



AIA



Newsletter for members of
Apiary Inspectors of America

Attendance up at annual AIA Zoom conference

Despite best efforts, the Apiary Inspectors of America annual conference was held *via* Zoom instead of in person. Because of this option, attendance increased this year.

Pandemic threatens queen supply line

The annual conference began with **Shelly Hoover (CAPA)** discussing the need for Canadian beekeepers to consider rearing their own queens instead of depending on Hawaii and California for queens, totaling 213,943 in 2020.

The pandemic highlighted the vulnerability of commercial Canadian beekeepers when considering the availability of mated queens in the spring.

Stephen Stanko, former apiarist, Utah Department of Agriculture, has accepted a new position. He encouraged state apiarists to consider newer methods, such as PCR, for more accurate and timely disease identification.

Darcy Oishi, Hawaii Department of Agriculture, gave an overview of Hawaiian queen inspections and exports. Hawaii exported 83,827 queens to Canada in 2020.

Rinkevich AIA 2021 Researcher of Year

DR. FRANK RINKEVICH, research entomologist at the USDA ARS Lab in Baton Rouge, was named 2021 AIA Researcher of the Year during the virtual AIA meeting. Of particular interest to the AIA has been Dr. Rinkevich's effort to track *Varroa* mite resistance, especially with a particular control called amitraz. He is continuing to solicit samples; apiarists can contact him at frank.rinkevich@usda.gov.



Please identify this burned-up thing

As you know, the “murder hornet” appellation for the **Asian giant hornet (AGH)** has made apiary inspectors’ lives more insane in an already bonkers year. The AIA Planning Committee conducted a contest to find the funniest, weirdest, most inane picture submitted by a citizen.

Mary Reed won handily, with this picture of an insect’s charred remains. Someone sprayed it and then torched it to make sure it was dead, then sent it to Mary to identify.



The AGH theme continued in Wednesday’s session. A spokesperson for the Washington Department of Agriculture reviewed the basics of AGH biology, its need for protein, the possibility for slaughter events in the fall when the AGH females mate, and the possibility that no one may ever know how the AGH entered North America.

USDA entomologist **Frank Rinkevitch**, 2021 AIA Researcher of the Year, followed by discussing his efforts to track **Apivar (amitraz)** resistance, in an effort to keep the product viable for future beekeepers.

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Smile for the group photo!

Here are attendees of the AIA Zoom conference, tipping their caps and giving each other high-fives for surviving 2020.

Change in venue announced for EAS 2021 Conference

The Eastern Apicultural Society (EAS) is planning a safe, educational, and fun conference for 2021.

The three-day August conference, with the theme “**Bee Connected,**” will include master beekeeper testing and an apiary track among the five presentations scheduled daily.

The change in venue was made necessary after the University of Massachusetts shut down hosting of conferences. Thanks to **Dr. Leonard Davis** for offering the alternate arrangements.

The large Shepherdsville venue has sufficient room for social distancing. EAS is limiting the event to 300 participants in order to maintain social distancing in the main presentation hall.

At this time no EAS social events are planned other than an outdoor barbecue, awards, and auction on the evening of Friday, Aug.13. No honey show will be held.

Many nearby attractions include the Bernheim Arboretum & Research Forest (which should be lovely in August); the Jim Beam bourbon distillery; antique shops



EAS 2021 Conference August 11-13

**Paroquet Springs Conference Center
395 Paroquet Springs Drive
Shepherdsville, KY 40165**

and flea markets; Kart Kountry, the nation’s longest go-kart track; and several golf courses and driving ranges.

Masks indoors will be mandatory. If at all possible please get your COVID vaccination before attending, to promote safety at the event.

More information will be finalized soon. Registration will be open for all by early May. There will be no walk-in registrations.

Shepherdsville is 20 miles south of Louisville, Ky., along I-65, a major artery. Visit the Center’s website paroquetsprings.org for photos and information.

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Veto-Pharma's **Ulrike Marsky** gave a quick summation that beekeepers follow the label directions of Apivar.

Dr. Samuel Abban affirmed that the **USDA Beltsville lab is still closed** except for American foulbrood cases.

Rachel Fahey, University of Maryland, followed with a heartfelt appreciation for apiarists determined to get USDA samples submitted by the end of federal budget year 2019.

