



# Hive Rights

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# HiveLights

May 2003 Vol 16 #2



Peter Keating loading hives in blueberries with automated boom loader

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### Next Issue:

Beeswax art  
 Compost tea, Bt and bees  
 New GHC website  
 Beaverlodge - a Canadian icon



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# CHC Activities

Heather Clay  
National Coordinator CHC

## US Queen Import Protocols

The directors of the CHC have spent a great deal of time in discussions with their local boards and associations regarding the terms and acceptability of a new proposal from the Alberta Beekeepers Association. The proposal asked for national support for the importation of queens from continental USA using protocols developed by Dr. Medhat Nasr, Alberta Provincial Apiculturist (see box page 25 for details). The CHC circulated the initial proposal to the delegates and provincial associations. We also asked CAPA for their advice on technical aspects of the import protocols and DNA certification. The revised document issued on March 26th addressed the major concerns expressed by industry and clarified some of the technical problems identified by CAPA. The final protocols can be viewed at the CHC website [www.honeycouncil.ca/importb.html](http://www.honeycouncil.ca/importb.html).

There was support across the country for queens imported under these protocols but national consensus is difficult to obtain (see article page 20) and the final vote was 4 provincial associations in favour, 2 against and 1 requesting more time. We will continue to work towards developing a consensus on this proposal and bring it to the annual meeting in Winnipeg, January 2004 for a full and unhurried discussion.

## Small Hive Beetle in Australia

In recent years Canada has imported several thousand queens and honeybee packages annually from Australia. However beekeepers in Canada felt there was an uncertainty with the spread of Small Hive Beetle and many eastern groups have been reluctant to place orders for packages. In Australia at least two major suppliers have apiaries inside



the Small Hive Beetle zone and were not able to ship. Consequently trade in packages is down in some areas. Queens are in big demand especially with the high international honey prices. Those who did not place orders early may not be able to obtain Australian queens this spring.

## Organic honey and Formic Acid

The National Standards of Canada for Organic Agriculture are under review. As the process is nearing an end we have been informed that Formic Acid is definitely on the list of allowable substances for organic honey production. This information came after we protested a technical glitch that placed formic acid on the list of prohibited substances. NOD Industries has applied for registration of formic acid with the Pest Management Regulatory Agency (PMRA) and it is expected that the formal process should be complete within a year. Registration of formic acid allows organic beekeepers an officially sanctioned organic treatment for both tracheal and varroa mites.

We were not successful in lobbying for oxalic acid to be on the list of allowable substances. Until it is registered with the Pest Management Regulatory Agency (PMRA), oxalic acid will not be allowed in organic apiculture. Oxalic acid has shown a great deal of promise in the treatment of varroa mites in Ontario. Alison Skinner of the OBA Tech Transfer Program, is conducting experiments to determine the efficacy of liquid oxalic acid. We hope that the PMRA will use her results to officially “schedule” oxalic acid in the same way that formic acid was temporarily made available to beekeepers in 1994

## Ottawa Meeting

In March Wink Howland, Heather Clay and Alain Moyer traveled to Ottawa for meetings with the Canadian Food Inspection Agency (CFIA) and the Canadian Honey Packers Association. David Sugarman, Billy Bee Products, accepted the appointment as chair of the committee and Sheryl Dawson, Kidd Brothers Honey, recorded the minutes. Unfortunately Sheryl left Kidd Brothers and the minutes of the meeting are as of yet unavailable.

The CHC was looking for a lead role from the CFIA in taking the responsibility for action and follow up from the meeting. This position was not agreed upon by CFIA who insist that it is industry who should take the lead. As industry has no authority with regards to regulations or enforcement under the Animal Health Act or the Honey Regulations, there is little point in industry advising and then being responsible for action on the advice. The honey advisory committee has not met formally with the CFIA since 1999 because no minutes were recorded from previous meetings and no action was taken on most of the agenda items. The CHC directors felt that this was not the best use of our limited and precious travel money on meetings that were not taken seriously by the CFIA. It is clear to us that they have the power to regulate and enforce — we, as representatives of industry, can only act as advisors.

## Nutrition Labeling

The CHC attended meetings held by Health Canada on nutrition labeling. The presenters gave a clearer picture of the complicated guidelines printed in the Canada Gazette II Vol. 137 No. 1. There are 13 core nutrients that must be declared on the label. If more than seven of the core nutrients are zero then a simplified format may be used. The label must include calories, fat, carbohydrate, sugars and protein plus a statement saying ‘not a significant source of (naming the omitted core nutrients)’. The CHC will produce a generic label for producers and put it on the website in June. Honey packers have three to five years to phase in nutrient labels commencing January 1st 2003.

Reports from beekeepers throughout the three Maritime Provinces indicate similar conditions. The honey crop was one of the best in recent memory; there was an increase in colony numbers; and in most cases colonies were strong going into winter. Large snowfalls accompanied by extended cold periods typified the winter with very little opportunity for cleansing flights. It is uncertain at this time what effect this has had on the bees.



Paul Vautour

Testing for tracheal mites in Nova Scotia yielded no positive finds while random sampling in New Brunswick indicates previously infested apiaries are now clear of tracheal mites with a few new finds at very low levels. Prince Edward Island has an ongoing study of colony health being conducted by Dr. Jim Kemp and Dick Rogers with participation by N.S. and N.B. PEI Beekeepers' Co-op President Daniel Ficza will be hosting the Maritime Bee Tour this coming summer.

Many NB Beekeepers took advantage of a "bee recovery/IPM" incentive and used coumaphos to treat for varroa last fall. NB is requesting an extension to the emergency registration of coumaphos for next fall. NS will be testing for fluvalinate resistance during the upcoming season and plan to hold a workshop on testing procedures. All three provinces anticipate a healthy increase in the number of bee colonies that will be available for blueberry pollination in the spring (NS estimates 17,500). Queens will be imported from New Zealand and Australia.

**Québec**

Well fellow beekeepers, a new season is soon approaching with so much excitement and new opportunities.

Québec has had a long cold winter and that came as a surprise. The last few years have been very mild winters. The majority of Quebec beekeepers winter indoors and the outside



Alain Moyen

temperature is not a concern. But those of us who winter outdoors are becoming very nervous.

Québec held its annual meeting on 21-22 of February with a good turnout. Some of the highlights were the changes to membership fees, the need for research on new products for treating our hives and also the changing of our year end which will make it possible to have our annual meeting late fall and have resolutions ready for the Canadian Honey Council.

Québec has received its temporary approval for the use of Check-Mite (Coumaphos). Now we have to go through the protocols. Québec has been considering the possibilities of removing Apistan for two years and using Coumaphos and then returning to Apistan. This idea could buy us possibly four years of treatment and give us time to incorporate 'Integrated Pest Management'.

With all the excitement of honey prices and the threat of resistance followed by losses going into Winter, Québec will be ordering packages from Australia. Now we just have to cross our fingers

and hope that the bees are free of any Small Hive Beetle.

The Québec Fédération of Apiculteurs has given a lot of thought to the new proposal from Alberta concerning importation of queens from mainland USA. Our first reaction was concern about the risk involved in lifting the ban

on US bees. But we do see a window of opportunity that could be beneficial to the Canadian bee industry.

**Ontario**

Ontario has had a long and cold winter with some areas getting plenty of snow. All that moisture is welcome after two hot dry summers. In the

second week of March the bees had their first good flight since last November. For most of Canada this is not unusual but for us in Ontario it is. As winter came early not all colonies were able to take down enough feed so some spring feeding will be necessary. Winter losses will be higher than normal and especially in those areas where Apistan resistance showed up last fall and Coumaphos was not put on early enough. It will be interesting to see what the price of bees will be this spring for one will be selling a potential honey crop. Not only that, the whole world is trying to produce a bumper honey crop with a limited supply

# Provincial Reports



of bees. Pollination fees should go up. Southwestern Ontario has a large cucumber acreage. As beekeepers we have a choice between a honey crop or pollination fees but not both. These are machine harvested cukes on a large acreage with one hive per acre resulting in a couple of hundred hives together in one spot.

Ontario is continuing its bee research concentrating on hygienic traits and the Russian Bee breeding program. Tibor Szabo has shown some very good results in reduced varoa mite levels using selective breeding. A lot of beekeepers have installed screened bottom boards as an IPM measure to reduce mite levels somewhat. Additional work is being done to improve Formic and Oxalic acid efficacy. These will be tools that can be used toward producing organic honey and an alternative to Apistan. There is little honey left in beekeepers' hands. Despite the higher price of honey on store shelves sales are holding up remarkably well.

#### Saskatchewan

Although this article is destined for the spring issue of Hivelights, the weather, as I write, is still solidly in winter. Despite the promises of a mild winter with above average precipitation, as produced by the *El Niño* current in the Pacific, Saskatchewan has experienced a long and cold winter, with a bit more snow than the previous year, but certainly not the abundance that was hoped for last fall. As I write this, the date is March 5, and the outside temperature is -33°. At least the longer days can be counted on to produce some warming by mid-day, but often, the wind cancels even that warming affect.

Our convention this year, was well attended as usual, and offered a full menu of information for our members. Dr. Dewey Caron, an excellent lecturer from the University of Delaware, gave beekeepers a substantial amount of information about some of the problems beekeepers in the US are facing. One of his areas of expertise, is the Africanized bee, and

again, his discussion of these bees with nasty stinging habits, certainly reinforced the resolve to avoid accidentally importing them, should our border ever open to US packages. There was one positive note regarding these bees, though, and that was that they tend to become more mild mannered and more similar to European bees, as they move into higher and cooler regions.

