OMRI Materials REVIEW

News and Information for the Organic Community

Fall 2019

IN THIS ISSUE

Pesticides and Cannabis

States Take the Lead in Crafting Formal Regulations

By Matt Sircely

As with any crop, the cultivation of cannabis comes with a host of challenges. Faced with mites and molds, some growers turn to toxic chemicals, including those prohibited by cannabis regulations. Test results in the U.S. and Canada have revealed contamination of retail cannabis, including by pesticides intended for use in conventional agriculture and ornamentals. There is also concern about contaminants like heavy metals and mycotoxins, as well as residues from pesticides and ingredients which states often approve for cannabis cultivation.

States continue to refine their own rules around recreational cannabis.

In Canada, where recreational cannabis was recently legalized nationwide, the Pest Management Regulatory Agency (PMRA) maintains an online "Pesticide Label Search," which includes products authorized for use in cannabis cultivation (a total of 28 products at the time of publication). Although the 2018 United States Farm Bill allows states to regulate low-THC crops such as industrial hemp, recreational cannabis production remains illegal at the federal level in the U.S. In the absence of federal guidance, states continue to refine their own rules around recreational cannabis, deciding which pesticides should be allowed, and how much pesticide residue should trigger testing failures and product recalls. State regulators must also consider the health effects of combustion and direct inhalation. California and Washington in particular are actively

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2019 *OMRI Generic Materials List*

What You Need to Know

By Phoebe Judge

OMRI recently completed a periodic re-review of the *OMRI Generic Materials List*© and *OMRI Standards Manual*© for review to the USDA National Organic Program (NOP) regulations, and these updates are now available online at OMRI.org. The 2019 revisions reflect updates to the National List, clarification of definitions, reorganization of categories, and other updates as highlighted below. These changes may include input from public comments and technical review, and are approved by the OMRI Board of Directors. While OMRI makes occasional changes to its standards and policies in response to updates from the NOP, this periodic re-review is a more comprehensive

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Safeguarding with Organics

By Peggy Miars

I recently celebrated my 60th birthday, which got me thinking about the future — my future, the future of OMRI and the organic sector, and the future of our delicate planet.

Despite some naysayers' claims, climate change is real. I've witnessed it in my own lifetime. I grew up in Michigan, where we typically had snow on the ground from November through March. These days it's not unusual to experience Christmas in Michigan without snow! In the nine short years that I've lived in Oregon, I've seen a dramatic increase in the region's summer wildfires.

The facts are clear that organic agriculture offers solutions to today's pressing environmental challenges, including climate change, water pollution, antibiotic resistance, soil degradation and loss of biodiversity. Scientists at The Organic Center have conducted extensive research and analyzed existing research to provide facts about the benefits of organic. Those benefits include…

Improved Water Quality and Safe Drinking Water

On average, nonorganic farmers apply between two and 12 synthetic pesticides to their crops. The more chemicals applied per acre, the greater the threat to water quality. The Dead Zone in the Gulf of Mexico is the most graphic example of the enormous harm caused by farm chemicals flowing off of millions of acres and congregating in the mighty Mississippi River.

Protecting Biodiversity in Rural Landscapes

Organic farmers not only encourage biodiversity, they depend on it — both above and below the ground. Experienced organic farmers have learned over many decades that crop rotation and its resulting biodiversity promote soil health and more fully utilize rainfall and sunlight.

Maintaining Healthy Soil

Hundreds of studies conducted over the past 50 years have compared soil quality on organic versus nearby nonorganic farms, and virtually all research analysts have concluded that organic management practices — including crop rotation — substantially enhance soil quality, restore nitrogen and organic components, and sequester carbon to help combat climate change.

Supporting Pollinators

Commercial beekeepers now lose an average of 30% of their colonies each winter. One of the major contributors to bee deaths is exposure to pesticides. Organic farms provide more diverse habitat and food sources for pollinators, driving diversity by supporting over 50% more pollinator species than their non-organic counterparts. This is critical, as bees pollinate more than one-third of the world's plants, including 90 different food crops.

