toxic of insecticides. The LD50 of coumaphos for absorption through the skin (dermal), for example, is 860 milligrams per kilogram of body weight in rats. It is, therefore, much less benign than fluvalinate, the active ingredient in Apistan®, a synthetic pyrethroid, with a dermal LD50 in rats of 20,000 milligrams per kilogram of body weight.[12] Organophosphates are the basis of many commonly used insecticides (malathion, Diazinon®, parathion, Dibrom®).'[13] In localized areas coumaphos resistance has already shown up in Varroa.

This leaves beekeepers with no hard pesticides at present that are as effective controls, the so-called 'magic bullets' of Varroa mite control. Thus, so-called 'soft' pesticides like formic and oxalic acids and essential oils (thymol based Apiguard® and Api-Life Var® and Hivestan®) are being scrutinized. These, in combination with other techniques such as open bottom boards, drone trapping, the sugar shake and breeding (Russian bees and Varroa-sensitive hygienic stock), are leading the beekeeping community into a more integrated control technology for Varroa mites. However, even the soft chemicals can be hard on bees, and cannot be discounted when it comes to additive effects of chemicals on colonies already under

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stress by increased manipulation and management.

The above discussion was to provide U.S. readers with an idea of the pesticide (chemical) load (influence) that has been put on honey bees over the last two decades since Varroa mites were introduced. In summary, although historically honey bees have been challenged by insecticides used in production agriculture and urban pest management (mosquito control), the ante was upped considerably when beekeepers began to employ them inside living colonies to control Varroa mites. It is no wonder that many are looking at this as at least contributory to colony collapse disorder or CCD.

In a way, the beekeeping experience has mirrored other production agriculture, which also continues to search for effective insecticides as more and more resistance by pests (insects) emerges. Fortunately a new tool has emerged that appears to have incredible promise. Predictably it is another class of pesticides, the neonicotinoids.

In a review of this subject, ***Motohiro Tomizawa and John E. Casida state,*** *'The neonicotinoids are the most important new class of synthetic insecticides of the past three decades. Although related to nicotine in action, and partially in structure, the neonicotinoids originated instead from screening novel synthetic chemicals to discover a lead compound. Once optimized to imidacloprid (IMI) and analogs, the neonicotinoids joined the earlier chlorinated hydrocarbons, organophosphorus compounds, methylcarbamates, and pyrethroids to constitute the five principal types of active ingredients, all of which are neuroactive insecticides.*

'Neonicotinoids are increasingly used for systemic control of plant-sucking insects, replacing the organophosphorus compounds and methylcarbamates, which have decreased effectiveness because of resistance or increased restrictions due to toxicological considerations. Neonicotinoids are also important in animal health care (i.e. flea control). These developments were possible because of the selective toxicity of the neonicotinoids, which is attributable to the specificity of insect and mammalian nicotinic receptors as reviewed here. Neonicotinoids are more toxic to aphids, leafhoppers, and other sensitive insects than to mammals. The physicochemical properties of the neonicotinoids played an important role in their development. The principal target pests are aphids, leafhoppers, whiteflies, and other sucking insects due to the excellent plant-mobile (systemic) property conferred by the moderate water solubility.'

'About 90% of the synthetic organic insecticides and acaricides, by market share, are nerve poisons acting on only four targets: acetylcholinesterase (AChE) for organophosphorus compounds and methylcarbamates, the voltage-dependent sodium ion channel for DDT and pyrethroids, nAChR for the botanical nicotine and most recently synthetic neonicotinoids, and the ã-aminobutyric acid (GABA)-gated chloride channel for polychlorocycloalkanes and fipronil. From 1987 to 1997, the use of compounds acting at the cholinergic nAChR shifted from sixth to third in overall ranking, in the most part replacing AChE inhibitors, and this trend is expected to continue. 'The long-term future of neonicotinoids will depend on continued evidence for the human and environmental safety of current compounds, including low toxicity to predators, parasites, and pollinators, no adverse environmental distribution, and fate. It will be enhanced by the discovery of new compounds with a broader spectrum of useful properties including control of lepidopterous larvae and pest strains resistant to earlier analogs. These biological features must be combined with suitable hydrophilicity for transport in plants, hydrophobicity for contact activity, and photostability for residual efficacy. Much has been learned about neonicotinoids in the first decade of their use and about the nicotinic receptor as a target for selective toxicity between insects and mammals. The benefits of neonicotinoids in crop protection and animal health can be enjoyed for many decades ahead with attention to

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their proper use in pest management systems that delay or circumvent the development of resistance in pest insects.'