She detailed some of the measures that the **Bee Informed Team** made to accommodate the apiarists by having samples delivered directly to the lab employees' homes, and offered the option of sending "subsamples" if apiarists have freezer space at their own offices.

Museum tour, new officers

The final day of the conference, Thursday, Jan. 14, featured a virtual tour of the National Museum of Natural History. **Floyd Shockley** discussed some of the challenges in presenting the museum's treasures to the public during the pandemic. He also discussed his favorite specimens.



A bumble bee queen nests in a box at the University of Minnesota Bee Lab. The red lights are needed to allow researchers the ability to see the bumble colony without interfering with the queen's activities. The photo was taken through a Plexiglas window, which is why it is slightly blurred.

Photo by Tammy Horn Potter.

2021 officers are **Kim Skyrn**, president; **Natasha Garcia-Anderson**, vice president; **Mary Reed**, secretary; and **Keith Tignor**, treasurer.

This summary does not include all of the speakers, but the Conference committee is grateful for every speaker's contribution to this conference.

Committees report progress in Feb. follow-up

A follow-up Zoom business meeting for committee reports and assignments was held Feb. 17.

Committee reports

- The Membership committee decided regional directors will try to be more accountable using the different methods now in place (newsletters, social media, *etc.*).
- The Site committee is working on the next conference, set for Baton Rouge, Louisiana, **Nov. 30 - Dec. 4, 2021**, at the **Crown Plaza Hotel**. This event will be held in conjunction with the **American Honey Producers Association**.
- The Resolutions committee presented edited resolutions, and pending minor edits, their report was accepted.
- Communication committee chair **Mary Reed** summarized the committee's desire for a new "look" for the newsletter, and said the committee is making efforts to reach out to other industries such as veterinary associations.
- Standard Operating Procedures committee co-chair **Barbara Bloetscher** emphasized a need to consider standardizing some inspection protocols and forms, and making them available on the website.
- The Industry Organization committee will begin its efforts to share knowledge and build networks with COLOSS (international), AFB, HBHC, and other organizations.
- Educational Outreach committee chair **Adam Pacht** would like for the committee to consider an IPM manual and info cards, and integrate those resources with the website.
- Survey/Annual Health Data committee chair **Kim Skyrn** briefly discussed this committee's five goals with the association. The committee is beginning the process of examining what data will be considered, with the goal that the survey will be ready to distribute at the end of 2021.
- Regulatory/Veterinary committee co-chairs **Brandi Stanford** and **Darcy Oishi** would like to standardize the methods of identifying African honey bees.
- The IPM committee would like to address off-label treatments and initiate amitraz sampling.
- The Research and Diagnostic Lab committee would like to create an inventory of labs and make it available, and emphasize molecular techniques in addition to microscopy. A focus on African honey bee identification is also a priority.
- Social Media and IT communications chair **Mary Reed** has been exploring options such as using Google Groups instead of the listserv. **Natasha** has created an Instagram account for interesting, unique photos apiarists would like to share.
- The Nominating and Auditing committees had no news to report. The Pollinator committee had a meeting set for mid-February. The Awards committee and Nonprofit committees have not met yet.

AIA Zoom meetings 2021

Wednesdays, 2-4 p.m.

April 4 • June 9 • Aug. 18 • Oct. 13

New documentary: WSDA vs. the AGH

OLYMPIA – The **Washington State Department of Agriculture (WSDA)** project to find and trap the **Asian giant hornet (AGH)** is the subject of a documentary now available to stream on Discovery+, a subscription-based channel.

The 90-minute production, “Attack of the Murder Hornets,” was shot over six weeks last fall with beekeepers, researchers, and WSDA staff. By chance, filming began the day before WSDA entomologist **Chris Looney** caught the first live AGH in the U.S. The crew also documented WSDA as they found and eradicated an AGH nest.

The film credits extensive collaboration between government agencies and the public, including the widespread trapping work by members of the **Mt. Baker Beekeeper Association** and other citizen-scientists around the state.



“This film is an opportunity to educate people in an entertaining way about the work to prevent Asian giant hornets from establishing in the Pacific Northwest,” said **Sven Spichiger**, WSDA managing entomologist. “Viewers will see some great shots of these hornets.”