Hopefully, it will always to too cool here for their natural migration to bring them this far. Dr. Don Nelson updated the SBA members on research being done at Beaverlodge.

The recent request from Alberta, to re-open the possibility of putting in place, an import protocol that would allow them to import US queens this spring, has precipitated a flurry of verbal activity in Saskatchewan. For the most part, Saskatchewan beekeepers have become self sufficient, and few, if any, would be seriously affected, even if they were unable to get packages from Australia or New Zealand. Most of the packages being brought in are for expansion, rather than for replacement. Saskatchewan boasts an excellent disease profile, and beekeepers here are convinced that the good disease record has been achieved through diligent beekeeping and close control of imports and bee movement within the province. During the years since the border closed, Saskatchewan beekeepers have repeatedly heard the complaints from Alberta regarding the lack of



access to the US for bees and queens, and have noted the many instances where Alberta beekeepers have openly claimed that large numbers of queens and packages have been illegally imported into that province. These claims have usually been stated as a reason for opening the border. After all, if it's already happening, why not make it legal?

Whether these claims are accurate or not, they have created a feeling of distrust in Saskatchewan and a belief, that the current problems that areas in Alberta are experiencing with resistant mites and AFB, are problems associated with those illegal importations. Thus, when the topic of a possible import protocol being

developed for Alberta, was put on the floor of the Saskatchewan convention, it was met with immediate hostility and rejection. The reaction on the floor was so obvious, that Allen Dick, an Alberta beekeeper in favour of the importation, left the convention floor before a show of hands was requested, obviously disgusted with the response. However, before the next week was finished, the suggestion had been withdrawn by Alberta, as their beekeepers seemed split between wanting just queens as opposed to wanting packages and queens.

When the request was revisited at the end of February, the SBA Board felt that it would be irresponsible on the part of Saskatchewan, to not give some serious thought to the request. Dr. Brian Jamieson, chief veterinary negotiator for the CFIA, had advised Council that, should we want to exercise any control over bee imports in the future, we needed to develop some import protocols that could be used to allow US queens or bees, into Canada. Dr. Jamieson suggested that the continuance of complete border closure down the road was unlikely, and should import protocols not be established while the border was still closed, we were paving the way to complete and unrestricted movement of bees into Canada. Some of our Board considered Dr. Jamieson's comments and began working towards a degree of consensus regarding the AB request. Perhaps this was the time to work towards putting a sample protocol in place, using Alberta as a test situation. If satisfactory conditions could be created, perhaps Council could look at an expanded queen importation protocol, based on the AB experience, that could apply to all provinces for 2004.

At this time, the issue is not resolved. Unfortunately, it is impossible to hold a general meeting of all SBA members, in order to develop a resolution, but the Board has attempted to reach out to many of the SBA members, to share views and to reach a decision regarding our response to the Alberta request. Past experience has indicated that protocols have not worked, primarily because the US does not have the facilities, or perhaps the desire, to ensure that protocol requirements are followed. The

dilemma is doing what probably needs to be done, by putting a protocol in place, and developing that protocol so that it's meaningful and enforceable, and once that is done, obtaining full support from all the provinces and from CAPA.

### British Columbia

This year we had a very easy, very dry winter and above average temperatures, really not winter at all just a couple of weeks of bad surfing.

Coming off a bumper crop the hives on the Island have wintered very well about a 5% loss and the Sunshine Coast is about the same and the hives are building well. There are still no mites in the Powell River area.

In some areas of the southern half of the Province there are big hives and low losses. East Kootenay is reporting above average losses and Creston is about average. We have a large number of Alberta hives overwintering in the Creston Valley and they are causing problems for B.C. beekeepers and again loss of pollination contracts.

It's interesting to note in the negotiations for the importation of queens into Alberta, there are letters from the Bayer and Pioneer seed companies regarding the concerns of not enough Pollination units available for the 2003 season. It says that if seed opportunities are limited in Canada they will be forced to look elsewhere for production locations outside Canada.

I have not heard of any requests from either the Alberta Government or the seed companies asking for our help. If things are that bad, I am more than certain the BCHPA would canvass our members to see if the seed producers could be accommodated.

The situation involving hives from Alberta was taken care of with a meeting of all parties concerned and everybody came away a winner. It's my understanding that Grant Hicks gave the most. Just shows problems can be solved when people are willing to sit down at the table and listen to the other side and

get a different perspective on what's happening. Thanks Grant. So maybe there can be a two way street instead of drop and run.

The Grand Forks area has suffered heavy losses; estimates are as high as 50-60%. Treatment went according to schedule for varroa, lots of stores, not a severe winter but heavy losses. This sounds similar to what we experienced last year.



Stan Reist

The north-south corridor is reporting normal losses. Beekeepers that produce packages and nucs are mostly all sold out.

I am looking forward to the new bee season and the arrival of the Russian nucs from Ontario. They will be going to

Sue Harvey in the southern interior and will then be spread from there around B.C. There are four different strains coming and it would be nice to see what difference the Russians stock will make. We should be able to see the differences in the stock within a year or two and compare this to what we already have.

By the time this is printed we should know the outcome of the negotiations for the importation protocols for Continental U.S. queens. It would be great if it passes but if it doesn't, we still are better off because we are trying to solve our differences through negotiations and working together. Somewhere we will find common ground and compromise.

### Beemaid

I bring greetings from BeeMaid. First a personal note. Even though I am not at present on the BeeMaid board, the board has asked me to continue as their representative on Honey Council until the next AGM of BeeMaid in early December of 2003. In addition I am serving on the COFFS committee which is seeking to establish guidelines and protocols for producing honey in a safe and sanitary manner.

On another personal note, Wink Howland, President of CHC appointed

Paul Vautour, Grant Hicks, and myself, to a committee to explore avenues to expand voting membership in CHC, as per the resolution passed at the annual meeting at Niagara Falls in December of 2002. Interim and final reports of the committee will be forwarded to the various provincial Associations later this year.

Some readers of these notes might wonder at the fact that there are never any references to honey sales by BeeMaid, in either packed or raw bulk form. This is deliberate, inasmuch that such information could potentially be of aid to our competitors. In fact, any proprietary information is kept out of general publication releases.

It is still too early to say how bees have over-wintered this season. Winter weather has been variable over the BeeMaid honey producing area. There have been some periods of milder than normal temperatures and some times, such as early March when I am writing this, that it has been extremely cold.



Jon Pederson

Snowfall amounts have also varied, with some regions approaching normal amounts, and other areas, such as eastern Alberta and western Saskatchewan have below normal snowfall amounts. Maybe we will get a late winter blizzard to rectify this situation.

At the early March meeting of the BeeMaid board a decision was made to not allow any Australian package bees or queens to be brought onto any BeeMaid premises. This action was felt necessary to prevent the possibility of introducing the SHB into the honey packing area. BeeMaid will be monitoring bee imports from Australia to determine whether any SHB have been introduced.

# Beekeeper stung for illegal import

## Search found \$2,300 worth of U.S. insects

Peter Scott  
Calgary Herald Friday, April 18, 2003

An Alberta beekeeper was hit with a \$5,000 fine for importing honeybees from the United States. Jouwert DeJong, a Brooks apiarist, pleaded guilty to the charge in a Lethbridge courtroom April 17th. DeJong, a Canadian resident since 1974, was lectured by Judge Timothy Hironaka for blatantly flouting the law that has prohibited, since 1987, bee imports from the U.S. mainland for fear its less stringent regulations may allow diseased American insects into Canada. Hawaiian bees are exempt from the ban.

"I'm bound by the legislation, you're bound by the legislation," Hironaka told DeJong. "If you disagree with the law, you may exert effort to have the law changed through elected officials. Your avenue is to use the political process." DeJong, 51, did not declare the 250 queen bees in his truck at the Carway border crossing near Cardston on May 23, 2002. The bees — at \$9.50 per bee, worth more than \$2,300 US — were found when his vehicle was searched. Not only was DeJong aware of the importation ban, it wasn't the first time he had smuggled bees over the border, said Crown prosecutor Greg Maxwell. Subsequent searches of DeJong's office and that of his accountant showed DeJong was a busy bee when it came to smuggling the critters.

DeJong, owner of DeJong Honey Farms, was charged with five counts of bee trafficking back to April 2001, and his company with five identical counts. In the end, he pleaded guilty to one count; the remaining nine were withdrawn.

DeJong's bee plot involved having the insects shipped UPS overnight from California to Kalispell, Mont., where he picked them up from a post office box for the trip to Brooks. Maxwell indicated DeJong, who co-operated fully with the subsequent investigation and entered a timely guilty plea, believes the law is flawed and took steps to conceal the bees at the border.

The fine will no doubt please law-abiding beekeepers throughout Alberta who have suggested bee smuggling is a hive of activity. They claim so many bees have been brought illegally into the province from the U.S. over the past several years that smuggling the bugs has become an Alberta institution. Still, until Thursday, Canadian Food Inspection Agency officials often cited lack of proof. "There are consistent allegations there is smuggling across Alberta," agency veterinarian Brian Jamieson told the Herald recently. "But we have never been presented with substantial information that will allow our compliance people do their jobs.

"Most legitimate keepers bring in queens from New Zealand and Australia, as well as Hawaii. They're legal because these countries and Hawaii are said to have stricter bee health plans than mainland U.S. The fertile female queens are needed to propagate the hives in spring.

