Inland Beemail

Monthly Newsletter of the Inland Empire Beekeepers Association
Volume 9 Issue 9 - September 2004

September Program Feature by Bob Arnold

Fall Hive Preparations

It's 6 AM and 40^{0}F outside and time to get the bees ready for winter! I imagine some of the less protected locations around Deer Park may be very close to freezing this morning. This is the beginning of the new beekeeping year. What you do now will determine the condition of your bees next spring and the size of your honey crop next year. Certainly many other events will act to influence the yield of your colonies but making it through winter in with ample stores and a large healthy supply of bees is the best prescription for making a good honey crop next year.

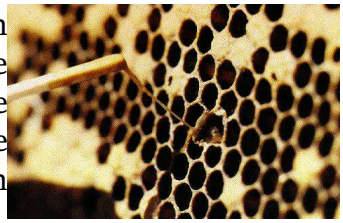
The bees the colony raises in the fall are the same bees that make it through to spring. The appearance of a colony in the fall can be very deceptive. The large number of bees is always reassuring but the big question for wintering is what is their age and how many of the bees will be alive and able to raise the first brood of spring. Many of the bees you see in the fall may indeed be on the bottom board before the winter cluster breaks in February or March. When you inspect your colonies in the fall judge the quality of the colony by the amount of the brood, the quantity of bees and of the health of the brood.

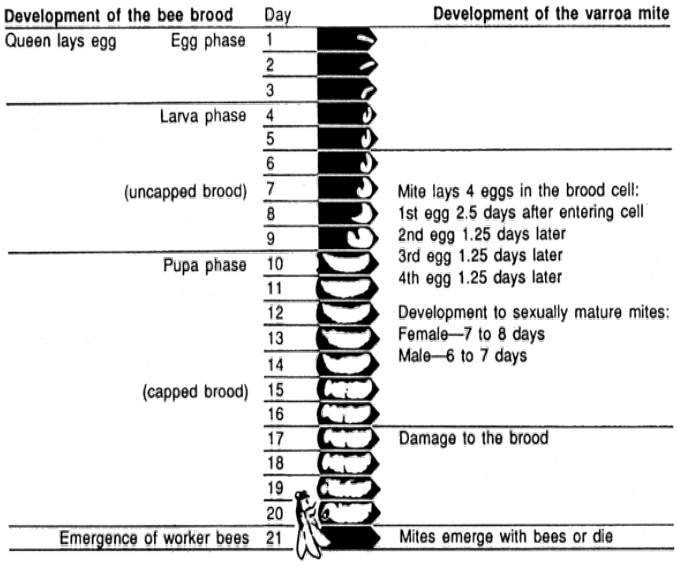
It is always very subjective looking at the brood of a colony this time of year. The Carniolans often will have very little brood if the preceeding weeks have had little nectar and pollen available. The Italians may have quite a bit more brood but this can vary dramatically with the individual queen. Some of the Italians are very quick in shutting down brood laying quite similar to the thrifty Carniolans.

If you have had some nectar and pollen coming in the last few weeks, as should be the case with the recent rains, there should be adequate brood to judge the condition of the queen. If the queen is new this year and she is laying well now you should be in fine condition for the new year. If the queen was last year's queen and her laying is spotty on many frames I would replace her even if the colony is strong. If the queen's laying is spotty on many frames and the colony population is low I would either replace her or combine the hive with another. Replacing a queen this late must be done immediately to be able to get several frames of brood out of her in time for winter. The first two weeks of September are the latest that a new queen can be introduced into a weak (6 to 10 frames of bees) colony and have it winter satisfactorily.

The queen and colony may appear to be fine but may have signs of American foul brood (AFB). The colony can have many infected cells and still have a large population. This will often be the case of a colony that is rearing its fall brood

and has come down with AFB. For these cases it is best to shake out the bees and remove the equipment and burn the combs. The boxes, top and bottom can be saved and reused if it is heated to 250ºF. If there are just a few infected cells and the colony is strong then the colony may be saved with your fall medications.





