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Greenhouse photoperiodic responses and lighting strategies evaluated

WSDA prepared to enforce Brassica seed regulations
Nearly 10 years ago, soil biodegradable mulch films were introduced to the North American commercial produce sector as a solution to address the difficulties and costs associated with the removal and disposal of conventional plastic mulch films at the end of a growing season. Such soil biodegradable mulch films have been used throughout Europe and Japan for close to 20 years. Conventional growers in the U.S. currently using soil biodegradable mulch films find savings in time, labor costs and disposal fees typically spent on the removal of conventional plastic films. They’ve also eliminated the risk of plastic fragments often left behind contaminating their soil.

In 2014, the National Organic Standards Board (NOSB) approved CFR 205.601: A petition submitted by the Biodegradable Products Institute (BPI) allowing for biodegradable mulch films to be used in organic crop production. Several requirements were outlined and agreed upon in the petition for what would certify a biodegradable mulch film as organic.

Later in 2015, Policy Memorandum 15-1 by the National Organic Program (NOP) amended the previous ruling by requiring biobased content to make up 100 percent of the mulch film material. This created a discrepancy for organic growers wanting to use biodegradable mulch films because there is no commercially available, fully-biobased, non-GMO biodegradable mulch film. When the BPI originally petitioned for biodegradable mulch films to be considered for organic certification, it was never their intention to require a biodegradable mulch film to be 100 percent biobased because it is not commercially available. The NOSB understands there are no biodegradable mulch films currently available that meet this 100 percent biobased requirement. And despite the known and increasing desire among organic growers wanting to use soil biodegradable mulch film and obtain the same benefits as their conventional counterparts, the NOP’s Memo 15-1 requiring a 100 percent biobased feedstock (determined using ASTM D6866 standards) keeps organic growers from its use.

The soil biodegradability of a mulch film is not dependent upon whether or not the polymer feedstock is fully biobased or partially biobased. What matters for successful soil biodegradation is the chemical structure of the finished polymer. It is the polymer chain which enables the film to be seen as a food source by the bacteria and microbes living in the soil that can break it down into organic matter — biomass, CO2 and water.

Apart from being 100 percent biobased, other criteria enforced by the NOP qualifying a biodegradable mulch film as certified organic involves the ability of the film to completely biodegrade. It must meet the compostability specifications of industry standards ASTM D6400 or EN 13432 (outlined in CFR 205.601). The mulch film must demonstrate at least 90 percent biodegradability.
Full 2016 crop year report, including Ag exports

In 2016 California’s farms and ranches received more than $46 billion for their output. This represents a decrease of about six percent compared to 2015. Despite this decrease, California remains the leading U.S. state for cash farm receipts.

For the 2016 crop year California agricultural exports totaled $20.04 billion. Top commodities for export included almonds, wine, dairy and dairy products, walnuts and pistachios. Export statistics are produced by the University of California, Davis, Agricultural Issues Center. California’s agricultural abundance includes more than 400 commodities. Over a third of the country’s vegetables and two-thirds of the country’s fruits and nuts are grown in California. California’s top-10 valued commodities for the 2016 crop year are:

- Dairy Products, Milk — $6.07 billion
- Grapes — $5.58 billion
- Almonds — $5.16 billion
- Cattle and Calves — $2.53 billion
- Lettuce — $1.96 billion
- Strawberries — $1.83 billion
- Pistachios — $1.5 billion
- Tomatoes — $1.33 billion
- Walnuts — $1.24 billion
- Oranges — $826 million

For the full 2016 report, visit https://tinyurl.com/y7gq3lug.

What’s from 17 —

Biodegradation absolute or relative to microcrystalline cellulose in less than two years in soil, according to the test methods ASTM D5988 or ISO 17556 upon which the above standards are based. There are existing soil biodegradable mulch films meeting these soil biodegradation standards inhibited from achieving organic certification due to their partially-biobased feedstocks prohibited in Memo 15-1.

The importance of industry standards such as these is to protect the growers from technologies such as oxo-degradables that make a claim for biodegradation, but only fragment and do not biodegrade in the soil. These industry standards are meant to ensure the integrity of the soil is maintained.

Vinçotte OK biodegradable SOIL Certification exists as the European standard based on the standards referenced above for soil biodegradation. TUV Austria advocates, “Biodegradability in the soil offers huge benefits for agricultural and horticultural products, as they can be left to break down in soil after being used. The OK biodegradable SOIL label guarantees a product will completely biodegrade in the soil without adversely affecting the environment.”

At this time, the U.S. does not have an ASTM test method in place measuring soil biodegradation, although a working draft has been completed. OK biodegradable SOIL Certification should be looked for by all growers when purchasing biodegradable mulch films. Mulch films that are “degradable” or oxo-degradable films are not soil biodegradable and should be kept out of their fields.

If you are a certified organic grower interested in soil biodegradable mulch films being made available for organic farming, we encourage you to let your voice be heard at the April 2018 NOSB meeting. Growers can participate by submitting written comment, voicing statements orally via webinar, or attending in-person meetings. Written comments and registration for the two webinars is closed after April 4. The in-person meeting will be held in Tucson, AZ on April 25 and 26. More information on the upcoming April meeting can be found on the USDA’s website.

If these deadlines are missed or you’d like more information about soil biodegradable mulch film certifications, send your statements to info@organixsolutions.com.