It's heartening to see young people choosing to farm organically. We need to support their efforts by providing education and enabling them to gain access to land. We also need to support young organic shoppers as they seek out healthier alternatives for their families. As my generation heads toward our "golden years," we should share our knowledge with those who come after us. There are so many learning opportunities available: World Wide Opportunities on Organic Farms (WWOOF), Organic Leadership Courses from IFOAM – Organics International, eOrganic online learning, and the National Organic Program (NOP) Organic Integrity Learning Center, to name a few. Individually, we can achieve good things; together we can have a lasting and positive impact on the planet!

OMRI

OMRI's Mission is to support the growth and trust of the global organic community through expert, independent and transparent verification of input materials, and through education and technical assistance.

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developing cannabis standards to mirror National Organic Program (NOP) regulations.

State cannabis regulators employ a variety of quality assurance tools, whether a product is ingestible, topical or inhalable. EPA "tolerances" dictate the maximum pesticide residue that can legally remain on food crops. Generally, state cannabis production rules only allow active ingredients in pesticides that are exempt by the EPA from requiring a tolerance (meaning the substance was determined to be "safe" on food by the EPA). Some state regulators mandate testing of cannabis products, and others currently only test random and complaint-based samples. Additionally, some states maintain specific lists of allowed brand name inputs, while other states only specify generic active ingredients that are allowed. When determining specific testing protocols or tolerance levels, states consider EPA tolerance levels for food, as well as factors—such as pesticide drift from neighboring farms and residual contamination in soils.

Tolerance levels vary between the individual states and Canada, as exemplified by the various approaches to piperonyl butoxide (PBO), a synergistic agent often blended with other pesticides to increase efficacy. PBO can appear in cannabis production as an ingredient in products like pyrethrins, a common type of insecticide derived from chrysanthemum flowers. While prohibited in organic cultivation, PBO is allowed for cannabis production in most states and is exempt from EPA tolerance requirements for food crops. California sets its PBO action level for inhalable cannabis goods lower than for other cannabis goods. With a slightly lower threshold of two parts per million of allowance, the Washington State Department of Agriculture (WSDA) notes that its limit also applies to marijuana concentrates, which can have intensified accumulations of contaminants. The Oregon Department of Agriculture (ODA) Guide List for Pesticides and Cannabis notes, "Recent lab results show high levels of the active ingredients pyrethrins and/or piperonyl butoxide in some cannabis samples[…] ODA is investigating why some samples indicate levels of one or both of these pesticides, which far exceed the Oregon Health Authority (OHA) Action Levels, and yet others do not." Currently, Massachusetts does not approve any pesticides for recreational cannabis production. None of the products authorized for use in Canada contain PBO, and according to the Health Canada website[1], the tolerance level is at the parts-per-billion level for living plants, while the threshold for dried cannabis remains under development.

Efforts to create more formal, organic-type standards for cannabis cultivation and processing are well underway in California and Washington State.

Local jurisdictions and private entities in the U.S. have responded to gaps in regulation. In 2015, Denver experienced a series of recalls of products tainted with prohibited pesticides, including bifenthrin and myclobutanil (a fungicide that releases hydrogen cyanide when heated). The Denver Department of Health and Environment now performs regular inspections to investigate "the possibility of pesticide contamination." In Washington State, a Seattle retail chain initiated an independent testing program in 2018. Now offered as a service to regional retailers, OK Cannabis randomly selects from participating stores' product lines each month for testing, often exposing an alarming failure rate.

Independent certifications serve clients in several states, such as Clean Green Certified, which emphasizes non-toxic pest control and environmental sustainability. Clean Green certification fees cover compliance consultations, cultivation and input selection advice, on-site inspections, and residue testing. In addition, some recreational cannabis growers in Washington have attained medical-grade Department of Health (DOH) certification as a way to distinguish their cultivation practices. Medical patients are considered more sensitive to contaminants, and DOH works with labs to maintain strict protocols for certified cannabis, including testing for heavy metals and mycotoxins, and pesticide residues. The costs of certification can be prohibitive, particularly for small growers, and label claims of "pesticide-free" are common. Other labels list specific herbal treatments like neem, rosemary, thyme, garlic or peppermint.