DeJong is not alone in his opposition to the law. Mark Winston, a scientist and bee expert at Simon Fraser University in Vancouver, said Alberta apiarists have waged a lengthy battle against the federal government

regulation. But, as Hironaka warned DeJong on Thursday, keepers can't just bumble over the border a la Prairie wheat farmers versus the Canadian Wheat Board. "There is no constitutional argument here," said the judge. "Our concern is not whether this is good or bad legislation." But many keepers believe the law is far from the bee's knees. They point out the health concerns that blacklist American bees are already prevalent in Alberta, making the ban moot. The industry is worth about \$15 million a year in the province.

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## CBRF Grants 2003

Don Dixon, acting chair CBRF,  
Winnipeg, MB

The directors of the Canadian Bee Research Fund are pleased to announce the following projects received approval for funding in 2003.

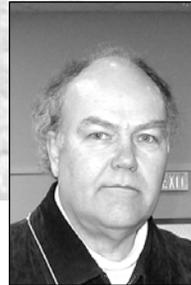
- Pernal, S., D.Nelson, A.Melathopoulos, K.Manninen & D.Noot. "Management of oxytetracycline resistant AFB disease in honeybees" \$9,000
- Currie, R. "Environmental and chemical control of varroa in indoor wintering facilities" \$9,000
- Scott Dupree, C. "Evaluation of new insecticides and alternative strategies for effective control of insect pests of sweet corn with minimal impact on foraging honeybees" \$4,000
- Otis, G. and H. Mattila "Evaluating the effects of fall and spring pollen supplements on honey bee colonies and individual worker bees" \$3,000.

The competition was strong and many good proposals were received. We congratulate the recipients and look forward to their presentation of reports at the annual CHC/CAPA research meeting in Winnipeg January 27-31, 2004.



# Pollen Patties

Allen Dick, Commercial beekeeper, Swalwell AB



**A**nybody who raises livestock knows that success depends on making sure that the animals are properly fed at all times. Sometimes feeding is as simple as turning the animals out to pasture, but at other

times, particularly in winter, feed must be supplied. Depending on the quality of that feed, nutritional supplements may be necessary as well. Even when livestock might be able to survive on their own, good managers provide supplements, since there is no profit in animals that are just getting by.

Contrary to what many beekeepers think, the same reasoning applies to bees. Some years and some places, bees may be able to take care of themselves, but when kept in large yards, especially in areas where monoculture has become the norm, and when the hives are intensively managed, there is a real possibility that bees may run short of good pollen or honey stores at several times of the year. Weaker colonies may be unable to compete, and are particularly at risk.

Chances are, most colonies will survive, but they may fail to thrive. If there is a shortage of either pollen or honey, colonies will reduce or stop brood rearing, and even tear out half-grown brood. Any larvae that are raised at such times will be malnourished and, when

they become adults, will not be as good nurses and foragers as they might have been. The effects of even temporary starvation can last for generations, and will have continuing negative impacts on splitting, honey crops, and on wintering success.

Most beekeepers can detect when their hives are short of honey, but far fewer can determine with certainty when their bees are short of protein. As the amount of uncultivated, wild area in agricultural regions has diminished in recent years, and intensive farming has reduced the variety of natural forage, more and more progressive beekeepers are routinely feeding protein supplement in spring and fall. They know that, even if pollen appears to be abundant in a hive, that the pollen may all come from one floral source — possibly one that is inferior — and prove to be an incomplete diet for the bees.

Careful attention to nutrition has become even more important in recent years because adults and brood are often parasitized by mites. Supplementary

protein, fed as patties, helps balance the diet and ensures adequate nutrition, both for the adult bees and for the brood being fed.

Carbohydrate shortages are easily made up with honey or with sugar syrup and most beekeepers know how to feed syrup or honey successfully, but far fewer understand protein supplementation. Protein is usually fed as a patty on the top bars of the brood chamber that contains the open brood. Protein

supplement patties are usually made of relatively cheap high protein food ingredients like brewers yeast and soy flour (both must be suitable for bees — see a bee supply specialist), plus trapped pollen and sugar. Although pollen is a valuable ingredient, it is expensive and is not always available. Moreover, unless the pollen is sterilized by

radiation, patties with pollen will spread chalkbrood and possibly foulbrood, and as a result many beekeepers prefer to use patties that contain no pollen.

Pollen and sugar both make patties attractive to the bees. Patties with a high proportion of trapped pollen will be consumed about three times more quickly than those without any pollen content. If sugar is used to make up about 50% of the dry ingredients in patties, those patties will be eaten at an acceptable rate, and even consumed at times of the year when natural pollen is being brought in by foragers.

Pollen is particularly useful if patties with low sugar content are being fed, since bees really don't care much for yeast or soy patties unless the patties contain lots of sugar. If you use enough sugar, the bees will eat anything you put with it, and you don't really need pollen. We generally use at least 50% sugar (calculated on the dry part of mix) and find that bees will eat patties — even with zero pollen content — at any time of year, regardless of whether there is natural pollen available in the fields or not.

Although bees will benefit from protein feeding at any time of year when they are confined, other than winter, spring is the traditional time to feed patties.

Stimulating brood rearing is often the stated goal, but causing early brood rearing by using substitutes and supplements can be tricky. Once the bees are induced to raise unnatural amounts of brood by feeding, they must be supplied with the diet continuously and never allowed to run out until natural pollen comes in reliably. If they run out — even for a day — the brood they have started may be thrown out or develop poorly. Brood rearing takes a lot out of the old wintered bees, and if the first spring brood cycle does not successfully raise new nurse bees, their fat bodies may be used up and they may not be able to raise much more brood later, even with fresh pollen coming in.

How much patty each hive consumes is a good indicator of colony strength. Queenless or weak hives will eat much less of its patty, and a beekeeper can easily decide which hives in a yard to work on, just by looking at the patties after a week or two.

In my view, inducing unnaturally large amounts of early spring brood is not the best use of protein patties. I prefer to use

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early patties to nourish the adult bees in hopes that these bees will be in better shape when natural fresh pollen is available. They are better able to rear brood, so even weaker hives can thrive when protein is available on those days when the weather keeps them confined. Last year we fed three to five patties per hive, ending in June. They were all consumed, and some of the patties had zero pollen content.

If zero pollen is used, the bees consume the patties at roughly one third the rate (in my experience) of a high-pollen patty. That means low or no-pollen patties will last three times longer -- three weeks instead of one -- and that can be a good thing if a beekeeper is only planning on using one patty, and particularly if he/she is adding that one patty more than a week before fresh pollen is certain to be coming into the hives.

3-5% pollen is our preference (calculated on the non sugar and non-water portion of the mix). These are consumed at roughly double the rate of consumption, over patties with no pollen, and that is a good compromise. Remember also, that we keep putting on patties even after the natural pollen flows start because we know that there may be cool or rainy weeks when the bees — particularly small colonies — can get out only occasionally, no matter how much pollen is on the trees and flowers.

The goal is not to stimulate brood rearing. It is simply to ensure that the protein needs of the adult bees are met until natural pollen comes in and that the bees are always in top shape. Our patties encourage slower, but steady, consumption and do not raise the bees' expectations to unreasonable levels.

Although we sometimes neglect to do so recently, we have fed protein patties in fall, and think that fall protein supplementation does reduce winter loss. It certainly does no harm.

Making patties is a big, messy job. We used to make our own patties but found that unless we were right there constantly, the labour costs got out of hand and mistakes cropped up. A few years back, we got together with our

neighbours and hired the job out and that worked well, but we still had get the materials and supervise. Mistakes were made.

Finally we found Global in Airdrie. They do a good job, with no fuss and for a much better price than I could ever

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## Les Galettes de Pollen

Allen Dick, Apiculteur, Swalwell AB

**Q**uiconque élève du bétail sait que la réussite dépend d'abord de la qualité de l'alimentation. Nourrir le bétail est parfois aussi simple que de le laisser au pâturage, mais à certains moments de l'année, surtout en hiver, on doit l'alimenter davantage. Des suppléments peuvent être aussi nécessaires, selon la qualité des aliments fournis. Même quand le bétail pourrait survivre par lui-même, les bons éleveurs donnent des suppléments, puisqu'il n'y a aucun profit à tirer d'animaux qui ne font que survivre.

En dépit de l'opinion de plusieurs apiculteurs, le même raisonnement s'applique aux abeilles. Certaines années et à certains emplacements, les abeilles peuvent se débrouiller seules, mais quand elles vivent dans de grands ruchers, particulièrement dans les secteurs où la monoculture est la norme, et quand les ruches sont exploitées intensivement, il y a une forte possibilité que les abeilles manquent des réserves appropriées de pollen ou de miel à certains moments de l'année. Les ruches plus faibles sont particulièrement à risque.

La plupart des ruches survivront, mais elles peuvent ne pas se développer suffisamment. En cas de pénurie de pollen ou de miel, les colonies réduiront ou arrêteront complètement l'élevage du

couvain, et iront jusqu'à détruire le couvain présent. Les larves élevées sous de telles conditions seront sous-alimentées et à l'âge adulte ne feront pas d'aussi bonnes nourrices ou butineuses qu'elles pourraient l'être. Même une famine provisoire peut avoir des répercussions sur plusieurs générations, et avoir un impact négatif sur les nucléus, la récolte de miel et le succès de l'hivernage.

La plupart des apiculteurs détectent le manque de miel dans leurs ruches, mais plus rarement déterminent avec certitude le manque d'aliments protéinés. L'étendue des terres en friche dans les zones agricoles a diminué au cours des dernières années et l'agriculture intensive a réduit la diversité des plantes sauvages. De plus en plus d'apiculteurs donnent de façon routinière des suppléments protéinés au printemps et à l'automne. Ils ont conscience que même si le pollen est abondant dans une ruche, il est possible qu'il provienne d'une seule source florale — peut-être pauvre — et constitue une diète incomplète pour les abeilles.