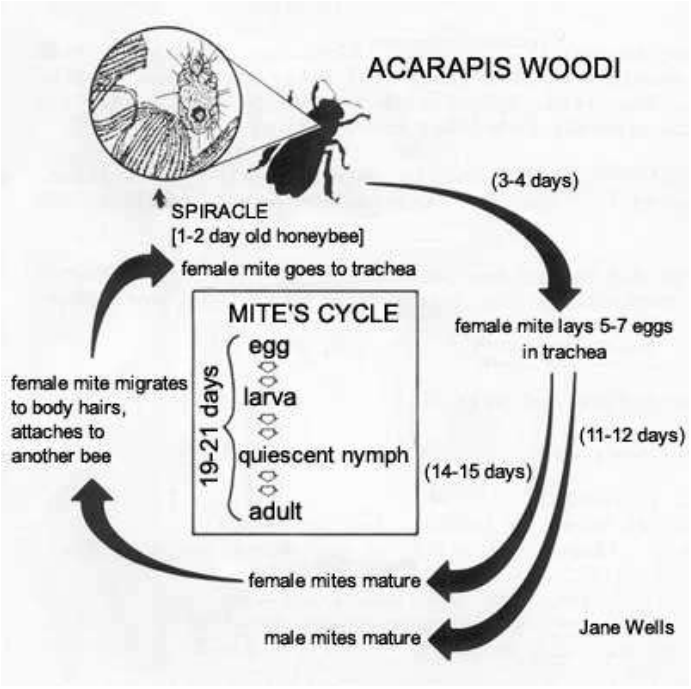
If the colony has a good queen and is healthy then you should proceed with your winter preparations. You must get your mite medications on now as preventing mites from infecting the brood is essential if you are to have healthy bees for the spring. This includes both the varroa and tracheal mite medications. I put both on now at the same time.

The miticide strips must come off in 42 to 45 days for the Checkmite and 42 to 56 days for the Apistan. For the strips to be effective the bees must contact them. Since it is likely that we will have cold weather during the period the strips are on the hive you must place them where the bees form their winter cluster. Placing them in the area of the hive where the queen is brooding is a good bet. If you have a lot of feed to place on the hive be sure to place the strips below the frames the bees will fill with feed as they will fill the combs and may cluster below the strips.

For the tracheal mite I would advise against simply placing the packaged menthol in the hive the way it comes. Depending on the weather to be right for this method is highly unlikely. Most likely what will happen is the bees will cover the menthol with propolis and very little of the menthol will sublime and be useful towards controlling the tracheal mites. If you are going to treat for trachael mites you should dissolve the menthol in vegetable oil and soak the solution in some paper towels which are then put between the two brood chambers and the lid and upper brood chamber. This will get the menthol delivered to the bees!

The other most important fall activity is feeding for winter stores. If you winter your bees in two deeps the top deep needs to be full of feed. This can be either honey (the best stores) or sugar (either beet or cane). You can feed high fructose corn syrup but the bees prefer the beet or cane sugar. In any case you must have a full deep of stores. It is best to start no later than mid-September to be sure of getting the stores on before it turns cold as the bees will not be able to convert the sugar syrup to stores when it is cold. Mix your syrup with two parts by weight of sugar to one part by weight of water. If you can, use a top hive feeder for feeding. The frame feeder will work but not as well in colder weather. If you use a frame feeder put it in the bottom box at the side as you want the top box filled with feed. You can leave the frame feeder in all winter.

Nosema is the other disease that should be treated for. This disease reduces the vigor of the colony and can cause death of the colony. Symptoms of nosema are crawling bees, bee poop all over the frames and no vigor to the colony. Usually it causes the colony to be weak and not as productive. Many people do not feed any medications for it. I have found that it



helpful to feed the Fumigilin in both the fall and the spring. It costs more for the feed than the Fumigilin. If you use the old Fumidil-B it is difficult to dissolve (use warm water and put in blender). The new Fumigilin should be dissolved in warm water and then added to the syrup.

Illustrations of life cycles courtesy University of Florida Entomology and Nematology Department http://entnemdept.ifas.ufl.edu/

For an alternative to toxic products such as Checkmite (tm) and Apistan (tm) you may wish to use Sucrocide developed by Dr. Steve Sheppard at WSU. For an article on its use see the January 2004 issue of the *Inland Beemail.*

President's Corner *By Ted Swenson*

It's **FAIR SEASON**!! As I write this Deer Park's Fair is over, North Idaho is almost done and Spokane State Fair is about ready to start. Thanks to everyone who has volunteered their time and talents. For those not on the list, come on out anyway. Remember that our meeting this month is Thursday the 9th. Bring your fair entries with you.