"Very little literature is available on cannabis testing," says Mike Firman, Program Manager at the WSDA Chemical and Hop Laboratory in Yakima, which performs testing for Washington's cannabis authority. New at the lab is a cryo mill, which "freezes cannabis with liquid nitrogen and then shatters the sample with a metal sphere. It is able to reduce sticky cannabis to a very fine powder," Firman explains. "WSDA has been testing pesticides for many years. The new laboratory equipment allowed us to improve our capacity. The increased sensitivity allowed us to detect pesticides at lower concentrations."

WSDA's lab currently screens cannabis for more than 200 pesticides and herbicides. "Cannabis is a difficult matrix to test," Firman explains, with "many components that are close in size to the pesticide molecules we want to test. Some of them, such as THC, can be more than 10% of the sample. Large interferences can result. We want to be able to detect pesticides at the parts-per-billion level. Highly selective instruments are used to detect pesticides at low levels, in spite of the interferences."

Meanwhile, efforts to create formal organic-type standards for cannabis cultivation and processing are well underway in California and Washington State.

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Nonorganic Agricultural Ingredients

By John Botti

What review standards are used to determine the compliance of nonorganic agricultural ingredients used in products marketed as "organic" and "made with organic"?

Under the USDA's National Organic Program (NOP) regulations, products for human consumption may be marketed at three levels of certification: "100% organic," "organic," and "made with organic (specified ingredients or food group(s))." Products labeled and sold as 100% organic must consist entirely of organically produced agricultural ingredients, excluding water and salt. The composition requirements and subsequent compliance criteria used for the other two certification levels are discussed below.

Section 205.270(b) of the NOP regulation "Organic handling requirements" states, "Nonagricultural substances allowed under §205.605 and nonorganically produced agricultural products allowed under §205.606 may be used:

(1) In or on a processed agricultural product intended to be sold, labeled, or represented as 'organic,' pursuant to §205.301(b), if not commercially available in organic form.

(2) In or on a processed agricultural product intended to be sold, labeled, or represented as 'made with organic (specified ingredients or food group(s)),' pursuant to §205.301(c)."

It is therefore important to evaluate which substances are and are not agricultural in these products. The final composition of the product determines whether it can be marketed as "organic" or "made with organic." OMRI uses the NOP Guidance 5033-2 decision tree for determining whether a substance would be classified as agricultural or nonagricultural.

Products labeled as "organic" may consist of up to 5% ingredients from the lists at §205.605 (nonagricultural) and §205.606 (agricultural). The same is true for products that are certified and

Common Treatments

By Phoebe Judge

What are common ketosis and milk fever treatments?

Milk fever and ketosis are two common yet life-threatening disorders affecting cows, goats and sheep. A speedy remedy is often all that stands between an animal's death and its return to a productive life. Organic producers have struggled to treat these illnesses in accordance with National Organic Program (NOP) regulations, and are always looking for new allowed treatments. In December 2018, the NOP amended the National List at §205.603 to include new tools to address these illnesses for instances when preventive practices identified at §205.238(a) are insufficient.

To treat milk fever, the NOP added calcium borogluconate (CAS #5743-34-0) (§205.603(a)(7)) and calcium propionate (CAS #4075-81-4) (§205.603(a)(8)). These two materials are common sources of calcium in CMPK (calcium-magnesium-phosphorous-potassium) tubes and other oral or intravenous milk fever treatments. Previously, some certifiers allowed the use of these calcium supplements under the §205.603(a)(11) allowance for electrolytes, due to their inclusion in a 2015 NOP Technical Report. However, these two electrolytes are now explicitly listed as treatments for milk fever only.