The film airs as WSDA’s Pest Program continues to evaluate results from last year’s giant hornet project and plan for the 2021 survey season, which will begin this summer.

Visit agr.wa.gov/hornets to stay informed about WSDA’s AGH efforts.

— Press release

Japanese festival makes AGHs a taste treat! (?)

People of the central Chubu region of Japan hold an annual **edible-wasp festival** featuring wasps, bees, and yes, AGHs.

AGH bodies are light and crunchy, and “leave a warming, tingling sensation when eaten,” according to an article in *The New York Times*.

AGH larvae steamed with rice is a dish called *hebo-gohan*. Chefs also skewer dead adult AGHs (stingers included!) and grill them over coals.

Live AGHs (and sometimes wasps) are also drowned in a clear distilled beverage called *shochu*. When the hornets drown, they release their venom into the liquid. It has to be aged so as not to hospitalize a drinker.

One journalist who tried the drink said it tasted “ashen, almost like sipping on charcoal.”



Festival competitors bag up their nests carefully as they prepare for the festival..

WSDA urges extreme caution near Asian giant hornets. If you find a colony, do not attempt to remove it, eradicate it, or cook with it. Report it to WSDA (or your state’s department of agriculture) immediately.

<https://scienceandtechblog.com/murder-hornet-munchies-the-horrifying-insect-makes-a-tasty-treat/>

State, province, and territory reports

ALBERTA's beekeeping industry is the largest in Canada, with over 300,000 colonies, Alberta's beekeepers contribute bees to pollination services for the production of hybrid seed canola in Alberta, and pollination of fruiting crops in British Columbia. Depending on location, a colony in Alberta can produce between 80 and 300 pounds of honey, with average overall honey production of around 120 pounds across the province. Over 50,000 colonies, not including used equipment, move between Canada's western provinces (British Columbia, Saskatchewan and Manitoba).

Samantha Muirhead

BRITISH COLUMBIA. Since one AGH nest was found on Vancouver Island in 2019, five sightings of hornets are reported in the lower mainland since 2019, including Whiterock and near Abbotsford. All these sightings were reported by the public, not found in traps. A summary of 2020 B.C. government hornet surveillance efforts: <https://news.gov.bc.ca/releases/2020AGRI0013-000517>.

Paul Kozak

DELAWARE. **Emily Wine** is chair of the **AIA Pollinator Committee**, which met for the first time Feb. 19 to discuss Managed Pollinator Protection Plans, electronic communication tools, updating the AIA website to include these plans, and electronic communication tools, such as Driftwatch. Also, standard operating procedures regarding protocols for alfalfa leafcutter and bumble bees were discussed. Paul Kozak distributed Canadian protocols to the group.

Tammy Horn Potter

GUAM. **Christopher Rosario** has been working for the Guam Department of Agriculture since 2013. When he started, there were only three registered beekeepers and a ton of feral colonies in the territory. Right now Guam has 36 registered beekeepers and the number keeps growing. He is hoping to collaborate more with us in the future and continue to build better beekeeping relationships.



Honey bees and almond blossoms.

Photo courtesy Project Apis m., copyright 2011.

Guam is unique in that they really do not have the pest presence as in the States. He has been participating in the National Honey Bee Survey for a few years and will hopefully continue to do so – as long as there is funding.

Alyssa Piccolomini

FLORIDA. The state had colder-than-average temperatures, so bees didn't fill out in some areas quite as much as beekeepers usually anticipate. Commercial beekeepers were very busy shipping their hives out to California for almond pollination during January and February, so our inspectors were very busy doing ant-free inspections.

Brandi Stanford

INDIANA. The extended cold weather will most likely lead to hive loss throughout the Midwest region. Once dead hives are opened this late winter/early spring, beekeepers should look for Varroa mites. Varroa mites and viruses are top of the list for death of hives. The severe drought and high temperatures last summer and fall may also have caused losses. This severe cold was the last straw.

Kathleen Prough

KENTUCKY does not require hive registration, but the state apiarist provided approximately 50 inspections (24 of those

involved with the Honey Bee Health Survey). The state apiarist also worked with the University of Kentucky (UK) entomologist Dr. Clare Rittschof to get a state-funded grant to develop a virology unit at the UK lab. The UK professor has been providing virus information to individual beekeepers. There were a few cases of European foulbrood detected in 2020 spring, but with the February 2021 winter storm lasting 11 days there have been few inspections in 2021.