I hope everyone is pulling lots of honey supers filled to the max.

OK IEBA members. We have caused Jim Miller to worry long enough. It is past time to get your WSBA Conference reservations in. Don't think about it, just do it. You will have a good time!

See you at the fair.

Minutes of the August IEBA Meeting

by Linda Carney, Secretary

The picnic meeting was called to order by our President, Ted Swenson.

Because of the great surroundings, fantastic smell of food, good company, and bright sunshine we got right down to business. It was a fast meeting.

The minutes were accepted as written in the *Inland Beemail*.

There were no other reports given.

A motion was passed to sell the 1# containers of honey for $3 and the new cookbooks for $7 at the fairs

The members present decided to keep the price for the honey straws the same as last year.

A motion was passed for Jim Miller to draft a letter requesting analysis of our local bee problems. (There have been several local beekeepers experiencing their hives

disappearing without a trace.—go od mystery stuff.)

A motion was passed for $60 for expenses for updating the association flyers for distribution at the fair.

Frank Seiler and John Pierce will be doing some updating with the *Inland Beemail* to make it easier to download and print.

Jack Knox stated with optimism, "we are in good shape" for the North Idaho Fair.

Other great news. Jim Miller announced the Journeyman beekeeper classes will start October 20. They will be on four consecutive Wednesday nights from 6pm to 8pm.

Remember, the next meeting will be Sept 9th at 7:00 pm and will be held at the Spokane County Fairground.

The meeting was adjourned.

More eating and visiting was experienced by a great group of beekeepers.

Hive Care Calendar for September

Most of us have our supers pulled by now and are thinking about our fall management. Whatever strategy you implement, now is the time to start fall mite treatments. Be sure to adhere closely to the manufacturers recommendations for all chemical treatments. Remember that many treatments are temperature dependent and successful treatment is easier early in the fall. Improper use increases the chances of mites becoming resistant and also increases the chances of contaminating your comb with pesticides. Evaluate your hives and their potential for overwintering. Combine those that are weak. Evaluate food stores and begin a feeding program for light colonies as there is little nectar coming in now. A 2:1 sugar/water solution is recommended for fall feeding. And best of all, enjoy the fruits of your labors as you extract and bottle and share in the county fairs in our region.

North Idaho Fair A Success!

Many thanks to all who shared their personal time again making our North Idaho honeybee education endeavor very successful. The Fair Manager and staff again provided total support of our work. With the continued support of our great membership we should be able to continue this tradition during future years. Our booth won the first prize ribbon in the catagory of "Organization" booths. I'm not too sure who the other contestants were besides Grange and Master Gardners. Mr. Adsit tells me we sold approximately $2,000 worth of products, which should help with other IEBA projects.

Again, thanks to all who participated, several worked in the booth multiple shifts, special thanks to them.

-Jack Knox

See You at the Spokane County Fair Sep.10-19

Legal Issues Clarified

For immediate release to all Washington State Beekeepers:

WSBA has been in contact with Ned Therien at Washington State Department of Health concerning the issue of whether Beekeepers would be covered or exempt for the WAC. We received a very clear response from Ned and we feel that this issue has been put to rest. The response contained the following statement:

"I wish to assure the members of the Washington State Beekeepers Association that our proposed revision of Chapter 246-215 WAC, Food Service, will not add new regulatory requirements for honey producers. We included an exemption from these rules for activities regulated by the Washington State Department of Agriculture (WSDA). We interpret state law (Chapter 69.28 RCW) to clearly direct that honey-producing activities be regulated by WSDA."

We appreciated the comments we received from beekeepers during the formulation of this rule revision proposal. The rule proposal clarifies that not only "food processing plants" regulated by WSDA are exempt, but also the activities regulated by WSDA of other establishments are exempt from Chapter 246-215 WAC, Food Service.

Jerry Tate, President
Washington State Beekeepers Association
e-mail: president@wasba.org

Back to the Small Bee

Part 2: Experiences with bees regressed in size

by Thomas Kober, published in the German magazines Die Biene, ADIZ, and Imkerfreund in May 2003. Translated by Frank Seiler and reprinted with kind permission of the author.

