

Organic Production and Marketing Newsletter

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The purpose of this newsletter is to provide production/marketing information about organic and related sustainable farming practices.
Contributions are welcome.

Organic Production and Marketing Newsletter

December 2003 Edition



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Welcome)*

Sustainable and/or Organic Meetings and Workshops



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My program, including extension, research, and teaching responsibilities, focuses on sustainable and organic fruit crops farming systems, especially citrus nutrition with controlled-release fertilizers, poultry litter, other non-synthetic materials and alternative weed management methods. Sustainable agriculture, organic farming, and the more consumer-oriented ecolabeling movement pose social, political, and economic options, important not only to farmers and consumers but also to more conventional growers and consumers who may, by choice or regulation, come to incorporate many of these sustainable concepts and practices as well. Details and additional information are available at the below links.

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Community-Supported Agriculture (CSA)

Go to www.sare.org/csa to locate a CSA farm near you. The concept behind CSAs is to purchase a share of a weekly portion of fruits, vegetables, herbs, flowers and other products or subscription some time before the production season starts. If you prepay on a seasonal basis, the farmer gets the money upfront. The down side is that if the crop fails, you don't get anything. But, you support local farmers and my experience with Plowshares CSA in Gainesville, Florida, known for its extremely variable winter weather, has been good.

Pesticides for Organic Production

On March 5, 2003, the EPA issued a final pesticide registration notice in the Federal Register indicating that if all active and inert ingredients of a product and all uses of that product meet the requirements of EPA's final guidance (meet the criteria defined in the National Organic Program Rule), that product would be allowable under the National Organic Program. Information and examples of label language, especially on pesticide products exempt from FIFRA, and guidance on materials to be reviewed are listed at <http://www.setonresourcecenter.com/register/2003/Mar/05/10477A.pdf> as well as an EPA contact. This notice would effectively allow organic growers to use pesticide materials that have not already gone through the OMRI approval process.

Niche Markets for Oranges

Although per capita, fresh orange consumption declined 36% from 1960 to 2001, the good news is that more recent data indicates an increase from 9.5 to 12 lbs per capita from 1998-99 to 2001, according to the Economic Research Service. As a group, Hispanics consumed twice as much fresh oranges (27 lbs per capita) than white or black consumers but not as much as other ethnic groups (32 lbs per capita). Average consumption per person, regardless of ethnicity, was 14.75 lbs.

Fresh oranges, according to Sunkist Growers, are popular among those who cook their own meals, cook for larger families, shop daily, store fewer foods, and squeeze their own juice. Seniors also consume more fresh oranges (21.5 lbs per person), compared with those 2-11 and 40-59, eating about 15.5 lbs each. (*But how do 2 year olds peel their own fruit?*). Take home message: Cater to niche markets within small segments of the population.

Organic Apple Acreage Increases

Washington State University statistics show that organic apple acreage in 2002 doubled since 1998 in the state. WSU also estimates that Washington organic apple production accounts for 38% of the total U.S. volume, and 21% of worldwide acreage. The university estimates that growers can produce the same yield and quality as conventional fruit at 10% to 15% higher cost. Also as volume increases prices for organic apples approach that of conventional apples in the retail market. Packers are renovating facilities for segregating of organics, and retailers are more interested in bagging organic fruit to aid in segregation from conventional fruit.

California Fires Spare Citrus and Avocados

Between 1 to 2% of the southern California citrus and avocado (700 of our 60,00 avocado acres) crop was lost during the recent fires in southern California, with more assessments underway, representing about an \$11 million loss in Ventura County alone.

Voluntary Labeling of GMO Food

The European Union, along with its recent vote to lift the 5-year ban on genetically modified foods, will be instituting strict labeling standards identifying GMOs as such. Opponents claim the new EU rule is impractical, burdensome, expensive, and will drive food producers to avoid using genetically modified ingredients rather than facilitating consumer choice as intended. If such a move to label GMOs would occur here in the U.S. it would be strongly opposed. Biotech and grocery groups in this country do support voluntary labeling, as does the Food and Drug Administration.