La nutrition est encore plus importante depuis quelques années, puisque les adultes et le couvain sont souvent parasités par les acariens. Des aliments protéinés supplémentaires, fournis sous formes de galettes, aident à équilibrer le régime des abeilles adultes et des larves et

suite à la page 11



à leur assurer une alimentation adéquate.

Le manque d'hydrate de carbone se corrige facilement avec du miel ou du sirop de sucre, et la plupart des apiculteurs savent comment l'offrir aux ruches, mais moins nombreux sont ceux qui comprennent la manière d'administrer les suppléments protéinés. Le supplément est habituellement présenté sous forme de galette sur le dessus des cadres de jeune couvain. L'emplacement de la galette est capital. À moins que la galette ne soit à quelques pouces du couvain ouvert, elle sera

souvent ignorée par les abeilles, et l'apiculteur pourrait blâmer la composition de la galette. Si la ruche ne contient que très peu de couvain réparti sur un cadre ou deux, il arrive souvent que seule la partie de la galette située directement au-dessus du couvain soit consommée, et que le reliquat demeure intouché jusqu'à ce que la zone de couvain s'étende.

Les galettes de supplément protéiné sont composées d'ingrédients à contenu protéique élevé relativement peu coûteux, comme la levure de bière et la farine de

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soja (qui doivent être appropriés aux abeilles – consulter un vendeur spécialisé en fournitures apicoles), auxquels on ajoute du pollen et du sirop de sucre. Bien que le pollen soit un ingrédient précieux, il est coûteux et n'est pas toujours disponible. De plus, si le pollen n'est pas stérilisé par radiation, les galettes contenant du pollen peuvent propager le couvain plâtré et même la loque, et en conséquence, plusieurs apiculteurs préfèrent employer des galettes qui n'en contiennent pas.

Le pollen et le sucre augmentent l'attrait des galettes. Les galettes avec une proportion élevée de pollen seront consommées environ trois fois plus rapidement que celles qui n'en contiennent pas. Toutefois, si le sucre compte pour environ 50% des ingrédients secs, les galettes seront bien acceptées, et parfois consommées même au moment de l'année où les butineuses récoltent du pollen naturel.

Le pollen est particulièrement utile dans les galettes contenant peu de sucre, puisque les abeilles n'aiment pas beaucoup les galettes de levure ou de soja à moins qu'elles ne contiennent une bonne proportion de sucre. Avec suffisamment de sucre, les abeilles mangeront tout ce que vous leur offrez, et vous n'aurez pas vraiment besoin de pollen. Nous employons généralement au moins 50% de sucre (proportion calculée sur les ingrédients secs) et constatons que les abeilles mangeront les galettes -- même sans aucun pollen -- à tout moment de l'année, indépendamment du fait qu'il y ait du pollen naturel disponible ou non.

Bien que les abeilles confinées tireront profit des suppléments protéinés en tout temps, sauf l'hiver, le printemps est le moment traditionnel pour les offrir. Stimuler l'élevage du couvain est souvent le but recherché, mais provoquer son apparition hâtive par les suppléments peut être délicat. Dès que les abeilles ont commencé à élever une quantité artificielle de couvain, on doit leur fournir des suppléments sans interruption et ne jamais leur permettre d'en manquer jusqu'à ce que le pollen naturel entre de

façon soutenue. Si les aliments protéinés viennent à manquer -- même une seule journée -- le couvain peut être sorti de la ruche ou mal se développer. Élever le couvain exige énormément d'énergie des vieilles abeilles hivernées, et si le premier cycle de couvain printanier ne produit pas de nouvelles nourrices, leur réserve de graisse peut être épuisée. Il peut arriver qu'elles ne puissent pas élever une quantité suffisante d'autre couvain plus tard, même avec l'arrivée du pollen naturel.

La quantité de substitut consommé est un bon indicateur de la force de la ruche. Une ruche faible ou orpheline consommera beaucoup moins de substitut protéiné, et l'apiculteur saura quelles colonies ont besoin d'aide en examinant l'état des galettes après une semaine ou deux.

À mon point de vue, utiliser les substituts protéinés pour induire une quantité anormale de couvain au printemps n'est pas optimal. Je préfère employer les galettes de substitut protéiné pour nourrir les abeilles adultes, dans l'espoir qu'elles soient en meilleure forme quand le pollen frais arrivera et qu'elles seront indispensables pour élever le couvain. Je continue alors d'offrir le substitut afin que même les ruches plus faibles aient des aliments protéinés disponibles en cas de mauvais temps. L'année dernière, nous avons donné trois à cinq galettes par ruche, jusqu'au mois de juin. Toutes ont été consommées, et certaines des galettes ne contenaient aucun pollen.

Sans trace de pollen, les galettes sont consommées à environ un tiers du rythme des galettes riches en pollen. Ce qui signifie que des galettes avec peu ou pas de pollen dureront trois fois plus longtemps; trois semaines au lieu d'une seule. Ceci peut être avantageux si l'apiculteur projette de n'offrir qu'une seule galette de substitut, et tout particulièrement s'il donne cette galette à ses abeilles plus d'une semaine avant d'être certain que la récolte du pollen naturel ne soit commencée.

Pour ma part, je préfère une proportion de 3 à 5% de pollen. J'estime que l'utilisation de 3 à 5% de pollen (calculé sur les ingrédients du mélange en

excluant le sucre et l'eau) va faire doubler la vitesse de consommation, par rapport aux galettes sans pollen, ce qui constitue un bon compromis. Souvenez-vous que je continue à donner des galettes de substitut même après que la récolte de pollen naturel débute, parce que je sais qu'il peut y avoir des semaines fraîches ou pluvieuses où les abeilles -- particulièrement les petites colonies -- ne peuvent butiner que de temps à autre, quelque soit la quantité de pollen disponible sur les arbres et les fleurs.

Comme je le disais plus haut, notre but n'est pas de stimuler l'élevage de couvain. Nous désirons simplement nous assurer que les besoins en protéine des abeilles adultes sont rencontrés jusqu'à l'arrivée du pollen naturel et que ces abeilles soient toujours en pleine santé. Nos galettes favorisent une consommation plus lente mais régulière et ne surstimulent pas les abeilles.

Bien que nous négligions parfois de le faire ces dernières années, nous avons parfois donné des galettes de suppléments protéinés en automne, et croyons que cette pratique réduit les pertes hivernales. Elle ne fait certainement aucun mal.

La fabrication des galettes est un travail long et salissant. Nous avons l'habitude de faire nos propres galettes mais nous avons constaté qu'à moins d'être toujours présents, les coûts de main-d'œuvre s'additionnaient et les erreurs s'accumulaient. Il y a quelques années, nous nous avons pris entente avec nos voisins et avons donné le travail à contrat. Cela fonctionnait bien, mais nous devons nous procurer les ingrédients et assurer la supervision de l'opération. Des erreurs ont été faites.

En fin de compte, nous avons trouvé Global à Airdrie, Alberta. Cette entreprise fait du bon travail, sans tracasserie et à bien meilleur coût que je ne pouvais le faire avec mes employés. Global produit des galettes de graisse et des galettes de protéine selon les spécifications du client et livre un produit de qualité, en respectant les dates convenues. Je vous les recommande vivement. Vous pouvez les rejoindre à [www.globalpatties.com](http://www.globalpatties.com) ou appeler Frank à 1-866-948-6084 ou à 403-948-6084.

## Feeding Hints

Pollen in patties is an attractant, and enhances nutrition, but pollen available for feeding varies in quality. Not only can collected pollen vary due to the plants available when it is collected, but drying and storing will diminish nutritional value. Pollen also declines in value over time to the point where, after three years of storage, even if frozen, it may become worthless. The best pollen for feeding is frozen without drying as soon as it is collected, stored only one winter, and irradiated immediately before being used in patties.

When feeding high-pollen patties, timing is very important. If only one very attractive patty is being fed, and fed too many days before natural pollen comes in, there is a real risk of over-stimulating too much brood rearing too early. If additional patties are not put on the hives before the previous patties are completely consumed, and if natural or stored pollen does not become available, as previously mentioned, the bees may actually tear out some of the brood that has been initiated as a result of the feeding! Feeding too early, with too attractive and short-lived a patty, and failing to keep the bees supplied, can result in hive decline or collapse. The collapse is not immediate; it comes several weeks later and can mystify the beekeeper. The explanation given for this effect is that supplements are not a perfect replacement for pollen; when raising too much brood with artificial diets with no new pollen, nurse bees deplete their body reserves dangerously.

Many people feed only one patty to each colony in the spring, and many of those who plan to use only one patty also choose to feed patties high in pollen content. In my experience, if only one patty is fed, it should be low in pollen, so that it will not stimulate the bees prematurely, and so that it will last. If high-pollen patties are fed, then they should be fed continuously until natural pollen is coming in. That means getting out weekly and replacing any patties that have been consumed.

Careful positioning of the patty is very important. Unless the patty is within a few inches of open brood, the patty will often not be consumed, and the beekeeper may blame the patty. Often, if there are only small patches of brood on a frame or two, only the portion of the patty directly over that brood will be consumed, and the corners further away will be left untouched by the bees until the brood area expands.