The addition of propylene glycol (CAS

labeled as "made with organic (specified ingredients or food group(s))" up to a 30% limit. However, that 30% product makeup may include nonorganic agricultural ingredients other than those listed at §205.606. Although such ingredients are not required to be organically produced, they are subject to certain other compliance criteria that require review. Whether such ingredients are agricultural or nonagricultural, they are subject to paragraphs (f)(1), (2), and (3) of §205.301, which prohibit the use of excluded methods (defined at §205.2 as genetic modification, ionizing radiation and sewage sludge).

OMRI classifies non-organically

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Milk fever and ketosis are two common, treatable ailments affecting organic dairy operations.

#57-55-6) (205.603 (a)(27)), exclusively for the treatment of ketosis in ruminants, comes as a relief to many producers and veterinarians. There are a number of widely available treatments for these disorders related to freshening, if preventive measures are inadequate. Ketosis can also be treated with other sources of high-glucose content materials, such as glucose, molasses, sugars and nonsynthetic glycerin. While low-grade cases of milk

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Mushroom Substrate

By Peter Bungum

Is conventional spent mushroom substrate allowed as a compost feedstock?

For every pound of mushrooms harvested in the United States, about five pounds of spent mushroom substrate (SMS) is created.[1] SMS itself is valued as an agricultural input, providing both organic matter and substantial quantities of nutrients. Is this input allowed either directly, or as a compost feedstock, similar to other conventional agricultural wastes?

The simple answer is, not necessarily. Special attention must be paid to the feedstocks when reviewing SMS as an input for certified organic operations.

Feedstocks for mushroom substrates are often agricultural waste products themselves, such as straw, hay, cottonseed meal, bedding, manure, corn cobs, brewer's grain, various types of hulls, sawdust and wood chips. Mushroom producers may also apply insecticides, fungicides, urea, gypsum, lime and other ingredients during production. While OMRI does not typically review inputs applied pre-harvest to agricultural waste ingredients (such as fertilizers used to grow soybeans, whose hulls are used as a crop input), SMS is evaluated differently for compliance.

For every pound of mushrooms harvested in the United States, about five pounds of spent mushroom substrate (SMS) is created.

The annotation for *Mushroom Compost and Spent Mushroom Substrate* in the National Organic Program (NOP) Guidance 5034-1 *Materials for Organic Crop Production* states that the material "must be derived from allowed materials." In Guidance NOP 5034-3 *Response to Comments, Materials for Organic Crop Production,* the NOP clarifies that urea and other synthetic materials not present on the National List are not allowed in the spent mushroom substrate if the spent substrate will be used as a crop input, even if those synthetics are consumed by the mushrooms during production. Therefore, unlike other crop wastes used as inputs on certified organic operations, review of SMS requires an evaluation of the inputs used for mushroom production. Additionally, SMS produced with raw animal manure must either be composted (before or after mushroom production), or its use will be restricted per §205.203(c)(1).

Based on the NOP clarification, OMRI has prohibited crop input products

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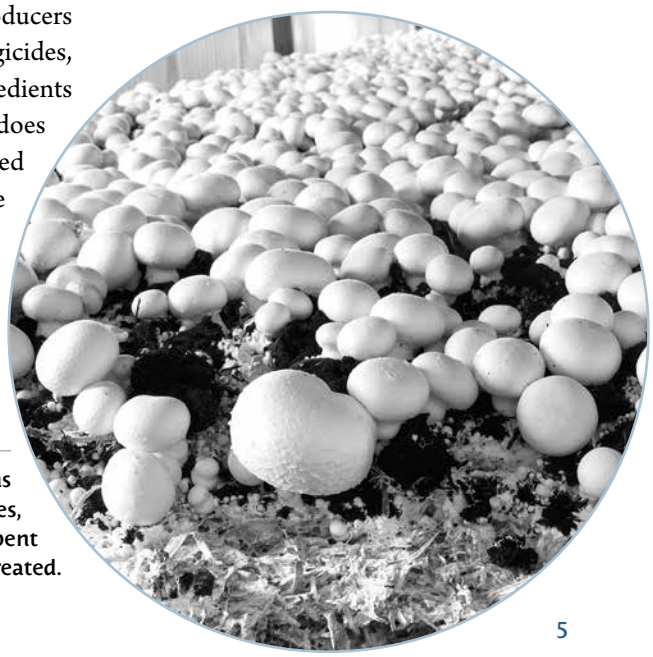