I have purposefully left intact the quotes above so readers can begin to understand some of the complexity of insecticides in general and neonicotinoids specifically. Nevertheless, it is worth summarizing some of the points made:

1. The reference material for neonicotinoids is imidacloprid (many products will have this as the active ingredient).
2. The benefits of the neonicotinoids include:
A. High toxicity to insects (especially sucking insects like aphids, leafhoppers, fleas) and low toxicity to mammals (humans, dogs, cats)
B. Water solubility so plants can use the materials in their vascular systems (systemic insecticides)
C. Different than other classes meaning insects will have to start over in developing resistance so they should be effective for a long period.
3. A 15% world market share and third ranking for the neonicotinoids by 2005 appears to be continuing.

Just how ubiquitous these products are becomes clear from one post to the Bee-L discussion list: 'Imidacloprid is found in granules for controlling lawn grubs, liquid for tree and shrub pest control, and even in some potting soil mixes and fertilizers. Available at every Walmart in the country, I bet!'

In the southeast, we look to imidacloprid as truly a 'miracle' substance for relief from one the region's most irritating insects for humans and their pets. A pest control conference participant in a seminar confirmed for me that 'flea jobs' had disappeared in the 1990s.

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Honey Plants

By: Connie Krochmal

Courtesy Bee Culture

Invasive plants are a mixed blessing. Purple Loosestrife and Salt Cedar/Tamarisk.

Invasive plants are a worldwide problem. In the U.S. alone, their economic impact totals billions of dollars every year. It shouldn't come as a surprise that some of these aggressive species are important nectar and pollen plants, including purple loosestrife, and tamarisk.

Purple Loosestrife (*Lythrum salicaria*)

Distribution

Dubbed by one gardening magazine as 'pretty poison,' purple loosestrife has found a home in every state except Florida. Most commonly seen in the Northeast and Midwest, it is also present throughout the Pacific Northwest as well.

Habitat

Purple loosestrife thrives in all climates in partial shade and full sun. Adapted to damp places, and moist soils, this often inhabits ditches. Generally, a wetland species, it is most common along streams, rivers, ponds, lakes, and canals.

Status as a Bee Plant

For years, purple loosestrife has been recognized as an excellent bee plant. Throughout daylight hours in all kinds of weather, the bees work the flowers for nectar and pollen.

Purple loosestrife can yield a surplus of good quality honey. This is often used by the bees as a Winter food source. With yellow combs, this honey comes in a range of colors from light to dark sometimes with a greenish tinge. The flavor varies as well from mild and pleasing to strong. The taste can intensify as the crop gets older.

Description

Also known as spiked loosestrife and purple lythrum, purple loosestrife can reach 1½ to around eight feet in height. This forms a huge clump with 30 to 50 stems. These dense, upright plants grow from woody, thick roots. A mature root can be over 1½ feet long. Hairs cover the stems and leaves. Becoming woody with age, the square to six-angled stems produce numerous branches.

The stalkless, willow-like leaves grow from about four to six inches in length. Quite narrow, they're only one-half inch wide. Sometimes clasping the stem, these are either opposite or in whorls of three or four.

Purple loosestrife blooms over a long period from June through September. These flowers open on leafy, stiff, erect, spike-like racemes up to three feet in height. Very brightly colored when in bloom, purple loosestrife is considered a beautiful flowering plant. The blossoms range in color from magenta to rose or even pinkish-purple. Shaped like propellers, these flowers are almost an inch wide. They have seven petals. The lemon-green stamens come in several lengths with the shorter ones producing the smallest pollen grains.

History

Originally from Europe and Asia, purple loosestrife was introduced to the U.S. during the 1800's by several means. The seeds arrived accidentally in ships' ballast, and were entangled in the fur of sheep. European immigrants who used purple loosestrife as a medicinal plant brought seeds for their gardens. As a popular flowering perennial, this was grown in home landscapes and parks as well as on golf courses. Despite the fact that its invasive nature was recognized as early as the 1830s, it was sold by nurseries until the 1990s.

How Purple Loosestrife Spreads

This highly aggressive plant spreads by both seed and vegetative means. Even the cultivars that were once considered to be sterile are in fact quite fertile. With so many flower stalks, a plant can produce several million seeds every single year. These are easily carried to new areas by wind, water, and animals as well as by farm and construction equipment, and muddy boots/shoes. Remaining viable for five years, the seeds have a germination rate of 50 to 100%.