Le pollen dans les galettes est appétissant et améliore la qualité nutritive, mais celui qu'on trouve sur le marché est de qualité variable. Le pollen récolté varie en qualité selon les plantes sur lesquelles il est récolté, et le séchage et l'entreposage en diminuent également la valeur nutritive. Le pollen se dégrade avec le temps au point où, après trois ans d'entreposage, même congelé, il peut devenir sans valeur. Le meilleur pollen à donner aux abeilles est celui qui est congelé sans séchage dès sa récolte, entreposé un seul hiver, et irradié immédiatement avant d'être utilisé dans les galettes.

Choisir le bon moment est capital quand on donne des galettes contenant beaucoup de pollen. Si on offre aux abeilles une seule galette très attrayante, et trop tôt avant l'arrivée du pollen naturel, on court le risque de surstimuler l'élevage du couvain. Dans le cas où des galettes supplémentaires ne sont pas données aux ruches avant que les précédentes ne soient complètement consommées, et si le pollen naturel n'arrive pas, les abeilles peuvent détruire une partie du couvain démarré! Nourrir trop tôt, avec des suppléments trop attrayants qui seront consommés trop vite, et ne pas renouveler les galettes, peut provoquer le déclin de la ruche ou même une chute radicale de sa population. La baisse de la population n'est pas immédiate; elle se produit plusieurs semaines plus tard et peut mystifier l'apiculteur. L'explication semble être que les suppléments ne sont pas un substitut parfait pour le pollen; en élevant trop de couvain avec des suppléments artificiels sans pollen, les nourrices épuisent dangereusement leurs réserves corporelles.

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Peter Keating, Commercial Beekeeper,  
St Prime Quebec

## One Hive, Two Crops: Pollinating Berries in Quebec

The main blueberry growing area is in the Lac St. Jean region 250 km. north of Quebec City (and 500 km north east of Montreal). This region has 18,000 hectares of low bush blueberry fields of which 12,000 hectares would be in production in any one year. Quebec beekeepers have been pollinating blueberries in Lac St.Jean for many years and recently have been supplying hives to northern New Brunswick. There are a few local beekeepers who go to the blueberries but most of the hives come from outside the region, some as far away as Frelighsburg close to the U.S. border. According to informed sources approximately 2,000 hives are local and 13,000 come from outside the region.

In Quebec most beekeepers do not move their hives long distances, and therefore the fees paid for pollinating are lower than other provinces. The exception is blueberry pollination as the majority of blueberry fields are outside of the principal beekeeping areas and travel becomes significant. There are a large number of small fields, often deep in the forests, however most requirements are for larger fields that have few native pollinators available. Some of these large fields are over 500 hectares.

The cranberry industry has been expanding in recent years and the demand for hives has increased. The main cranberry area is close to Plessisville, which is south of Trois Rivieres. Last year there were over 1,000 hectares in production. As there are many beekeepers in this region the needs, until recently, have been met by local beekeepers who have usually undercharged for their rental services.

In the early days of pollination, beekeepers shipped whatever hives they had available. With the increasing awareness of pollination benefits (due to research carried out by the Ministry of Agriculture and Fisheries Quebec MAPQ) crop producers have become more demanding about quality of the hives supplied for pollination. Some have employed inspectors to verify colony strength. Consequently the professional beekeepers have supplied quality hives, and also invested in hive handling equipment. This change has led to good relations between growers and beekeepers, often with long-term contracts. Most producers are now prepared to pay for quality hives and beekeepers are able to deliver these hives efficiently.

I live in the Lac St. Jean area and have always sent most of my hives into the blueberries. Until recently I was the technical adviser for the commercial beekeeping group and also kept a few hundred hives. Two years ago I left this employment to concentrate on my own beekeeping business. Last year Jean Francois Doyon, and I teamed up to supply more hives for pollination. We planned to send bees to blueberry pollination and then on to the cranberry pollination. This was our first season attempting to pollinate two crops.

Jean-Francois Doyon is located at Saint Sylvestre in the Beauce region of Quebec, 50 km south of Quebec City. He had experience with cranberry pollination, so we decided that he would manage the contracts and colonies for the cranberries and I would do the same for the blueberries. I have a large truck with a hydraulic boom and have been using it successfully for my local pollination for many years. Neither of us felt inclined to drive long distances and invest in larger trucks.

We decided to palletize the hives, invest in two Swingers and employ a transport company to move the hives. Last year, our first year, we thought that we would surely have a few problems coordinating the movement of hives and possible mechanical breakdowns. Everything went with out any major problems other than the poor weather during a foul spring. The blueberries usually come in to flower at the end of May or early June and the cranberries start at the end of June, so we planned to delay moving out of the blueberries in order to avoid the need for holding yards.

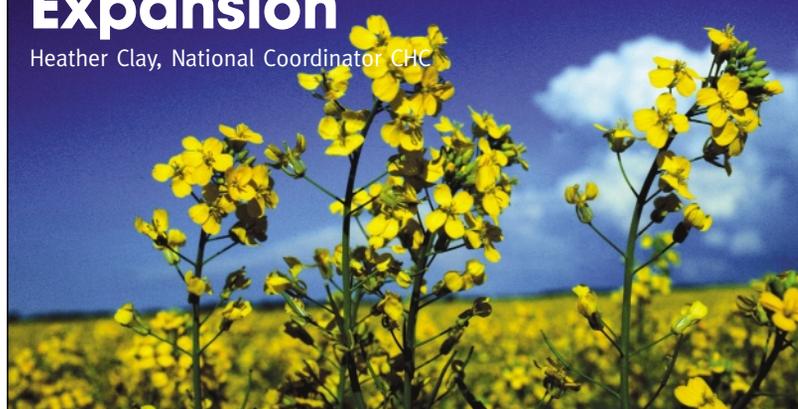
Most of the hives were close to Saint Sylvestre in the spring and should have built up well on the dandelions before moving north. Spring 2002 was appalling, and the colonies had a tough time building up. We moved in close to 1,000 hives in three days; approximately 300 hives per semi load. The first load

The hybrid canola industry is a multi million dollar business in southern Alberta. Growing conditions in the Eastern Irrigation District (EID) are optimal for the production of seed. It is a particularly desirable growing area because of the low incidence of black leg, a fungal disease that thrives in moist, cool conditions. A number of beekeepers in southern Alberta provide the seed companies

announced that the lean years are over and producers are now preparing to plant 20% more canola bringing the forecast total to 11 million acres for 2003. This translates to a need for at least 10,000-15,000 more colonies in a very short period of time. In 2004 the acreage is expected to increase to 14 million acres, increasing pollination requirements by a further 20%.

## Canola Pollination Expansion

Heather Clay, National Coordinator CHC



with pollinating hives. At least 50,000 colonies are moved into the canola fields in July each year to pollinate the female flowers with pollen from the male plants. Canola seed growers sign contracts with beekeepers to provide a certain number of hives at a guaranteed price for at least three years. This arrangement works well until there is a downturn or upturn in the market.

Southern Alberta has been drought stricken for five years and is not a good queen rearing area but it is a great place to grow hybrid canola for seed production. Canola acreage has been influenced by low prices, drought and competition from soya, and other crops. In the past 3 years canola planting has declined from a high of 13.7 million acres in 1999 to a low of 9.0 million acres in 2002. Many beekeepers with contracts to supply hives took a buy-out from their contract because the growers were not planting as many acres. In March 2003 the Canola Council

Beekeepers in this zone are looking for thousands of queens but options are severely limited. There are shortages of imported queens. The increased hives cannot come from Saskatchewan because of the ban on movement between provinces. They would not come from northern Alberta or British Columbia because colonies in those productive areas harvest 300 pound or more of honey compared with a meagre 100 pound in the south. Outside the irrigated areas there is little in the way of honey production and this number of colonies would not be successful without the pollination service fees. The pollinators have operated successful businesses in southern Alberta, despite the five year drought, granulating canola honey and gale force winds that keep bees in the hive for long periods of time. The answer to the hive shortage for canola pollination appears to be to let the current pollinators increase their operation to meet the new canola seed growers demand.

### Crop fees

The main crops requiring pollination in the province of Quebec include apples, raspberries, strawberries, low bush blueberries and cranberries. According to government sources the number of colonies, and rental fees, for pollinating each crop are given in the chart below

Crop	# colonies	Fee
Low bush Blueberries	15,000	\$70
Cucumber	725	\$46
Strawberries	770	\$46
Raspberries	181	\$47
Apple	3,538	\$36
Cranberries	3,000	\$57

arrived around 5.00 AM on June 1st when the abysmal weather was -3o C (27 o F). It was very easy to unload hives at that temperature! The following loads arrived in warmer temperatures but not typical June weather. The first week stayed cool, the second much better and the third the bees made honey. We didn't think the colonies would do more than just build up and had put just some shallow supers on a few of the hives. We therefore had to rush around pulling honey out of the brood chambers before moving south to cranberries and then to our summer yards. We made up around 120 strong nucs (8 frames of brood!) before moving out of the blueberries towards the final week in June.

We shipped two semi trailer loads to cranberries and the rest went to summer yards either in Lac St. Jean or in the Beauce region. The colonies that were sent to the cranberries were well prepared and did not need, or receive any attention during the three week period. We were sure that the colonies in

the cranberries would not require supers as this type of pollination is fairly hard on the bees. We moved out from the cranberries into nearby yards selected for their goldenrod abundance. These hives then made an average of 23 kg goldenrod honey before being moved back to the Beauce region.