More Growers Join Organics Push

California growers of herbs, garlic, and specialty items are increasing their organic production. Quail Mountain Herbs, of Watsonville, Calif., has added organic acreage at its desert growing region in the Coachella Valley. The innovative project will include a 5-acre shade house with mesh small enough to keep most pests out. Geothermal water will be used to heat the soil and will also be used in their greenhouses. Jacobs Farm/ Del Cabo Inc., Pescadero, Calif. has year-round growing operations of 20 types of herbs in Mexico. In Virginia, Shenandoah Growers is expanding its organic production. Rock Garden South, Miami, Fla., now supplies several chain stores with certified organic retail packages. Frieda's Inc. of Los Alamos, Calif. has introduced a line of organic specialty items such as baby carrots, broccoli, and celery hearts.

Organic Berries

California's organic strawberries represent about 2% of the state's 29,000 strawberry acres but this is still a 50% increase over the 2002 acreage. California growers are also increasing their organic blackberry and raspberry acreage and have been packing 8-ounce and 1-pound clamshell units, which prevent commingling of organic and conventional berries. Blackberries sell best in West Coast markets and raspberries in the northeastern states but strawberries are still the main organic berry crop nationally.

Evaluation of Organic Herbicides

J. J. Ferguson

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Organic farmers consistently rank weed control as one of their major production problems. Cultural practices, including cultivation, flaming, soil solarization, and mulching are commonly used in organic production systems. However, several new herbicides approved by the the Organic Materials Review Institute (OMRI) are now available to organic growers, pending approval as "regulated materials" by their organic certifying agencies. That means growers must receive approval from their certifying agency before using these materials. OMRI is a non-profit organization that reviews and approves materials and processes for organic food and fiber production.

Although these organic herbicides are generally recommended for control of emerging weeds, especially during the early spring, I applied these materials during September-October of 2003, primarily because of availability of materials but also to determine their activity in the fall against established weeds. Another note about OMRI, this institute reviews materials primarily in terms of their ingredients and general purpose but not their efficacy. Our objective here was to determine the efficacy of three OMRI-approved organic herbicides in field trials. Trials are also being conducted by other IFAS faculty.

Three of these broad spectrum, contact herbicides herbicides, AllDown, Matran 2, and Xpress were compared with Roundup Pro, a systemic broad spectrum herbicide in a conventional commercial grove in Vero beach, at the Plant Science Research and Education Unit (PSREU) near Citra and in the Horticultural Sciences Department citrus grove in Gainesville, Florida ([Table 1](#)). Roundup Pro is not an approved organic herbicide but I wanted to include a conventional comparison standard. At all sites, herbicides were applied once with a backpack sprayer, at approximately 35 psi between 11:00 a.m. and 2:00 p.m. during sunny days with low wind and with daily temperatures ranging from approximately 60 to 80 F. No rain fell within two days after application.

Treatments, including a control, were replicated four times in a randomized complete block design with plots at each site ranging from 25 to 300 ft². Treatments at Vero Beach were applied on September 18 in the grove middles of a conventional young tree planting at recommended rates. Since the three organic herbicides applied at the Vero Beach site did not effectively control grass and broadleaf weeds, compared with Roundup Pro within four days after treatment ([Table 2](#)), herbicides were again applied on October 13 at PSREU at recommended rates with and without an OMRI-approved adjuvant, Nu-Film 17. Better but inconsistent control of grass and broadleaf weeds was again observed at the PSREU site until October 31 as compared with Roundup Pro. Consequently, all four herbicides were then applied at twice the recommended concentration and application rate with and without a adjuvant at the Gainesville site, again with the organic herbicides having an inconsistent and largely minimal weed control compared with Roundup Pro. Weed populations were somewhat different and this could account to some degree for the differences in weed control. Herbicide concentrations and application methods must be more carefully controlled when such small plot sizes are involved but materials were

applied by the same person and herbicide concentrations and application rates were carefully prepared.