The plant's underground stems grow about a foot a year and enable purple loosestrife to easily spread. Pieces of the plant can be transported to new sites during construction, ditch clearing, and similar activities.

Legal Status

Over 25 states have classified purple loosestrife and all its cultivars as a noxious weed and/or invasive species. As a result, these regulations prohibit selling, growing, distributing, propagating, buying, or moving

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the plants.

The Impact of Purple Loosestrife
Purple loosestrife poses a serious threat to aquatic habitats by crowding out the native plant species. As a result, wildlife habitats can no longer provide the shelter, food sources, and nesting sites that are needed. Migratory birds have suffered the greatest loss of habitat.
This perennial also serves as the alternate host for a serious plant disease known as the cucumber mosaic virus.

Control of Purple Loosestrife
Prevention works best. Identify the plants early enough so they don't have a chance to get established. Control involves physical removal and herbicide treatment. Because digging is so time-consuming, it is only practical when a small number of plants are present. If possible, try to dig them during the early Spring before they get a chance to set seed. After digging, dispose of the plant debris in a hot compost pile or with your regular garbage on trash pick-up day. Once the plants are dug, follow up and monitor the site from time to time for new sprouts. These can be treated with herbicide or pulled.
When purple loosestrife has overtaken a large area, herbicides offer the best solution. The chemical must be one that is labeled for use on aquatic habitats. As with physical removal, it is recommended that you monitor for new sprouts and seedlings after the initial treatment. Re-apply the herbicide if necessary.
Biological control for purple loosestrife seems to be working very well thus far. Two leaf-eating beetles have been released on an on-going basis since the 1990s. Originally native to Europe, these insects can take up to five years to get established. At the present time, they have reduced plant growth at least 70% in most of the release sites.
A species of weevil, a type of beetle, has also been used since the 1990s with some success. In addition, one species of aphid has provided some control in certain areas of the country where it occurs naturally. Though this aphid feeds on the plant, researchers don't expect this to be as much help as the other beneficial insects. It requires an alternate host plant that is not widely cultivated in the U.S.

Tamarisk (*Tamarix spp.*)
In the U.S., about 10 species of tamarisk have naturalized with the most notorious being the five-stamen tamarisk (*Tamarix ramosissima*).
Native to Europe and Asia, these were introduced to the U.S. during the 1830s for wind breaks, erosion control, and ornamentals. Within just a few decades, they escaped in the Southwest. Now, they are found wild in 45 or so states. Yet, most damage occurs in the West where these woody plants occupy over 1½ million acres.

Habitat
Growing to an elevation of around 7500 feet, tamarisk prefers sunny sites with moist soils along waterways, such as streams, rivers, springs, lakes, irrigation ditches, canals, and seasonally flooded sites. This woody plant is adapted to salty, alkaline soils. The hardiest species are the five-stamen tamarisk, and the small-flowered tamarisk (*Tamarix parviflora*).

Tamarisk's Status as a Bee Plant
In the West, tamarisk is an important honey and pollen plant. The fact that this blooms for such long periods is very helpful to bees.
The plant often yields a good surplus of honey, around 100 pounds per colony. This tends to be dark-colored, usually a dark amber. Somewhat on the strong side, the flavor is reminiscent of horehound. Since this crop can be less than desirable, it isn't usually mixed with better quality honeys.
Description

Tamarisk can assume the form of a large shrub or a small, shrub-like tree with multiple trunks. Depending on the species, it can be deciduous or evergreen. The height varies considerably from five feet to 20 feet or more.

This woody plant has a fine texture due to the small foliage, the thin stems, and the slender, numerous branches. The reddish-brown bark develops ridges and furrows as it gets older. Delicate and scale-like, the foliage is gray-green to pale green. Very floriferous, tamarisk blooms for an extensive period from Spring until Autumn, producing literally thousands of white or pink blossoms. These have five petals. Generally, the heaviest flush of flowers will be in the Spring season.

How Tamarisk Spreads
The long bloom season allows a single tamarisk plant to produce over half a million seeds annually. A tuft of hairs on the seeds aids their spread by wind and water. Animals can also carry these to new locations.

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The earliest crops of seeds have a nearly perfect germination rate. Viable only for about two months, they germinate within 24 hours.

Tamarisk also spreads vegetatively by means of its roots, crown, and stems.

Legal Status of Tamarisk

Also known as salt cedar, tamarisk is officially considered a noxious weed in 45 states, particularly in the West. In addition, it is also classified as an invasive plant in some locales. These regulations make it illegal to sell, distribute, or grow the plants.