We have planned not to winter outdoors in the future. Jean-Francois has built a wintering building for 3,000 hives. We finished installing all the mechanical components and moved 1,700 hives into the facility just in time to get to the Canadian Honey Council meeting in Niagara Falls. We were very pleased with the season, lots of work but no major mechanical problems and the trucking company did a fine job of moving the bees (thanks Harold).

Now we are waiting for the coming season!

## Oxalic Acid Treatment, how safe is it?

Daniel Ficza, Honey Dew Apiaries, PEI

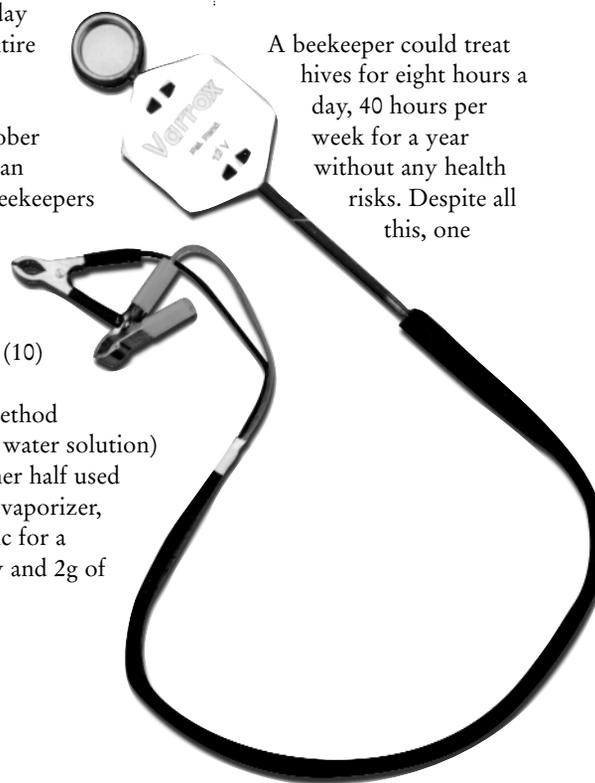
The use of oxalic acid (vaporization method) for treating beehives against varroa mites is very effective (up to 96%) in broodless colonies and well tolerated by honeybees.

Although there are safety concerns in regard to its use, researchers (Thomas Gump, Klaus Drysch, Mahmoud Radjaipour and Peter C. Dartsch) conducted a study concerning the use of oxalic acid at the University of Tuebingen, Germany. The results showed that the concentration of oxalic acid in the air was well below the safety threshold (MAK) established in Germany. The MAK ensures that there is no health risk to working people exposed to less than 1.0 mg/m<sup>3</sup> of oxalic acid concentration in the air, for eight hours per day for their entire work-life.

In the October 2001 German study, 20 beekeepers were tested as they treated 244 hives. Half (10) used the spraying method (3% oxalic water solution) and the other half used the VarroX vaporizer, (1g of oxalic for a single story and 2g of

oxalic acid for a two story hive). During the procedure special cellulose-ester membrane filters 0.8  $\mu$ m were used as recommended by the U.S. Occupational Safety and Health Administration (OSHA). Air samples were taken in close proximity to the beekeepers as they applied oxalic acid (spraying method and evaporation method) and analyses were conducted in the laboratory of the University of Tuebingen. The results were compared to the existing safety standards for oxalic acid established for wood-working industries, textile industries, wool dyeing and the production of hair cosmetics. The average of the ten spraying tests was 0.22 mg/m<sup>3</sup> and with the VarroX vaporizer was 0.23mg/m<sup>3</sup>. This is below one quarter of the safety threshold.

A beekeeper could treat hives for eight hours a day, 40 hours per week for a year without any health risks. Despite all this, one



# Russian stock - Realistic Expectations

François Petit, Russian Bee Breeder,  
Pilgrim Honey House Casselman, Ontario

should use common sense — wearing a mask, which filters out dust and mist with an exhalation valve will provide adequate protection and can easily be worn underneath the bee-veil. Also nitrile rubber gloves and safety glasses should be worn. The cost is only a few dollars.

In November 2002, I treated 140 hives with oxalic acid (VarroX® vaporizer) using 1g of oxalic acid for single story hives and 2 g for two story hives. The day after the treatment the bottom boards were peppered with hundreds and hundreds of mites. Little did I know, that there would still be so many mites left after two applications of formic acid in September 2002.

It is exciting to know, that there are still treatments available to kill the varroa mites without producing resistance. Oxalic acid is inexpensive and can be purchased at your local drugstore. To treat 500 hives, the oxalic acid will cost less than \$ 40.00.

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The Russian bee stock is fairly new in North America. It evolved in the Pimorsky region of Russia where it developed resistance to varroa mites over the past century. Researchers from the US Department of Agriculture in Baton Rouge brought the bee to a quarantine island in the USA in 1997. The Russians did not have the opportunity to breed this bee but with the technology and experience in North America the USDA has made the genetics of this bee available to breeders.

The Ontario Beekeepers' Association conducted a project to evaluate the Russian stock, with Geoff Wilson, graduate student under the supervision of Dr. Medhat Nasr, Researcher presently working in Alberta as the Provincial Apiarist. They tested the stock for Varroa resistance extensively. It showed some real resistance, superior to the Ontario strain of bees used in the test. The study did not evaluate other characteristics such as honey production, swarming, gentleness and overwintering.. Now the stock has been turned over to a commercial operation where more extensive selection can be done.

Varroa resistance is not the "magic bullet" and the Russian bee is not the "super bee". The trait for resistance is present when you mate a Russian virgin with Russian drones. But this trait does not transmit equally if you cross the Russian stock with another strain. You will lose this advantage after the 2nd generation. You can obtain resistant F1, but subsequent matings with other strains will dilute the genetic base that constitutes the resistance to Varroa.

The Ontario study has established the fact that crossing with Ontario bees still retains the majority of the resistance advantage. It can be concluded that using Russian queen cells or open mated queens to requeen, increase, or make splits and nucs would be beneficial. That is why one of the objectives of the Russian Bee Program calls for distributing this stock to all interested

breeders across Canada. All they need to do is to purchase closed (pure) mated queens from tested breeders (also pure) and begin their own production of Russian queens and cells. They could also purchase tested breeder queens when they become available.

This Russian stock is new to me and we continue to evaluate it. In 2001, we established about 60 drone colonies started with Russian queen cells, as well as 8 pure Russian queens (not selected) to be able to graft the next year. They overwintered well.

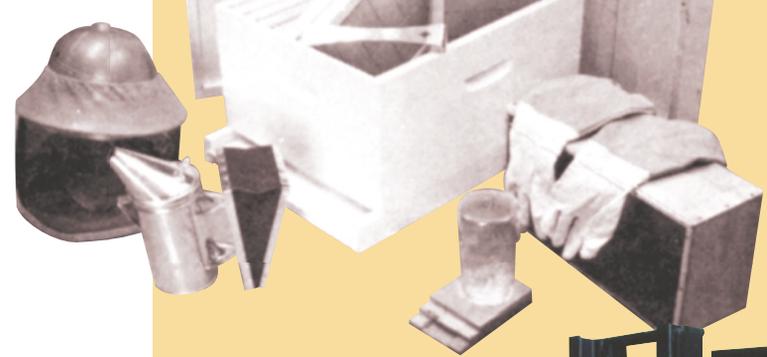
In 2002, we selected 8 drone colonies from one line and set up our isolated mating apiary about 100 miles from our home yard. We grafted from the 8 pure queens to produce pure stock and open stock. The pure queens were mated with the drones from our drone colonies selected previously in our isolated apiary. These were used to requeen most of our colonies; and to produce a limited number of 4-frame nucs with pure Russian queens. These were made available to those queen breeders and producers who wished to get an early start at grafting for spring. The open mated queens were mated with Ontario drones from our own apiaries, where we produce 4-frame nucs destined for next spring sales. I plan to evaluate this stock in 2003.

Some breeders are enthusiastic and have great hopes and expectations for this stock, while others are disappointed and are not impressed at all. It takes time and patience, trial and error, to arrive at something worthwhile. We ought to give the Russian bee the time it needs to improve on all sides, before making a final and decisive conclusion. In my experience, it seems that the Russian stock shows some promise and it is behaving normally concerning desirable traits of honey production, gentleness and overwintering ability. You may get some bad colonies and some excellent colonies. The traits are not fixed like with other stable strains. Some queens in my Russian stock operation were below



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expectations, some performed surprisingly well, especially the open mated with Ontario drones (cross). I even tested some of those mix-strain queens, because they were so good in terms of honey production and gentleness.

We have to be patient and give it some time. Hopefully, we can benefit from this extensive research project. It is there for all Canadian beekeepers to utilize. Enjoy if you dare!

For more information on the Russian Bee Stock contact François Petit 613-355-6790



## Risk Assessment

Made available by Brian Jamieson,  
Chief Veterinary Negotiator, CFIA, Ottawa

The Animal Health Production Division requested a risk assessment on the unrestricted importation of honeybee queens and packaged bees from the continental USA. The resulting risk assessment is primarily qualitative with some quantitative measures. Results of the risk assessment are summarized in Table 1. Given that the honey bee tracheal mite is widely distributed throughout Canada (with the exception of Nova Scotia and PEI) and given that there is no evidence that the mite in the USA differs from the mite found in Canada in terms of resistance or virulence, tracheal mite cannot be designated a hazard and is therefore not considered further.