All herbicides were applied during September and October when weed growth was slowing down and some species, especially pigweed and nutsedge, were producing seeds. However, newly emerged nutsedge in recently cultivated areas was not controlled by the organic herbicides either. Neither AllDown or Xpress require an adjuvant but one is recommended for Matran 2. However, the addition of an adjuvant to these organic herbicides did not improve weed control.

The Xpress and Matran 2 labels specify application to actively growing weeds from 1 to 4 and to young weeds less than 2 inches tall, respectively, emphasizing their use as early season herbicides. Our fall applications of organic herbicides to larger weeds, some within the specified size range and others taller and producing seed, could partially explain poor weed control. Repeat applications are also recommended for Matran 2 and for other conventional acidic herbicides and could have improved weed control. However, an earlier July applications of AllDown applied as a spot treatment to grasses and broadleaf weeds was effective on actively growing grasses and broadleaf weeds, perhaps emphasizing the importance of weed growth stage and temperature.

Grasses and broadleaf weed species were different at each site but included Alexander grass, bahia grass, Bermudagrass, carpetweed, crabgrass, dayflower, goosegrass, hairy indigo, lambs quarters, Mexican tea, Florida pusley, goatweed, Mexican clover, nutsedge, pale meadowbeauty, pigweed, shrubby primrose willow, broadleaf signalgrass, Southern sandbur, spurge, torpedograss, Wild radish, and purslane. All weeds were identified at the University of Florida herbarium. Given the mix of grass and broadleaf weeds at each site, weed control for grasses and broadleaf weeds but not specific species was recorded.

At the Gainesville two mandarin hybrid rootstock seedlings, about 2 years old and without a recent growth flush, were planted in each replicate of each of the four treatments and sprayed to runoff with each of the herbicide treatments. Seedlings treated with Roundup Pro had heavy leaf damage and were dying after 2 weeks. Seedlings treated with the organic herbicides had about 10% leaf spotting and dieback but were not seriously damaged.

Early spring applications of these materials are also planned for 2004 to complete this field study. According to manufacturers' recommendations, these materials are probably best applied as an early post-emergent herbicide when weeds are 1 to 4 inches tall and are actively growing rather than at the end of the growing season in the fall.

Table 1. Conventional and organic herbicides applied for weed control.

Treatments	Active ingredient	Mode of action	Suggested application rate	Advertised cost/gallon (\$)	Manufacturer
Control					

Roundup Pro	Glyphosate (41%)	systemic	5% a.i. applied to wet foliage	47.60	Monsanto
AllDown	citric acid (5%) garlic (0.2%) acetic acid, yucca extracts, water (94.8%)	contact or burn-down	100% a.i.	8-12	Summerset
Matran 2	clove oil (33.7%) acetic acid	contact or burn-down	10% a.i. at 50 gallons/acre	88.00	Encore Technologies
Xpress	thyme oil (10.4%) clove oil (10.1%) acetic acid, molasses, water (79.5%)	contact or burn-down	5 - 10% a.i. at 25 to 100 gallons /acre	41.00	BioHumaNetics

Table 2. Weed control with fall application of IMRI-approved organic herbicides.

Treatments	Weed Control (1-10 with 10 = best) after 10 days**		
	Site		
	Vero Beach	Citra	Gainesville
Control	0	0	0
Roundup Pro	10.0	10.0	10.0
AllDown*	1.00	3.8 ±2.9	1.0 ±1.7
AllDown + adjuvant*	not applied	2.8 ±4.0	1.0 ±1.0
Matran 2*	1.0	0.5 ±1.0	3.0 ±3.0
Matran 2 + adjuvant*	not applied	0.0	3.0 ± 2.0
Xpress*	1.0	2.5 ±3.8	1.0 ±2.0
Xpress + adjuvant*	not applied	0.8 ±1.0	1.0 ±2.0

**Mean of four replicate plots per treatment

How are Organic Farming Inputs Evaluated?