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Proposed rules will be available for public review and comment in both states as early as next year. The CalCannabis Cultivation Licensing Division within the California Department of Food and Agriculture (CDFA) convened a working group this year to assist with development of the OCal Program. According to Rebecca Forée, Communications Manager for CalCannabis, "California's comparable-to-organic cannabis program will begin on January 1, 2021, and applicants will be required to hold an active state cannabis license."

The WSDA had hoped to produce draft regulations this year for a new state-licensed cannabis program. "We've just had some delays in getting to that stage," says Hector Castro, WSDA Communications Director. Accredited as a certifying agent by the NOP, the WSDA Organic Program maintains a list of organic inputs and has been leading the development of the forthcoming Certified Cannabis standard. "We had our organic certification program before the federal one was created, so the agency has had an interest in supporting organic agriculture for many years," he adds. "There does seem to be a high level of interest in the Certified Cannabis program. There is confidence that the program will be self-sustaining once it gets off the ground."

While regulation of pest control for cannabis is evolving, decisions made by cannabis retailers and distributors can influence the pest management strategies used by growers. Valentine Lucas, Purchasing Manager at Chimacum Cannabis on Washington's Olympic Peninsula, strives to make careful choices. "My preference is biologicals only: macroscopic insects and nematodes, predatory fungus and predatory bacteria," he says. "Do it all with bugs and living organisms. That's how nature does it. It works great, and it results in plants that aren't full of pesticide residue." Lucas pauses, then adds: "It gets worse with concentrates. Confidence Analytics [a Redmond, WA, cannabis testing laboratory] assumes that you concentrate pesticide residues ten times when you turn it into oil."

Without complete verification of inputs, Lucas relies on personal trust with his suppliers. "I would love to have a budget that would allow us to Q.A. stuff like [large stores] do." He avoids "PBO for sure, the pyrethrins whenever possible. It's a little difficult to find producers who aren't using them, but they're out there." Lucas envisions one day providing a selection of cannabis which is "entirely free of synthetic pesticides. We are getting close."

1 www.canada.ca/en/public-health/services/publications/drugs-health-products/cannabis-testing-pesticide-list-limits.html

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produced with SMS when non-National List synthetic ingredients were applied during mushroom production (including those that are further composted), including: urea, fly-control insecticides, fungicides, lime and formaldehyde.

OMRI lists organic compliant crop input products made with SMS in the following Crop Fertilizers and Soil Amendments (CF) categories: *Mushroom Media Waste; Mushroom Media Waste, with manure; and Compost, mushroom media waste.* Organic producers should check with their certifier before using a new SMS product.

1 Phan, C.-W., & Sabaratnam, V. (2012). Potential uses of spent mushroom substrate and its associated lignocellulosic enzymes. *Applied Microbiology and Biotechnology*, Vol. 96, 863–873.

Certified producers who are interested in using a new material should always check with their certifier first.

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produced agricultural materials used within the Processing and Handling scope as Processing Agricultural Ingredients and Processing Aids (PA). OMRI has created categories specific to the identity of many such substances. For instance, OMRI has a specific category for each of the materials on the National List of Allowed and Prohibited Substances at §205.606, such as tragacanth gum and fructooligosaccharides. Products listed in this class are reviewed to ensure that the "big three" excluded methods mentioned above were not used to produce the ingredient(s). OMRI would also review the manufacturing process and handling of the material, to verify that it does not contain any additives that would not be allowed. Organic producers, processors and handlers should always check with their certifier before using any new substances.