Table 1: Summary of Risk Estimates for Hazards of interest

Hazard	Release Assessment	Exposure Assessment	Consequence Assessment for the beekeeping industry	Risk Estimate
Resistant varroa mite	High	High	High	High
Resistant American Foulbrood	High	High	Moderate	Moderate
Africanized Honey Bee	Moderate	Low	Moderate	Low
Small Hive Beetle	High	Low	Moderate	Low

The complete report can be viewed on the CHC website [www.honeycouncil.ca](http://www.honeycouncil.ca)

## Honey Program

John McCool, Honey Program Manager, CFIA, Ottawa

Representatives from the CFIA's Honey Program along with other CFIA specialists participated in joint meetings held with the Canadian Honey Council and the Canadian Honey Packers Association at CFIA Ottawa. This meeting opened the lines of communication and allowed discussions on issues of mutual concern, ranging from honey bees' health, On Farm Food Safety to the import and export of honey. The outcome was very positive and re-established necessary contacts and ensured issues were heard and addressed.

Currently the honey team is reviewing and rewriting the honey regulations. The publication of a revised Honey Establishment Inspection Manual is slated for spring 2003 and the development of the Honey Product Inspection Manual is underway. Now is the time to forward any concerns or comments re: the current honey regulations which can be found at <http://laws.justice.gc.ca/en/C-0.4/C.R.C.-c.287/index.html>.

Monitoring results of honey from India and Moldova have revealed adulteration with the banned drug, chloramphenicol. All bulk and pre-packaged honey from both of these countries is being detained and tested for the presence of chloramphenicol.

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# National Consensus — is it possible? A Case Study of US Queen Import Protocols

Heather Clay, National Coordinator, CHC

The border with the continental USA is closed for movement of bees into Canada (see page ). If industry wishes to have importation regulations modified or extended, a presentation must be made to the Canadian Food Inspection Agency (CFIA) with whom the ultimate decision rests. According to Dr Brian Jamieson, Chief Veterinary Negotiator, International Trade, CFIA, "unless there is an emergency situation, the change would require national approval."

A situation regarded as an emergency by the Alberta Beekeepers Association (ABA) occurred in May 2003 after the CHC 2002 annual meeting in December. Three factors came together to create this crisis. First, beekeepers in southern Alberta were informed at a meeting with the Canola seed growers that there was an immediate demand for a 20 to 30% increase in hives for pollination (see canola box pg ...). Second, the discovery of Small Hive Beetle in Australia has led to a shortage of eligible queen suppliers in Australia. Third there appears to be a general shortage of queens from New Zealand and Hawaii following an increased in demand caused by internationally high honey prices.

In trying to find a solution to this problem Dr. Medhat Nasr, Alberta Provincial Apiculturist developed a set of protocols to address the major concerns about importation of honeybees from the continental USA. The ABA placed this proposal before the CHC board of directors and asked for assistance to

develop a national consensus. If anything was to be done for the import season of 2003 it was imperative that the CHC should move quickly to disseminate the information and work towards a consensus view.

There are two ways that the CFIA can make changes to the current prohibition. According to Dr Jamieson they are:

1. "The normal regulatory procedure to extend or rescind the current prohibition would involve the publishing in Canada Gazette I, a proposed new regulation or the proposal to rescind the current regulation, with a period of time for stakeholder comments (likely 30 days). Generally it requires a period of consultation and ministerial approval before it is gazetted.

2. Although it is rarely undertaken, the regulatory process may be expedited if this comment period can be avoided. Generally, it may only be considered if all major Canadian stakeholders are in agreement with the proposal. To allow consideration of the rescinding of the existing regulation in an expedited manner, the CFIA requires that each provincial beekeeping association and the Provincial Apiculturist of each province or the appropriate provincial representative advises CFIA directly in writing of their position on the matter. CAPA, as an association, is not considered to be a stakeholder, except of course through the membership of the Provincial Apiculturists."

In both cases the CFIA requires national approval but in the latter situation the consent must be close to unanimous. There are several problems with building national consensus. The CHC is an association of diverse beekeepers with differing perspectives, a variety of management systems in a wide range of climactic areas across the country. Some members raise queens and many do not.

Some produce large quantities of honey and others are mainly in the pollination service industry. It is a difficult task bringing together these divergent views. Each of the CHC delegates is expected to present the message to their associations but personal views, old grievances and presentation skills can influence the interpretation. Trying to achieve a consensus via phone conferences is a difficult process and when the issue is as contentious as border closure it can be doomed to failure without a facilitator.

It is no easier trying to get unanimous approval from the provincial apiculturists who have to obtain departmental permission, often make budgetary changes and in some cases alterations to existing regulations before they can formulate a response.

As a first step the CHC requested technical advice from the import committee of the Canadian Association of Professional Apiculturists (CAPA). They worked closely with Medhat in helping to review, clarify and modify the protocol so that a scientifically sound rationale was provided for the importation process. Using these protocols, it is believed that any importation of queens would provide healthy, pest free European honey bee stock. A summary of the final document is provided on page ... and the full document is available for viewing on the CHC website at [www.honeycouncil.ca/importb.html](http://www.honeycouncil.ca/importb.html)

A quick initial poll of the delegates of the CHC showed general agreement with the idea of importation of queens into Alberta under strict science based protocols. Without an actual proposal in front of them, the delegates expressed interest in seeing what arrangements could be pursued for an emergency importation on a trial basis for one year for Alberta. None of the provincial delegates thought that their associations would be willing to consider the proposal if it included packages as well as queens or if this proposal would open the door to widespread uncontrolled importation, especially for bees on comb (see box on border closure for concerns). The delegates recognized that the proposal would not affect other provinces during the initial year and that the availability of queens would be beneficial for Alberta's

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multi million dollar apiculture industry.

The final protocols were distributed and the delegates asked for their association response. Getting unanimous agreement on anything as significant as changes to the current border regulations requires a great deal of trust and mutual respect. First the group requesting the change must be credible, the suppliers must be respected, the provincial apiculturists must have enforcement authority as well as the capability to restrict inter-provincial movements, and the CFIA must be trusted to issue import permits in cooperation with provincial apiarists and to provide follow up inspections. In addition, those given the opportunity and responsibility to vote on the issue must do so based on accurate, current information and not be prejudiced by personal opinion or unsubstantiated rumour. The vote for change was lost on every count.

Within the ABA there was a small group that was focused on getting packages from the USA. They argued that they were following the wishes of a resolution passed by the ABA in 2001, two years prior. Despite the moderate position of more than half of the board of directors of the ABA who only wanted queens, their importation committee proceeded to lobby Ottawa directly for emergency packages. Part of the negotiation for queen importation agreement required that the ABA would not pursue packages and this situation created mistrust of motives by the many associations in the rest of the country. The process was undermined by the action of that group.

Our industry has no problem with the testing of the DNA of breeder stock. Certified labs at the University of California are acknowledged as fully accredited in the field of DNA testing. The distrust seems to be in the failure of the US government to maintain an adequate bee inspection system. The same complaint was received about the Canadian inspection system. Cutbacks to government services in general and inspection in particular have eroded the level of trust in our own and the US systems. The comparison with the Australian inspection system shows there tends to be a higher level of mutual trust where governments and beekeepers have co-operated in providing a good standard of inspection.

At the close of negotiations, four CHC delegates voted to recommend the importation of queens using protocols, one abstained and two voted against. The Quebec provincial association requested more time to review the document, as it had not been translated. Of the provincial beekeeper associations five voted for the proposal and three against. It is important to note that at the 2002 Annual Meeting in Niagara Falls, the CHC delegates passed a resolution to recommend to the CFIA that the border remains closed. Despite that resolution when faced with an urgent situation, the CHC and five provincial associations moved to support the Alberta proposal.

The positive side to the recent negotiations is that the provincial associations are openly talking about the issues of concern and are working out some of the apparent problems. While the matter is not likely to be resolved quickly, the important thing is that the channels of communication are open. There is a great deal of merit in establishing a national standard for importation protocols. It will be better to have a sound, safe mechanism to allow the movement of bees rather than risk the border suddenly being opened for political reasons with little or no consideration for the scientific risks. The CHC, representing the national industry, should let the CFIA know our wishes by presenting them with a consensus view of a well thought out national strategy.

This discussion is not over. A national understanding of the issues and possible consensus is achievable only when everyone has the same information and there is sufficient time for full discussion. The CHC will strive to get the information out to all parties and facilitate bringing together stakeholders from industry, provincial and federal governments to sit around the table and find a consensus before our 2003 annual meeting in Winnipeg. We need your active membership and views. If we want to keep abreast of our industries' needs it is important to keep an open mind and not allow stagnation from ideas that do not reflect today's reality. With some help from the latest technology we can both protect and advance our industry.



## BORDER CLOSURE

In the early 1980s the concern about imported honeybees was related to the parasitic tracheal mite, (*Acarapsis woodii*) which had recently arrived in the USA. At the request of industry the federal government has maintained a ban on the importation of honeybees from the USA since 1985 in eastern Canada and 1987 in the west. The spread of varroa mites (*Varroa destructor*) in the USA, followed by Africanized Honey Bees and more recently fluralinate and coumaphos resistant mites and Small Hive Beetle has contributed to the recommendation that no importation of bees be allowed. While some areas of Canada are still free of varroa mites and resistant mites are only in pockets along the border it is expected that the current phytosanitary controls will remain in effect until December 31st 2004.

