# Juice Processing
# The Organic Perspective

Bob Durst

Dept. Food Science OSU

Bob.Durst@orst.edu

www.fst.orst.edu/bob_durst/

Simple Organic Solutions

BobD@SimpleOrganicSolutions.com

www.SimpleOrganicSolutions.com

Contact info:
Bob Durst
Dept. Food Science and Technology
Wiegand Hall
Oregon State University
Corvallis, OR 97331-6602
541-737-6490
541-737-1877 (fax)
Bob.Durst@orst.edu
www.fst.orst.edu/bob_durst/

Simple Organic Solutions
P. O. Box 1310
Jefferson, OR 97352
541-929-6405
541-917-1027 (fax)
BobD@SimpleOrganicSolutions.com
www.SimpleOrganicSolutions.com

# Can I Process Organically?

- Who's doing it now?
- Why do it?
- What changes do I have to make?
- New USDA rules (NOP)
- Who do I contact?

Simple Organic Solutions

Who: Many big food companies are getting into the organic market. Recent product introductions such as Sunrise Cereal by General Mills show that the big players are starting to play a role. They also recently acquired Cascadian Farm and Muir Glen.

The rest of the subjects will be covered in the following slides.

# Why Process Organically

- Market Demand
  - Health conscious consumerism
  - By 2001 Natural and Organic predicted to be $35-36 billion
- Value Added
  - Premium price
  - Declining price differential
- Philosophy
  - Stewardship and sustainability

Simple Organic Solutions

Describe the state of the industry and what its all about.

Some of these numbers are credited to Steve Harper-Cascadian Farm given in his talk at NWFPA in January 2000.

Market Demand:

Assume 20% annual growth for both Natural Industry & Organic:

By 2001, Organic = $US 8-9 BB.

2000 organic sales ≈ $6 billion

Current Natural Products Market = 3% of U.S. Grocery industry.

Five Independent studies conclude >30% of U.S. Households are interested in healthy eating.

Current = $13 Billion Dollars (3% of US Grocery Industry in 1997 )

Potential = $125 Billion (30% of U.S. Grocery Industry)

For Northwest and West Coast processors, trade with Japan and Asia is big business.

Value Added:

Declining Cost of Organic Food Production

Growth of Retail Outlets for Organic Products

Capital Investments from Financial Community

Philosophy:

Environmental Awareness

Worldwide Harmonization of Organic Standards

# What is Organic Processing?

- Safe-Must be, just as NOG is
- Pesticide & Herbicide Free
  - What consumers expect
- Chemical & Preservative Free
  - What consumers perceive, not always the case
- Not Commingled-To insure the above two
- Healthy-No claims made
  - Patulin

Simple Organic Solutions

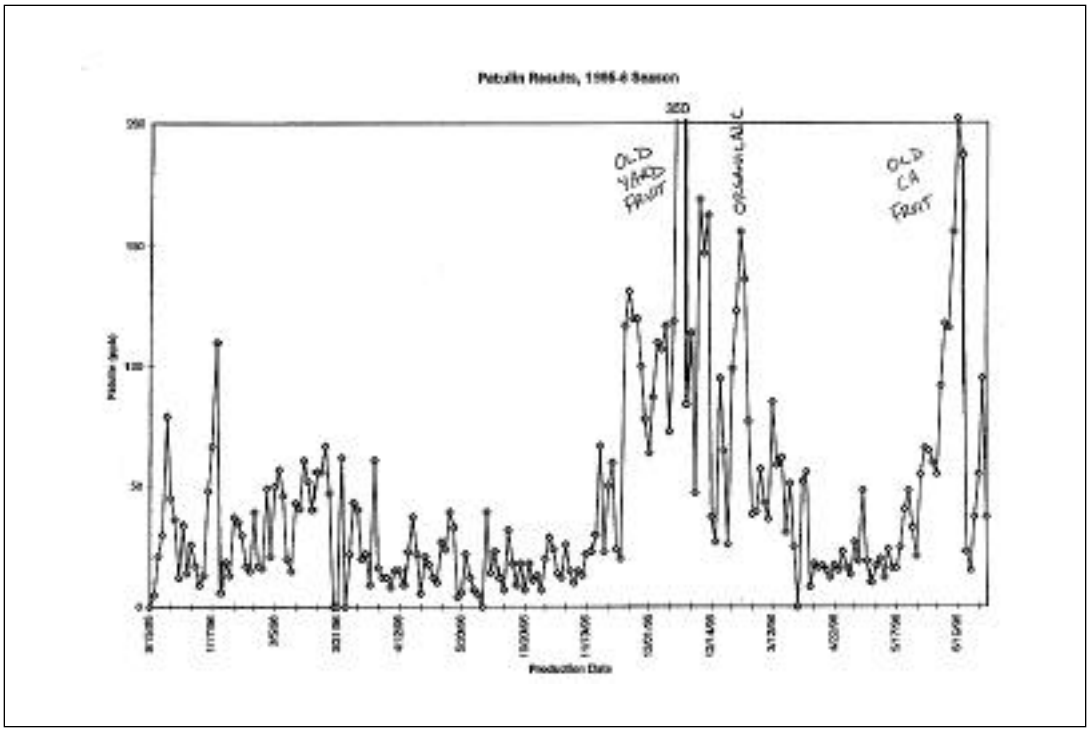
Discuss the difference between what people think organic means and what it is from the practical aspect of a processor.