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fever may be treated orally with calcium tablets or CMPK tubes, it is common to treat milk fever with a calcium solution delivered subcutaneously or intravenously. These calcium fluids (typically referred to as "Calcium Gluconate 23%") are usually composed of calcium gluconate, with or without boric acid as a stabilizer.

Of course, there are also ways of managing milk fever and ketosis through prevention. Producers can provide consistent rations of high-quality forage, and avoid overconditioning and overfeeding animals while they are dry. However, even good management of animals will not prevent all cases of ketosis or milk fever; some estimates are that ketosis rates may exceed 12% in dairy herds, and rates of milk fever are often higher. Thus, these newly approved tools to treat ketosis and milk fever are significant additions to organic livestock production. Organic livestock producers should check with their certifier before using inputs for livestock healthcare.

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project designed to improve consistency, and to address specific issues derived from both external and internal feedback. OMRI strives to make these edits transparent, accurate and consistent with the NOP regulations.

The most significant updates affect three crop input materials: hydroponic growing media, rehydrated processed manure, and high ammoniacal nitrogen liquid fertilizers. OMRI created two new categories: Hydroponic Growing Media (CF) (Allowed) and Hydroponic Growing Media (CF) (Prohibited), confirming that hydroponic growing media are within OMRI's review scope and certifiers must verify compliance as part of the operator's organic system plan. The Allowed category for these materials includes the annotation, "Must be composed entirely of allowed nonsynthetic materials, or synthetic materials found on the National List for use as plant or soil amendments. See also TRANSPLANT/CONTAINER MEDIA." Prohibited growing media are any materials containing synthetic ingredients not listed at §205.601 for plant or soil amendments, or prohibited nonsynthetic materials. The addition of these two categories reflects the understanding from the NOP that synthetic growing media are prohibited in organic hydroponic production.

Another significant change to the standards is the inclusion of a new category, *Manure, processed, rehydrated* (CF) (Allowed). This unrestricted category clarifies that processed manure that has been rehydrated is allowed both as an independent input and also as an ingredient, provided the processed manure meets the requirements from Guidance 5006. The source manure must be heated to 150°F (66°C) for at least one hour or 165°F (74°C), dried to a maximum moisture level of 12% (or an equivalent heating and drying process), and must not contain more than $1x10^3$ (1,000) MPN fecal coliform per gram, and must not contain more than 3 MPN Salmonella per 4 grams of processed manure sample. If the processed manure meets the standards in Guidance 5006, and then that manure is rehydrated or added to a blended fertilizer with a higher moisture content, it may be considered an unrestricted input material.

Thirdly, there is a new category for fertilizers with an elevated content of highly soluble nonsynthetic nitrogen, namely ammoniacal nitrogen. This new category, *Fertilizers, with high ammoniacal nitrogen* (CF) (Allowed with Restrictions), is for nonsynthetic fertilizers that have ammoniacal nitrogen above 3%. The restriction for this category focuses on the concern over potential water and soil contamination resulting from the application of highly soluble nitrogen, and OMRI's annotation specifically refers to the soil fertility and nutrient management standards at §205.203. Based on these changes, OMRI has begun limited re-reviews for products flagged as high nitrogen liquid fertilizers (HNLFs). In addition, OMRI has added information to the Standards Manual regarding the inspection of high nitrogen liquid fertilizers in accordance with Guidance 5012.

Products impacted by modifications to the OMRI standards will undergo a limited re-review process.

There are also a number of smaller changes in the update that will impact the way that OMRI conducts reviews. These changes include an updated definition of humates, to clarify that they must be sourced from leonardite, lignite or coal. This change will also yield limited re-reviews for these materials, if derived from other nonsynthetic sources. The change makes OMRI's definition of humates consistent with the NOP's Guidance 5034-1. Next, sodium nitrate will now have the same restriction as other highly soluble nitrogen products, making the restrictions across similar categories more consistent; these changes will also result in limited re-reviews, and products in this category will receive an updated certificate with the new restriction. In addition, OMRI reorganized the horticultural oils categories to better reflect the names of these materials on the National List, allowing consolidation of the information under *Oils, horticultural.* Finally, OMRI implemented changes to reflect the updates to the National List in May 2019. The NOP updates included both additions and removals from the National List, and the new *OMRI Generic Materials List* reflects these modifications.