Jim Ferguson

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How does a certified organic farmer determine which fertilizers, pesticides, and other inputs can be used legally? The answer is complicated not only because there are different but somewhat complementary sources of allowed, regulated, and prohibited materials but also because the rule making process is ongoing. That is, what's allowed within the US may not be allowed internationally and there may be some disagreement even within the US on certain inputs. The bottom line is that farmers, county agents, consultants and others need to understand the process for evaluation of organic farming inputs and frequently update their information. Our purpose here is to not to list these inputs but to clarify who evaluates these materials and how to obtain this information.

Within the U.S. there are two major sources of information about organic farming inputs: 1) the USDA Generic National List within the National Organic Program and 2) the generic materials list and the brand name products list published by the Organic Materials Review Institute (OMRI). The National List is approved by the Secretary of Agriculture with advice by a 15-member National Organic Standards Board (NOSB), appointed for five-year terms. The NOSB also advises the Secretary of Agriculture on other aspects of implementing the national organic program. The current board is comprised of four farmers/growers, two handlers/processors, one retailer, one scientist, three consumer/public interest advocates, three environmentalists, and one certifying agent that sit on various committees, including those on compliance, accreditation, certification, handling, materials, livestock and crops, policy and international issues. This organizational structure grew out of the Organic Foods Production Act of 1990, part of the 1990 Farm Bill. A "sunset" provision originally provided for materials to remain on this list for 5 years but this time could be reduced. Therefore, this is more of a list in process, subject to petitions and rule changes and will be continually revised.

The National List contains both synthetic and nonsynthetic materials that can be used in organic production. For example, synthetic chlorine materials can be used but chlorine residues in water cannot exceed the maximum residual disinfectant limit under the Safe Drinking Water Act (10ppm). Nonsynthetic materials like ash from burning manure and tobacco dust (nicotine sulfate) cannot be used. Allowed materials can be used as needed. Regulated materials like herbicides containing acetic acid, clove oil, and thyme oil, can also be used, pending approval by the relevant certifying agency and prohibited materials like genetically modified organisms (gmos) can not be used. In many respects the National List is a primary or generic list, identifying the type of materials that can be used like composted manure, elemental sulfur, and mulches but does not contain brand name products or manufacturers. This is where OMRI comes in.

OMRI is a 501(c)(3) nonprofit organization that has no official connection with the USDA National Organic Program. However, OMRI reviews and approves brand name materials for use in organic production, processing, and handling according to the standards established under the National Organic Program. This brand name, third-party review is conducted by an independent review panel that evaluates a product's compliance with the generic National List of the National Organic Program.

Approved products are listed in crop, livestock, and processing categories. Approval by OMRI "assures their suitability for use in certified organic production," and is probably the most convenient list for growers to use. However, recent EPA public notices (March 5, 2003) provide guidelines for pesticide manufacturers to label their products for organic use without going through the OMRI process if the pesticide ingredients meet National Organic Program standards. Accordingly, if a product is not listed by OMRI, it may still be allowed under the National Organic Program.

Note also that both the National Organic List and the OMRI list evaluate materials primarily for their ingredients or constituents but not for their efficacy. OMRI also evaluates products based on information provided by the supplier and does not claim to guarantee product analysis or registration use as a pesticide for example. That is, a fertilizer product may be approved for use in organic fruit and vegetable production but may not provide sufficient nutrients for adequate plant growth and fruit production. Furthermore, such materials may not be the best material to use in terms of nutrient overloading and leaching in specific soil types.

The National List can be accessed by doing an internet search for the "National Organic Program" or at <http://www.ams.usda.gov/nop/NOP/standards/ListReg.html> and is free. The OMRI list is also listed at <http://www.omri.org/>. However, this is only a partial list. Complete OMRI lists can be obtained by subscribing to these OMRI lists and updates for subscription fees ranging from \$50 (farmer) to \$200 (business). The OMRI lists are also copyrighted and therefore cannot be copied, requiring farmers, county agents, and other agricultural professionals to subscribe to obtain their own copies. Costs for reviewing materials for the OMRI list are based on gross company sales and the type of product such as composts, EPA registered pesticide, processing aids, etc.