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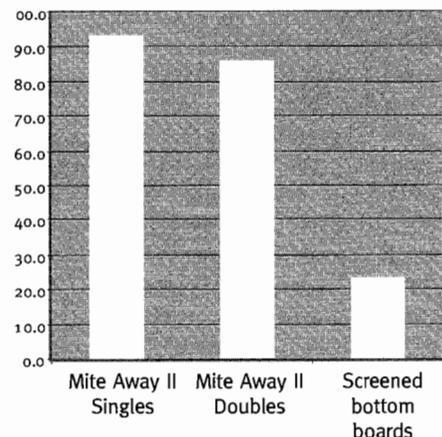


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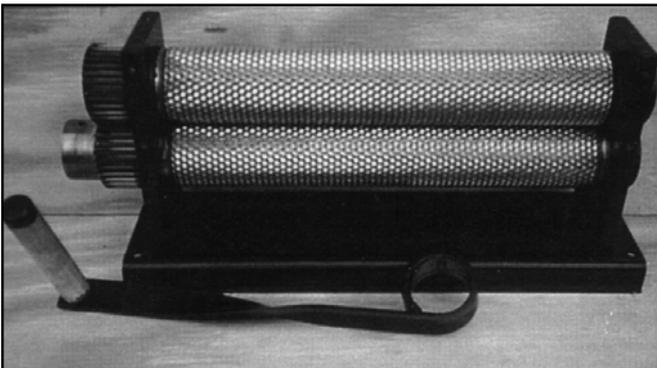
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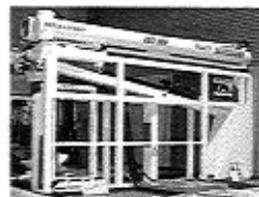
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# Canadian On Farm Food Safety Program

Heather Clay, CHC National Coordinator

**H**oney is a low risk food product. It does not support harmful organisms or deteriorate with time, all of which contribute to making it a wholesome, safe food product. The main risk in producing honey is the possibility of chemical residues from either industrial sources or disease treatment. Recent recalls for the antibiotic chloramphenicol in Chinese honey, the drug, sulphathiazole in Greek honey, and industrial phenol in US honey have highlighted the problem of misuse of chemicals and raised a red flag to consumers about residues. The Canadian Honey Council (CHC) agreed to participate in the Canadian On Farm Food Safety (COFFS) program, to produce guidelines that would cover all aspects of honey production and extraction, to ensure the highest level of safety for the consumer. The federal government has offered funding through the Canadian Federation of Agriculture for commodity groups such as the honey industry to proceed with developing a COFFS program.

A program of this sort must be HACCP (Hazards and Critical Control Points) based. This usually requires a mountain of record keeping. We know how difficult it is for a beekeeper who may already be working 15 or more hours per day, to find the time to complete the necessary paperwork. There is a cost to implementing this type of record keeping. There is a further cost for an audit to obtain COFFS accreditation. It has been argued that since honey producers already take part in a federal registration process that implementing a COFFS plan is duplication of programs. We will address many of these concerns as the program takes shape. The paperwork will be

simplified and forms made available on the internet. The Canadian Food Inspection Agency (CFIA) will clarify their role in the process and will certify the auditors.

Despite the concerns, the CHC feels that there is a role for the COFFS program in the honey industry. The majority of our beekeepers are not federally registered. There are over 9,000 honey producers in Canada and in this group there are 8 pasteurizers, 32 packers and 178 producer graders registered with the CFIA. The CHC sees an opportunity to develop national production standards from within our industry. These standards would be voluntary, accessible, easy to understand and affordable.

The funding provided for this project will



Ben Hogan (apiary tour host), Trevor Weatherhead (Australian guest speaker) and Wink Howland (steering committee chair) (l to r) at Hogan's apiary, Bath ON.

enable us to develop a user friendly website with HACCP and COFFS information and the forms necessary to provide the required documentation. Beekeepers are being involved at all stages of the planning, and implementation. Experts in various fields of apiculture will provide the information on the website and in the final manual. The new website offering COFFS information, printable forms and risk assessment, is currently in the beta testing stage and it should be launched mid May. The technical team will modify and adjust the generic model using

feedback received from beekeepers. In summer we will be testing the model on selected large and small operations in several regions of Canada.

In April guest speaker Trevor Weatherhead attended our COFFS steering committee meetings in Kingston. (During a local apiary tour (see photo) he got to see real snow). He brought information about the BQUAL program a HACCP based system that has recently been implemented in Australia. There are many similarities to COFFS and we can benefit from learning about the Australian approach to developing standards and rolling it out to the beekeepers. BQUAL encompasses more aspects of beekeeping than COFFS but it is a model that we are studying for use in developing the COFFS program for the Canadian honey industry.

The Australians have the support of all their packers in the promotion of the BQUAL program. Their packers contribute by having their staff trained as BQUAL certifiers and they support the honey industry by importing only small quantities of overseas honey. In Canada the COFFS program has the support of BeeMaid, Canada's largest co-op packer, which packs 100% Canadian honey.

Their Spruce Grove (northwest of Edmonton) packing facility is HACCP certified and they would like their suppliers to have a quality assurance program such as COFFS in place. BeeMaid has provided in-kind support for the development of a HACCP based COFFS plan. This has been a positive contribution and we hope that the COFFS plan will eventually be supported and demanded by all packers to ensure Canada's continued reputation for high quality pure honey.

## Recommended Protocols for Queen Importation from the Mainland USA to Canada

Medhat Nasr,  
Provincial Apiculturist Alberta

this is an abridged version of the full report which is available on the CHC website

1. The queens must originate from an apiary free of genes of the sub Saharan type of the Africanized honey bee, *Apis mellifera scutellata* as determined by nuclear DNA or allozyme testing by an accredited laboratory on a random sample of workers representing progeny of the breeder queens.
2. Africanized honey bees must not have been detected within 100 miles (160 km) of the locations of the apiaries of queens' origin within the past two years.
- 3 The queens must originate from an apiary that does not have any visible clinical evidence of American Foulbrood (AFB), European Foulbrood (EFB), Varroa mites or Small Hive Beetles.
4. Queens will be shipped in battery packs.
5. After arrival at the Canadian quarantine facility all attendant worker bees will be removed from the battery boxes and killed.
6. Attendant worker bees will be tested for Varroa mites and examined for small hive beetle.
7. Clean local attendant worker bees will be added to the battery packs.
8. Queens inspected and meeting all requirements will be released from quarantine for shipment to final destinations.
9. Any queens that fail to meet the requirements will be destroyed.
10. All destroyed bees will be incinerated.

## Net-Connected Beekeepers

Paul van Westendorp  
Provincial Apiculturist  
British Columbia

British Columbia recently launched an Apiculture Webpage. The page will be part of the BC Ministry of Agriculture, Food & Fisheries website still under construction. The address is <http://www.agf.gov.bc.ca/apiculture/index.htm>

The webpage was developed in recognition that increasing numbers of beekeepers are becoming "internet-connected" and will use the medium more in the future. The availability of internet-based information is also one of the BC Government's development objectives. The webpage is not a final product but a work-in-progress and will continue to change and improve. The page will also be an important part of another internet-based project called "Infobasket", expected to be launched in the next few weeks. Infobasket is not a website with stored information but a corporate portal. It is essentially a specialized search engine that seeks detailed information from websites all over the world. One of the website the Infobasket project will be linked to is BC's own Apiculture webpage.

Infobasket will be a very powerful tool to those seeking detailed and specialized information. We hope to have the Infobasket running soon and made available to beekeepers wherever they live.

Enjoy the Apiculture webpage for now and feel free to offer comments and suggestions!

Paul van Westendorp can be reached at [paul.vanwestendorp@gems8.gov.bc.ca](mailto:paul.vanwestendorp@gems8.gov.bc.ca)

## New Director for Soils and Crops branch



Don Dixon, Provincial Apiarist for Manitoba has been appointed to a new position within Manitoba Agriculture and Food as Director, Soils and Crops Branch. Don has been a valued member of our industry for over 25 years.

It was Don's vision that led to the development of the first CAPA disease publication that is now recognized and requested world wide. He was the organizer of the first CHC/CAPA research symposium in Winnipeg in 1990 which is now an annual event. As a major player on the Apimondia team, Don helped make the Vancouver Apimondia 99 conference successful both educationally and financially.

We wish him well in his new position but we are betting that it won't be half the buzz that he had as Provincial Apiarist.

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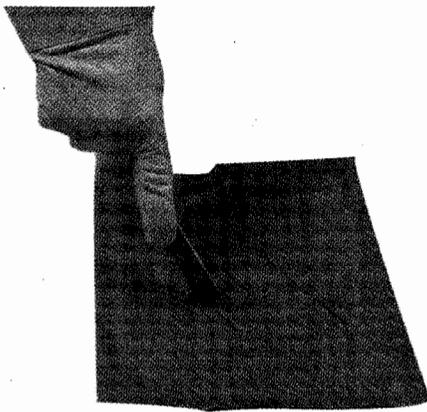
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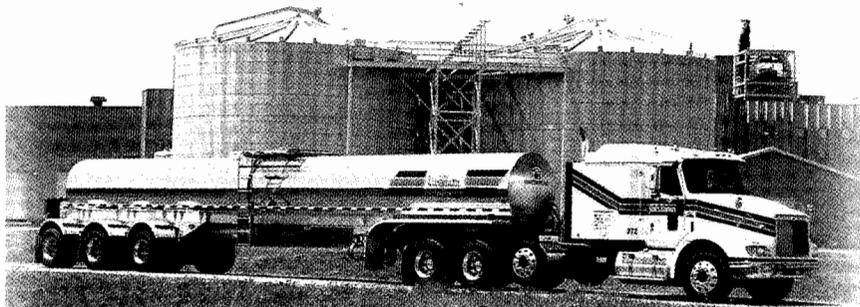
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