Tammy Horn Potter

MAINE has 1,261 registered beekeepers, and approximately 46,000 migratory hives. There were no cases of AFB and very few cases of EFB in 2020. Jen sends a survey to beekeepers every year to capture losses and other issues – Jen is willing to share!

Jen Lund

MASSACHUSETTS. This Commonwealth has been in the process of expanding personnel to address hives in commercial cranberry bogs and apple orchards. In addition to his role as state apiarist, **Kim Skyrn** has coordinated an article, "Working with the State and Provincial Apiary Programs," to be included in the *Food and Animal Veterinary Clinical Notes*

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forthcoming manuscript. He has also expanded the breadth of AIA activities by creating zoom meetings, providing a platform for an online conference, and working closely with the board to smooth the bumps related to the Covid-19 pandemic. *Kim Skyrm*

MICHIGAN. Commercial beekeepers are implementing some indoor overwintering practices, but many are still moving bees south or directly to California for almonds. There were some losses this past fall, likely due to a combination of mites and viruses. *Mike Hansen*



Missouri's new coordinator Sam Polly grew this award-winning radish.

MISSOURI. Samuel Polly began serving Missouri as the Pesticide Safety Education Program Coordinator in 2021. With a B.S. in Soil Science and an M.S. in Agricultural Education, both from Cal Poly San Luis Obispo, he gained diverse pesticide experience as a commercial applicator in the San Francisco Bay area.

Over the past 13 years, he has worked as an expert witness in Clean Water Act lawsuits and California agency water quality Notice of Violation projects, along with a "highlight project" as the restoration agronomist on the world's most successful nuclear power plant de-commissioning project at the Humboldt Bay Power Plant.

With a family background in avocados, citrus, apples, and blueberries, Polly knows the importance of safe pesticide application to our pollinator communities. *Samuel Polly*



Beekeepers relocate hives to California almond groves, a peak activity over the winter months.

Photo courtesy Project Apis m., copyright 2020.

MONTANA. All things on the beekeeping front in Montana are pretty quiet. Ninety-seven percent of beekeepers in Montana (about 240,000 colonies) are in California pollinating almonds, and will soon be making their way to other states for pollination services in other crops before they return to Montana in May. Several hobbyist beekeepers are beginning to check their hives after this last cold snap, and few are finding they lost colonies. For the most part, any hive deaths seem to be from ventilation issues or high mite number spillover from the fall. Right now, I'm focusing on re-registrations of all apiaries in Montana, and presenting to hobbyist beekeeping groups via Zoom across the state.

Alyssa Piccolomini

NEW HAMPSHIRE has 596 registered beekeepers. Registration and inspections are not required. In 11 inspections in 2020, the inspector reported the prevalence and persistence of EFB.

Dave Priebe

NEW YORK has three seasonal inspectors. In 2020, the inspectors were able to provide inspections to 9,809 hives, although registration is not required. There are an estimated 5,000 beekeepers in the state. In terms of diseases, there were 139 cases of AFB, and the inspectors checked all operations within two miles of infected yards. *Joan Mahoney*

NORTH CAROLINA continues to take pride in its decontamination unit (ETP), first manufactured in the 1950s, which has the singular honor of sterilizing rocks brought back from the moon as well as bee equipment. Beekeepers pay a small fee to cover the supplies of operating the unit, but the ETP serves beekeepers well.

The inspector also provided a short 125-slide presentation to beekeepers,

demonstrating among other things Brownian movement of AFB spores, and also contributed an article to *Food and Animal Veterinary Clinical Notes* (forthcoming). *Don Hopkins*



North Carolina's decontamination unit.