International organic standards may differ from US national organic standards and those exporting organic produce should become familiar with the standards of the International Federation of Organic Agriculture Movements, the European Union, the International Federation of Organic Agriculture Movements, Canadian Organic Standards, and Japanese Organic Standards. The International Federation of Organic Agriculture Movements (IFOAM), with headquarters in Germany, establishes international standards, accreditation procedures and policies (<http://www.ifoam.org/>) and is more or less an international organic farming lobbying group, comparable to the Organic Trade Association within the US.

The European Retail Parties Good Agricultural Practices ([EUREPGAP](#)) is a global partnership that establishes documents, standards and a verification framework for fruit, vegetable, ornamental producers and others.

The Japanese Agricultural Standards (JAS), formulated by the the Japanese Ministry of Agriculture, Food and Fisheries recognizes USDA's national organic standards for the production, handling and processing of plant-based organic agricultural products. However, JAS standards do not allow some materials permitted under the USDA standards like alkali-extracted humic acid, lignin sulfonate and potassium bicarbonate, used in raw or processed organic food exported to Japan. On the other hand, in the past, JAS standards allow GMOs in some fertilizers and soil inputs in materials, but prohibits the use of GMO seeds and seedlings, pest control materials, and processing aids. Given the high demand for organic foods and drinks in Japan, the number of JAS approved certification agencies has

increased from 30 in 2001 to over 130 in 2002. As organic sales have increased, so have the number and complexity of organic farming standards, regulations, rules and certifying agencies. Fortunately, groups like OneCert at <http://www.onecert.net/ocstandards.htm> have emerged that attempt to summarize difference US and international standards, including US National Organic Program, European Regulations, Japan Agricultural Standard, Quebec Organic Reference Standards, Bio Suisse Standards, IFOAM Basic Standards and others.

Another complicating factor is that according to National Organic Program Rules, certifying agents and their inspectors can no longer act in a consulting role. This will create situations in which a grower will be informed of failure to comply with a particular area of the National Organic Program, but cannot be advised, either by the inspector or certifier, on how to fix it. All inspectors and certifiers are allowed to do is to refer applicants to consultants, Cooperative Extension Agents, or other organic farming outreach and educational agencies that are not directly connected with organic certifying agencies. This obviously creates a demand, a liability and a need for extension agents to become more knowledgeable about complex organic farming standards.

As national and international organic production and markets increase, organic farmers, packing houses, processors will have to become more knowledgeable about organic farming standards. When pesticide regulations become more complex, large farming enterprises, corporations and land grant institutions hired pesticide coordination officers. This may also be the trend in organic farming.

Organic Farming Publications

(Hope to include and add to this list in future newsletters - suggestions are welcomed)

Ferguson, J. 2003. New Florida Department of Citrus Rules for Organic Grove Registration and Fruit Movement. HS 946, Fla. Coop. Ext. Ser., UF/IFAS. <http://edis.ifas.ufl.edu/HS198>

Ferguson, J. J. 2003. Ecolabeling and the Greening of the Food Market. HS915, Fla. Coop. Ext. Ser., UF/IFAS. <http://edis.ifas.ufl.edu/HS152>

Jacobson, S. K., K. E. Sieving, G. Jones, M. E. Hostetler, and S. W. Miller. 2002. Farmers' Opinions about Bird Conservation and Pest Management on Organic and Conventional North Florida Farms. Circ. 1426, Fla. Coop. Ext. Ser., UF/IFAS. <http://edis.ifas.ufl.edu/UW169>

White, J. M. 2001. Organic Vegetable Production. HS720, Fla. Coop. Ext. Ser., UF/IFAS. <http://edis.ifas.ufl.edu/CV118>

Sustainable and/or Organic Meetings and Workshops

These events focus wholly or in part on organic farming.

First World Congress on Organic Food

March 29-31, 2004

Michigan State University, East Lansing, Mi.

[DETAILS](#)

21st Annual Organic Conference and Eco-Products Trade Show

January 25-27, 2005

University of Guelph, Canada

[DETAILS](#)