Products impacted by modifications to the OMRI standards will undergo a limited re-review process, and OMRI's website will reflect any changes to listing status, including any new or revised restrictions. The OMRI standards are regularly updated in response to changes to the NOP regulations and the NOP Program Handbook, and public participation is an essential part of the process. Suggested revisions to the *OMRI Generic Materials List* or *OMRI Standards Manual* may be submitted at any time by downloading and completing a Comment Form at OMRI.org/commentform.

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CALENDAR

October 23-25 National Organic Standards Board (NOSB) Meeting, Pittsburgh, PA This biannual meeting brings together industry leaders and stakeholders in a public forum to discuss comments on proposed recommendations for materials and input policies. ams.usda.gov/rules-regulations/organic/nosb/meetings *

October 29-30 Organic and Non-GMO Forum, Minneapolis, MN Now in its fifth year, the Organic and Non-GMO Forum is the source for conventional food and ag businesses to learn about opportunities in the organic and non-GMO industry, and for those in the field to discuss the challenges and advantages it presents. www.ongforum.com *

November 12-15 Expo AgroAlimentaria, Guanajuato, Irapuato, Mexico Attracting over 125,000 visitors and 1,300 exhibitors, the expo brings together farmers, buyers, distributors, exporters, importers and manufacturers in the areas of agriculture and horticulture. www.expoagrogto.com

December 4-5 Organic Grower Summit, Monterey, CA Launched by the Organic Produce Network and California Certified Organic Farmers, the summit brings organic farmers, ranchers and processors together for two days of education, information and networking opportunities with their production supply chain and support service providers. www.organicgrowersummit.com *

December 9-12 ACRES USA Conference, Minneapolis, MN The 44th annual conference and trade show sets the standard for innovation and learning. Farmers and consultants from every side of eco-farming come together to share their experience and expertise. www.events.acresusa.com *

* OMRI staff will attend, present or exhibit at this event.
Compiled from a variety of sources. OMRI welcomes your calendar suggestions. Email to info@omri.org.

January 23-26 Guelph Organic Conference, Guelph, Ontario, Canada It's the conference "Where Farmers & Consumers Meet," with international speakers, seminars and introductory workshops on key topics. OMRI will host an annual Meet and Greet luncheon on Saturday, January 25, where we will talk about material review and the OMRI Canada program. RSVP to marketing@omri.org. www.guelphorganicconf.ca *

January 28-31 U.S. Composting Council, N. Charleston, SC "Bridging the Gap for Organics Recovery" is the theme for this year's conference and trade show. USCC is the largest conference for the composting, wood waste and organics recycling industries. www.compostconference.com *

February 11-13 World Ag Expo, Tulare, CA The goal of the country's largest annual agriculture exposition is to "encourage the newest conversations, inventions and innovations in the world of ag." In 2019, the Expo featured 1,452 exhibitors on 2.6 million square feet of space, and attendance reached 102,878. www.worldagexpo.com *

February 12-15 BIOFACH Nuremberg, Germany BIOFACH is the world's leading trade fair for organic food. It's the place where people share their passionate interest in organic food, get to know each other, exchange views and discuss the latest trends and technology. www.biofach.de/en *

February 13-15 OEFFA (Ohio Ecological Food and Farm Association), Dayton, OH Celebrating its 41st year, this year's theme is "A Climate for Change." The conference brings together all those involved in shaping and changing our food system for the better, including ecological farmers and gardeners, consumers, organizations, researchers, educators and others. www.oeffa.org/conference2020.php *

DID YOU KNOW? ¿SABÍAS QUE?

The OMRI website is now bilingual!
Browse our Spanish-language content and tools now

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OMRI.org/es