OHIO. The Apiary Section at the Ohio Department of Agriculture is receiving registration renewals for the current year. Many of the County Apiary Inspectors have been appointed as well. Based on the calls received, we are bracing for a high colony loss, partly due to a month of cold temperatures as well as insufficient Varroa mite control in 2020. Post-mortem inspections will tell part of the story. *Barbara Bloetscher*

ONTARIO. Overwinter bee mortality for 2019-2020 for commercial beekeepers in Ontario was 19.1 percent, due to poor queens, weak colonies in the fall, and weather, according to a management survey. In the same survey, all but 8 percent of the commercial beekeepers were monitoring Varroa levels, while 31 percent of small-scale beekeepers were not monitoring for Varroa. The apiary

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inspection program conducted 578 inspections over the 2020 beekeeping season with low brood disease prevalence of inspections at 0.57 percent for AFB and 0.76 percent for EFB. *Paul Kozak*

SASKATCHEWAN has a commercially-driven beekeeping industry with over 100,000 colonies in the province. With over 90 percent of all colonies part of 120 commercial operations, honey production provides primary income for the province's beekeepers. Less than two percent of the province's colonies are rented for pollination services every year: This effectively makes bee colonies stationary through the year. Between the benefits of intensive management and the vast canola and alfalfa/clover fields, Saskatchewan beekeepers annually produce among the largest crops of honey in North America. *Geoff Wilson*

TENNESSEE beekeepers report heavy losses after the Feb. 15-19 ice storm and cold temperatures. Most losses appear to be starvation due to colonies not having enough workers to be able to cover the brood and get to the honey stored inches away. Beekeepers had started feeding 1-to-1 syrup and pollen substitute to build their colonies up for spring, but the week-long cold snap was too long for the bees to survive with that much brood. *Mike Studer*

TEXAS. In February, Texas experienced an extreme weather event not seen in decades. Temperatures across the state reached below-freezing levels for almost a week, causing power outages and water accessibility issues. Texas agricultural industries have been greatly impacted by this weather, primarily crop damage and loss, as well as power losses that affected dairy production and storage.

Fortunately, beekeepers experienced few to no damages. Some beekeepers did lose hives and nucs; however, many beekeepers had built up hive stores, and worker populations were strong enough to help the bees make it through the week.

Apiary Inspection Service hired an additional inspector in March 2020, making four inspectors for the entire

Don't see your state, province, or territory? We want to know what you're doing. Send Tammy Potter a paragraph of your news, and a photo if you have one, for our next issue.

state, before the office shut down for the COVID-19 pandemic. Fortunately inspections continued with added safety precautions for inspectors and beekeepers. During 2020, 293 inspections were conducted and 516,593 hives were certified by these inspections.

Several cases of European Foulbrood (EFB) were detected during the spring inspection season. A few EFB cases were also detected in the fall, atypical for Texas.

In addition to inspections, TAIS worked to develop an online database of beekeepers, permits, and inspection records. In combination with the database, an online payment system has also been developed for launch in the near future so beekeepers can apply and pay for their permits online. *Mary Reed*

UTAH, the Beehive State, has 1,643 registered beekeepers (mandatory). In 2020, the state had 22 cases of American foulbrood (AFB), and 39 cases of EFB. The state now offers lab analyses for AFB and EFB samples. It also issued a Varroa monitoring postcard to educate and encourage beekeepers to sample and treat.

Eight beekeepers have requested dead-out inspection services in 2021, a much higher request rate than previous years. None of the hives inspected so far have been found diseased; however, nearly all hives that perished have exhibited signs of excessive Varroa mite infestation (numerous mites on bees and/or signs of parasitic mite syndrome).

The program has also been busy with outreach, giving two presentations in February; and the Apiary Program has also been producing pollinator protection plans for Utah's upcoming Japanese beetle eradication efforts in April. *Joey Caputo*

VERMONT. In July 2020, new legislation makes the word "local" synonymous with "Vermont" when used in labeling an agricultural product, including honey. This change means beekeepers are evaluating labels for compliance.

Some Vermont beekeepers operate their business across state lines. Others blend their Vermont honey with out-of-state sources. Even if some labels are currently in compliance with the new law, some stores are labeling their shelves with "local" tags because the business is based in Vermont, even if the honey is not. Education efforts are under way to assist beekeepers and retail markets for compliance. A study of adulteration is also under way to determine purity of retail honey in Vermont, regardless of label compliance. *Brooke Decker*

WASHINGTON, D.C. The bees of D.C. are generally healthy. We have not had any AFB and only one known case of EFB. Varroa mites and small hive beetles continue to be the most common problems. We have created an Instagram account inspectors may use to post pictures. *Natasha Garcia-Andersen*