The Impact of Tamarisk

Tamarisk is a concern for several reasons. This aggressive plant spreads very fast and grows so quickly (over 10 feet a year) that it overwhelms and displaces native plant species. It diminishes natural diversity and degrades wildlife habitats that ordinarily provide shelter, nesting sites, and food. Creating a dense thicket, tamarisk establishes a monoculture. These stands pose a serious fire hazard in the West. They also increase the likelihood of flooding along waterways. With an extensive root system that grows 10 feet below the soil surface, this thirsty plant absorbs all of the moisture it can reach. This causes the water table to drop, leaving native plant species with little moisture. Tamarisk contributes to long-term soil salinity. This plant exudes salt through its foliage, which becomes deposited on the soil surface when the leaves are shed.

Control of Tamarisk

The best approach is to be proactive. Landowners should never allow it to get established. Monitor all vulnerable areas. Pay careful attention to spots that have been burned or overgrazed, or where the soil has been disturbed. Such sites should be planted with native species that are well-adapted to local growing conditions. With care, these natives can get established before tamarisk makes its presence known.

At a young stage, tamarisk can easily be pulled and destroyed. Once this becomes established and spreads, control becomes harder. Herbicides are often used for tamarisk, sometimes in combination with physical removal. Choose a chemical formulation that is labeled for use on aquatic habitats. As a follow-up, monitor the site for new suckers or sprouts that emerge after the herbicide is applied. If necessary, remove or spray these. For large areas, root plowing is an excellent way of physically removing tamarisk. This is done to a depth of 1½ feet. In conjunction with the root plow, herbicides can easily be injected into the crowns of the plants.

Other combinations of methods are also effective. One involves cutting the trunks and treating the stumps with herbicide. The shorter the delay between cutting and applying the chemical, the better the result will be. However, this procedure is actually more complicated than it seems. The treated stumps must remain undisturbed until the herbicide has a chance to kill the roots – a process that can take several years. For that reason, avoid burning or flooding the area.

Several forms of biological control work fairly well for tamarisk. One of the simplest is to let cattle graze on the plants. This is a great way to get rid of new sprouts. In some areas of the country, there is a naturally occurring leafhopper that helps to some degree. In California, this species reduced growth in 75% of the cases.

For warmer areas, one particular species of mealy bug has been introduced. Generally, this insect produces several generations a year. A leaf beetle from Asia has also offered some control. This was initially released in some western states in 1999. In its larval and adult stages, it feeds on the Asian tamarisk (*Tamarix pentandra*) and the small-flowered tamarisk.

Tamarisk and purple loosestrife are only two of the invasive plants that are good bee plants. Next time, we'll look at some others.

Connie Krochmal is an award winning garden writer and a beekeeper in Black Mountain, SC.

Classified Ads

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Hive Care : July

The Bees.
Nectar flows are at their maximum, with plenty of bees and activity around the hive.

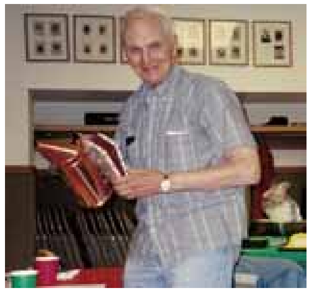
The Beekeeper.
Watch your colonies as they fill up the hives with nectar. Add supers as necessary and watch that the brood nest does not become honey bound. In some areas, beekeepers begin extracting in July. Supers can be pulled and extracted as early as when about two-thirds of the comb is capped.

In areas of high production, and where flows extend to mid-August, extracted combs can be returned to the hives.

Test for varroa in some randomly selected colonies. Be on the lookout for colonies with unusual population expansion, as they may be receiving large numbers of varroa infested bees from hives that are collapsing nearby.

As you survey your crop, ready some of your efforts for fair entries.

-adapted from www.backyardbeekeepers.com



Wesley B. Tate
Retired Senior Master Sergeant
(Age 85)

Born June 22, 1922, in Paul, Idaho and passed away in Spokane, WA. June 28, 2007. Wes graduated from High School in Fairfield, Montana in 1941 and joined the Army Air Corp 26 May 1941. Wes was assigned to the 680th Ordnance Company, Clark Field in the Philippines as an ammunition carrier for the planes. When they lost all there planes his unit fought with the Philippine Division and surrender at Bataan. He was a survivor of the Bataan Death March and was sent to Japan where he worked in a steel mill in northern Japan as a POW. He always felt that being assigned to the northern climate of Japan saved his life because of his Malaria. During his internment his family moved from Montana to Phoenix Arizona. He returned to the United States in April of 1946 where he returned to civilian life in Phoenix, AR. He met and married his wife Emma May Tate in Phoenix where they started their family.