In part 1 of this series, it was reported that between 1895 and 1925 many European foundation manufacturers changed to a cell size of 5.4 to 5.7 mm and thus artificially enlarged the bees, even though in prior years, literature cites cell sizes of 4.72 to 5.36 mm in natural colonies. If the artificial enlargement of the bee is a blessing is indeed questionable. To the contrary, there are reasons to believe that larger bees are more susceptible to diseases than smaller ones. Some beekeepers have thus resolved, through the use of small cell foundation, breed and try out a smaller bee.

Dee and Ed Lusby are organic beekeepers in the strictest sense (the German text reads "explicitly stubborn"). Treatment agents, no matter what the type, are not employed. This stubbornness almost twice witnessed the collapse of their colonies. The original 1000 colonies were reduced to about 400 following 1986 (arrival of the tracheal mite). After all the colonies were resettled on foundation measuring 5.08 mm things began to improve; the operation was soon up to 900 colonies again.

In 1993 this number started its decline through the arrival of the varroa mite down to a mere 104 colonies (Spring 1998). By now, the colonies are back to their old level. Failed colonies are now a rarity. No treatments are administered. The Lusbys credit their recovery to one deciding measure: In 1997 they started to move all of their colonies onto 4.8 to 4.9 mm

foundation. This size, so their theory, is the threshold for successful varroa resistance.

Until the mid-eighties, the Lusbys had various cell sizes in their colonies as they acquired foundation from various sources. Among them the sizes ranges from 5.08 to 5.7 mm diameter —size s that are distinguishably different even to the naked eye. When tracheal mites ravaged most colonies, it became apparent that those on the smaller foundation sizes did not suffer such ill effects, whereas the colonies on large cells quickly collapsed. As a consequence, the operation was converted to 5.08 mm foundation.

After intensive archival research, Dee located references that indicate that the natural cell size was originally smaller than that of today. Early authors give sizes even smaller than 5.08 mm in European feral colonies.

Imitators quickly found

Dennis Murell of Wyoming is among the first beekeepers to copy the Lusby's methods. His experimental colonies were last treated for varroa in the fall of 1999. In 2000, they were put on 4.9 mm foundation. Still, during the year 2001 all of the experimental hives developed alarming numbers of varroa infestations, resulting in a mite drop of about 100/day. Only four colonies survived the winter and were quite weak in the spring of 2002. It is not surprising then that Dennis had strong doubts about Lusby's methods. Yet, in spite of poor forage, these four colonies built up extremely fast. In the summer and fall of 2002, mite fall was on average one per week and mite damage to bees had vanished without a trace.

Roger White, a queen breeder from Larnaka, Cyprus, who converted his colonies to the 4.9 mm size in the spring of 2001, had similar experiences. While mite damage was still apparent in the summer, by fall these symptoms had disappeared. In 2002, the colonies lived on well and healthy. By contrast, in the Mediterranean climate of Cyprus (year-round brood rearing) "normal" colonies must be treated with miticides twice a year to survive.

Barry Birkley from Illinois only succeeded converting two colonies to 4.9 mm foundation in 2000, but for unknown reasons, these did not survive the winter. Other colonies were put on 4.9 mm foundation in the spring of 2001. These were treated for varroa the last time in the fall of 2000. Neither in 2001 or 2002 was there any sign of mite damage, and both years saw the colonies wintering well.

A Stabilizing Process

Experience has shown that it is apparently possible to establish colonies on small cell

foundation that are able to cope with the varroa mite. However, success is not to be had with every colony. Some colonies do sustain severe mite damage. It is therefore reasonable to conclude that other factors beside cell size come into play. On the other hand, varroa resistance was not attained by introducing an "exotic" breed of bee. The small cell size appears to give conventional breeds of bees enough of an edge that colonies can be selected that survive without mite treatments for several years.

The experiences of Dennis Murrel are a good example of how the stabilizing process occurs.

In the first year, some the colonies converted to small cell sustain much damage, and incredible mite populations developed. Perhaps only half overwinter. Yet, these survivor colonies then develop very strongly the following year with very low mite counts.