WASHINGTON STATE. The apiary program is limited to hive registrations. However, as of 2019, WSDA has a Pollinator Program. I am running that and the state pollinator health task force, who made recommendations to the legislature last November. Legislation is pending to implement many of those recommendations. (*Link: <https://app.leg.wa.gov/billsummary?BillNumber=5253&Year=2021&Initiative=false> [app.leg.wa.gov]*)

Since the Asian Giant Hornet (AGH) nest was found, no further AGH have been caught at this time. The WSDA Pest Program recently released a behind the scenes video about the trapping effort: <https://www.youtube.com/watch?v=7j1VeCrUoHQ&feature=youtu.be> [youtube.com]. *Alyssa Piccolomini, for Katie Buckley*

The wonder of *lutefisk*

*Marries the best of fish and Jell-O;
as much fun to eat as it is to pronounce*

By **Adam J. Pacht**

North Dakota State Apiarist

Honorary Chairman, National Lutefisk Promotion Council

AUTHOR'S NOTE: *My family hasn't done lutefisk (LOOT-eh-fisk) in quite a few years. In North Dakota it is mainly popular with people of Norwegian heritage, and most of my Norwegian family that liked it are no longer around. Oddly enough, my German dad always liked the stuff. I never acquired a taste for it.*

If you ever come to North Dakota, I promise we will NOT serve this, unless you specifically request it.

History and preparation

Lutefisk is usually made of cod, although a few other species of whitefish are used. Traditionally the fish is air-dried to preserve it for long boat rides, which is where the tradition started in America. It took off here with Scandinavians in landlocked areas like North Dakota and Minnesota, where winter fishing is difficult.

To reconstitute the fish, they soak it in cold water for almost a week, with the water changed daily. After that it is soaked in a solution of water and lye for a couple days, then rinsed again in cold water for close to another week. Apparently you really have to commit to wanting lutefisk.

Grocery stores or butcher shops in the region carry ready-to-cook lutefisk, especially around the holidays. I remember this coming in a sealed plastic bag in smaller quantities, and buckets in larger quantities.

Cooking

It can be cooked a few ways, and I remember my grandparents doing each of them, but I don't know if one was any better than the others.

- The fastest is to microwave it for 8-10 minutes, which you would do if you want a reason to buy a new microwave.
- It can be boiled in water, but you need to be careful so it doesn't fall apart doing it this way.
- It can also be put in a pan with a lid and steamed with the liquid content already there. My grandparents usually put a little water at the bottom of the pan when doing that.
- It can also be wrapped in foil and baked for 20 minutes.

Either way the result is the same: fishy Jell-O.



"Two dried cod fillets hang in the rafters of my family farm basement. They always make for a fun game of 'guess what this is.' My mom says they have been there as long as she can remember (the house was built in the late 1960s or early 1970s), and supposedly if you followed these preparation steps it would still be edible, but none of us are going to try that."

Serving and eating this delicacy

In Minnesota they have a lot more Swedish and Finnish heritage, and friends from there have told me they often eat it with a seasoned cream sauce. In North Dakota it is almost always served with melted butter, salt, and pepper. I have very distinct memories of Christmas dinner where each setting had a little thing with butter in it and a candle underneath to keep it melted and warm.

The flavor itself isn't the worst thing to me, but I am not a picky eater. To me the flavor combined with the texture is what I can't get past, and no amount of melted butter has been able to help me.

Traditions

As with a lot of foods of this nature, each family has its own traditions. Our tradition was basically just to serve it at holidays. We would still prepare the traditional holiday foods, and lutefisk would be just another option.

Most families always have it with *lefse* (*LEF-sah*), which is sort of a tortilla made with potatoes instead of corn, usually with butter and sugar spread on it and then rolled up. I prefer chokecherry jelly, but either way this stuff is delicious. We add some sort of potatoes (always fried potato dumplings with sauerkraut and brown gravy, still one of my favorites to this day), and some sort of vegetable.

A lot of small-town churches still do a lutefisk feed once a year as a fundraiser or community event. I believe there are usually meatballs there for people who don't want lutefisk, *lefse*, and some sort of vegetable, but I never attend, so I'm not 100 percent sure. *Bon appétit!*

Further world cuisine delight

Hawaii State Apiarist **Darcy Oishi** has promised **Spam Musubi** for anyone attending the December AIA meeting in Baton Rouge.