Prior to the Korean War he joined the Marine Reserve and then activated to the Korean War with the first Marine Division. He was part of the landing at Inchon on 15 September 1950 going ashore with the first wave and fought with the division around the Chosin Reservoir including the march out of the "Frozen Chosin". After returning from Korea he transferred to the Air Force where he fought in Viet Nam. He retired from the Air Force with 27 years of Service in 1971.

Upon his retirement he and Amy, his brother in law Robert McMillan and sister in law Gracie started Mountain View Honey Farm which they owed until about 1985 when they retired again. Wes in 1987 opened Tate's Honey Farm with is son Jerry. Wes was a key figure in beekeeping in Spokane as president of the local association Inland Empire Beekeepers and was executive board member of the Washington State Beekeepers.

Wes lost his loving wife Amy in December 29, 1986 and is survived by his sons Jerry and his wife Rita, Clifford and his wife Joanne, and daughters Lisa Vandyke and Melanie Wilmoth, all of Spokane. He has 6 grand children and 7 great grand children. He is also survived by his younger brother David Tate of Phoenix, AZ and his older sister Ester Brendgord of Havre, MT. He was precede in death by his parents, Charles E. Tate, and mother Leota M. Tate who died in a house fire when is was 5 months old, stepmother Ruth Tate and his sisters Margaret, Laura and Evangeline and granddaughter Jacqueline Jo Tate.

A memorial service will be held at Thornhill Valley Funeral Home, 1400 S. Pines Rd, Spokane, WA at 2 PM on Saturday July 14, 2007. In lieu of flowers make donations to the Disabled Veterans or American Cancer Society.

Wes believed in living one day at a time and it served him well for 85 years.

IEBA Bee Yard News

We are planning on having a field day at the IEBA Bee Yard on Saturday July 14
Time and Details will be discussed at the meeting!

Annual Beekeeping Task Calendar for Small Beekeepers - Spokane Area
Bob Arnold

July

Watch colony honey production and curtail additional supers once the flow is tapering off. Pull supers that are filled as soon as they are filled. Add additional supers only if the honey flow is going very well and the bees have filled the others.

Honey flows from knapp weed will provide strong flows in some areas well into September but only in years with good moisture and rains in August. Alfalfa will provide slow flows in August to fill supers and provide winter brood chamber stores. For years that honey flow stops early in July, remove all of the honey supers and begin your fall work.

Mark honey production on colonies by estimating the number of boxes on honey each produced.

Mark colonies that need to have new queens.

Inland Empire
Beekeepers
Association

Next Meeting:
Friday July 13th
7:30 pm

The Inland Empire Beekeepers Association (IEBA) meets the 2nd Friday of every month at the Spokane County Ag Extension office by the County Fairgrounds, at 222 N. Havana. The association is affiliated with the Washington State Beekeepers Association (WSBA). IEBA membership dues are $5.00 for an individual or $10.00 for the entire family. This includes your receiving the *Inland Beemail*, which is published by the association every month.

INLAND BEEMAIL

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Web Site's of the Month

Each month IEBA members share the latest in favorite web sites on Beekeeping. Take some time to check this month's selections

www.hcn.org/silence_of_the_**bee**s/ Diseases, parasites and pesticides threaten to wreck **beekeeping**.

Biobees.com: home of the Barefoot **Beekeeper**, top bar **beekeeping** and the Sustainable **Beekeeping** Project.
biobees.com/

The **beekeeper** is involved in all facets of bee management, ensuring that the colonies are producing the best quality and quantity of honey. **...**
www.getaccess.wa.gov.au/careers/profiles/data/OCC274.asp - 41k


Zach's Bee Photos [(c) Zachary Huang]

June

Linda Carney, Secretary

Minutes will be read at the meeting

Birthdays and Anniversaries July 2007

JULY BIRTHDAYS
Sharon Daggett - 3rd
Julie Watts - 11th
Alban Sherman - 21st
Jack Knox - 22nd
Charles Gross - 24th
Harry Smits - 26th

JULY ANNIVERSARIES
Daren and Sharon Mumau - 13th
Dale and Cherry Edwards - 30th
Bob and Sharon Arnold - 31st