Causes Not Yet Known

The few scientific investigations on the effects of small cells on the mite population have resulted in contradictory results. Message and Gonçalves (1995) found that smaller cells show a lower infection rate than larger cells. Taylor (2002) in contrast found no significant differences. In both studies, pieces of comb with the smaller size were inserted into the established colonies in among the "normal" comb. The test colonies were thus exposed to only a few hundred of the small cells. Thus, only an isolated and non-contextual study was made over a short period of time, and not one of a total population established on small cell over a long period of time.

Which factors assist in helping a stabilized colony of small cell bees to keep mite damage below the impact threshold is unknown at this time. On the whole, it may be said that the increased vitality of the small cell colony makes this possible.

Fewer tracheal mites in small Bees

The tracheal mite Acarapis woodii was discovered in 1921. It is believed to be the same as "Isle of Wight Disease" that ravaged England starting in 1911 (*Editor's Note: Several studies have shown this not to be true, but the notion persists*). At this time, a large amount of Europe's bee population was artificially enlarged. A. Woodii is believed to have been a variant of other closely related bee mites A vagans, A. dorsalis, and A. externus. While these mites are relatively harmless and occupy the bee externally, A. woodii can enter the trachea and massively damage the bee. It seems reasonable that the tracheal openings of the larger bee have encouraged the development of this parasite. With the Lusby's a reduction to 5.08 mm cell size was sufficient to reach tracheal mite resistance.

Bee Size and Vigor

In 19th century bee literature there are few pointers to bee diseases. Most are limited to chapters dealing with wax moths, bee eating birds, and other problems. Some diseases such a s foul brood was known back then, but seems to have been far less damaging than in the 20th century. Reports of catastrophic epidemics have multiplied greatly since the first part of the 20th century.

Did this only occur due to our keeping the bees in reusable, movable frame boxes? Much speaks to the notion that bees before 1900 were more vigorous and healthier.

Colony Buildup and Honey Crop

All beekeepers that have converted successfully to small cell have reported a rapit buildup of colonies that they had not previously experienced.

This can be explained by the compact arrangement of the broodnest on small cell, making thermal regulation much easier, especially in the critical spring buildup where rapid temperature fluctuations occur. A Zander Frame (common European frame size) with cell size of 5.55 mm has about 6000 cells. With 4.9 mm foundation there are about 7700 cells. The brood of 4 large cell frames can find room on 3 small cell frames. On the same note, small cell bees should overwinter better as bees of a smaller size can form a more compact cluster.

The more rapid spring buildup is a positive factor in terms of honey return, especially for spring flows. In the summer, results are probably on par with large cell colonies, as these would have caught up by then.

Notice

Here it needs to be pointed out once more that this method is not a quick solution to the Varroa problem.

The theme of this article series is the regression of bees back to their more natural size. Smaller bees are more vigourous. On this basis it is easier to select for Varroa resistance.

Unfortunately regression of European honeybees with commercially available stock is difficult, as bees have been kept on enlarged foundation for many decades, and most (but not necessarily all) hereditary markers of the traditional size have been lost. The challlenges of converting to 4.9 mm foundation in practise is the focus of the third part of this series.

Bibliography

Message, D. and Gonçalves, L.S. (1995): Effect of the Size of Worker Brood Cells of Africanized Honey Bees on Infestation and Reproduction on the Ectoparasitic Mite Varroa jacobsoni Oud., Apiologie 26, p. 391-386.

Taylor, M (2002): Varroa destructor not thwarted by smaller sized cells. The New Zealand Beekeeper 10/2002.

Classified Ads

Tate's Honey Farm has all of your extracting and packaging needs. Queens available through September. Shop hours 8:30 to 2:00 every Saturday at E. 8900 Maringo, Millwood. Contact us at (509) 924-6669 or online www.tateshoneyfarm.com. Please return your empty package bee containers.

Beeboxes by Lee – Woodenware, standard and custom orders, IPM bottom boards, hive top feeders, etc, and select lumber – Lee Berchtold (208) 687-1300

Looking for used eight frame and Ross Round equipment – Frank Seiler (509) 991-3019

Millers Homestead
Jim & Jenine Miller Cheney WA (509) 299-9085 Providers of Natural honey, Cut comb, Creamed Honey, Custom honey extraction, Plastic containers. Now Available: Plastic widemouth jars 12 oz at 55¢ each and 24 oz at 65¢ each. Honey supers: 10 frame and painted $39.95 each FOB 14606 Stangland Rd., Cheney. Look at our web site for other products: www.millershomestead.com

Looking to purchase two colonies after the extracting season. Contact Kerry Griffith at (509) 782-1982 (Central Washington)

The Next IEBA Meeting

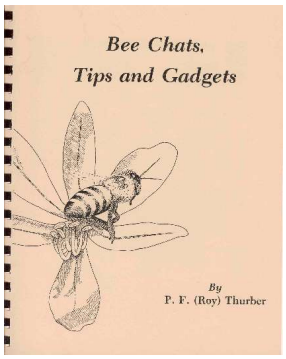
...is going to be held Thursday, September 9th at 7:00 pm. Be sure to come plenty early to register your entries for the Beekeeping Booth (and any other categories you may be participating in). Enjoy the fair and please volunteer some time to help out with our fantastic bee booth this year!

IEBA Calendar of Events 2004

September 9, 2004	IEBA Meeting at the Spokane County Fair Grounds Thursday 7:00 pm
September 10 – 19,2004	Spokane Interstate Fair

October 8, 2004	IEBA Meeting at WSU Extension Selection of hives for wintering Preparing hives for winter
October 14 – 16	WSBA State Convention in Spokane
November 14, 2004	Thanksgiving Catered Meal Guest Speaker: Jamie Strange WSU research
December 12, 2004	IEBA Meeting Pot Luck Christmas Dinner Election of Officers

Roy Thurber's Book Reprinted



Roy Thurber' book Bee Chats, Tips and Gadgets has been reprinted and is available for $25.00 plus shipping. Go online to http://www.wasba.org or you may call Bob Zahler (425) 778-4387 or Bob Stump (253) 265-2304 to order your copy.

Also, check out the great WSBA merchandise available now on the web.

From Your Beemail Editor Frank Seiler – seilerbees@att.net

For all those contributing, please remember the deadline for October' s Inland Beemail is Saturday, September 25th. I made an exception for this month' sedition as most departments missed the deadline, and many of you will find the *Inland Beemail* arriving late. I apologize for any inconvenience caused. We have again simplified the format to make it easier to download and print. Starting this month, you will also be able to view individual articles on the web site at www.inlandbeemail.com

For those of you that are new to beekeeping this year, please get together with your mentor (or find a mentor at the association meeting if you don' have one) and get help with preparing for overwintering your colonies. As mentioned in Bob Arnold's article, what you do now directly affects your success the following season. For those of you with an alternative streak (and that includes myself), you may not wish to use the harsh miticides that are generally used and proving to be less effective as tolerant strains of mites develop. **I am not advocating to not treat your colonies. YOU MUST HAVE A MITE MANAGEMENT SYSTEM FOR YOUR COLONIES TO SURVIVE.** I hope you are enjoying the continuing series on Small Cell Beekeeping, which is one of those alternative management strategies. You may have noticed Travis Sammons' small cell display hive at the bee meeting a few months ago and at the Idaho Fair (if you missed it, check the bees out at the Spokane County Fair). Feel free to ask questions. You can also learn more about small cell at the Organic Beekeepers web page at http://groups.yahoo.com/group/Organicbeekeepers/

And lastly, I would like to thank all of you who have kept me well supplied with information for the Beemail. Starting January, I would like to

take a half-step back from the publishing side of the newsletter and spend more of my time researching and writing material for it. So, those of you working towards your Journeyman or Master level beekeeping certification should consider the opportunity to take the helm of publishing the Beemail for a year. I assure you that not only will you help to build up the IEBA, you will also be enriched in your insight and learning of the art and science of beekeeping.

Impressum

The Inland Empire Beekeepers Association (IEBA) is a non-profit association of professional and hobbyist beekeepers interested in furthering their knowledge and kinship in the art and science of beekeeping. Generally, the association meets the 2nd Friday of each monthat the Spokane County WSU Extension office near the Spokane County Fairgrounds at 222 N Havana. The Association is affiliated with the Washington State Beekeepers Association (WSBA). IEBA membership is $5.00 for an individual or $10.00 for the entire family. This includes your receiving the Inland Beemail which is published for the benefits of the association and its friends on a monthly basis. It can also be downloaded for free at our web site http://www.inlandbeemail.com. Inquiries may be sent to the address below or to seilerbees@att.net. The Inland Beemail is composed on Open Office 1.1 on a Linux based operating system.

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