Safe is still very (most!) important. Use of manure, unclear water, un-chlorinated water, no use of preservatives…are all of concern.

Pesticide free: one of the basic tenants of organic farming and processing.

Chemical free: perception, but not completely true. This was one cause of much of the controversy in the original bill, and continues to be one of the biggest undone parts of the bill-to be discussed later.

Healthy: USDA careful to not let organic be perceived as healthier or more nutritious than conventional-just different.




Patulin content in apple juice. Processor was routinely monitoring patulin levels. After hearing my discussion of this issue at a previous workshop, they (confidentially) provided me with this data.

NFPA in a letter dated August 15, 2000 supported the FDA limit of 50ppb.

Two FDA sites to see about this.

http://vm.cfsan.fda.gov/~dms/patuguid.html and http://vm.cfsan.fda.gov/~dms/patubckg.html

From the FDA web site:

Apple Juice, Apple Juice Concentrates, and Apple Juice Products -Adulteration with Patulin

DRAFT COMPLIANCE POLICY GUIDE

This guidance document is being distributed for comment purposes only.

Draft released for comment on June 15, 2000.

BACKGROUND

"Patulin is a toxic substance produced by molds that may grow on apples. In the past, patulin has been found to occur at high levels in some apple juice products offered for sale in or import into the U.S."

"FDA believes that drinkers of apple juice would be at negligible risk of adverse health effects from patulin if patulin levels in apple juice were controlled by processors to a level of 50 µg/kg or below."

"Conclusion

The information presented in this paper supports a 50 µg/kg action level for patulin in apple juice, apple juice concentrates, and apple juice products based on the level found or calculated to be found in single strength apple juice or in the single strength apple juice component of the product."

Also see Federal Register: January 19, 2001 (Volume 66, Number 13):

Hazard Analysis and Critical Control Point (HAACP); Procedures for the Safe and Sanitary Processing and Importing of Juice

AGENCY: Food and Drug Administration, HHS. ACTION: Final rule.

# USDA Role

- Organic Foods Production Act of 1990
- National Organic Program (NOP)
  - Final rule published Dec. 21, 2000
  - Implementation date April 21, 2001
  - Fully implemented October 21,2002
- Allowed synthetics (the National List)
- International Harmonization


What:

Organic Foods Production Act of 1990 (OFPA). This is the National Organic Program. It is to be administered by USDA.

Allowed synthetics. This is the national list that will (hopefully) standardize synthetic inputs among all certifiers. Includes farm and livestock items, but for processing it is a very important document.

When:

Dec 97 initial proposal-disastrous. 275,000 mostly negative comments, March 2000 revised proposal-much better, 41,000 comments. Final rule Federal Register/ vol. 65, No. 249/ Thursday, December 21, 2000/ Rules and Regulations. Implementation date is April 21,2001 with full compliance required by October 21, 2002,

Why:

Slightly different standards among the different certifiers. Because of reciprocity they were allowing things that they wouldn't have if they were the certifier. Initiated by the certification agencies. Example: $SO_2$ in wine-allowed by OTCO, rejected by CCOF.


This is the symbol that what all the fuss is about.

Federal Register

vol. 65, No. 249

Thursday, December 21, 2000

Rules and Regulations.

The Act was published in December. The clock starts on February 20, 2001. Everyone has 18 months to come into compliance.

Label cannot be used until August 2002 (18 months from implementation)

USDA rules not only set a minimum requirement , but effectively set a maximum standard. More about this later.

Changes came about because of effective lobbying by NFPA.

The NOP is a marketing program of USDA AMS. Neither the OFPA nor NOP address food safety nor nutrition.

# National Organic Program

- Definitions
- Applicability
- Production and Handling Requirements
- Labels and Labeling
- Certification
- Accreditation of Certifying Agents
- National List

Simple Organic Solutions

I'll discuss these various aspects of the NOP in more detail

These are the main categories (related to processing) in the Act.

# Definitions

- Organic
  - A labeling term that refers to an agricultural product produced in accordance with the Act and the regulations in this part.
- Organic Production
  - A production system that is managed in accordance with the Act and regulations in this part to respond to site-specific conditions by integrating cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity.
- National List
  - A list of allowed and prohibited substances as provided for in the Act.

Simple Organic Solutions

A few pertinent definitions.
No “processors” nor “farmers” under USDA.

Organic is not an end product, but a system that achieves loftier goals than just the production of an end product.

This includes environmental stewardship, sustainability, social good, healthier food, etc.

National List to be discussed in more detail later.

# Applicability

- What has to be certified
  - Any product represented as “Organic”
  - Any operation claiming to produce “Organic” products
- Exemptions and Exclusions
  - <$5000 organic business
  - Distributors, shippers, storage facilities
  - Retail food establishment
  - Everyone needs records for >3 years
  - Everyone needs to prevent contamination

Simple Organic Solutions

This information is lifted and condensed directly from the bill

**§ 205.100 Applicability**

(a) … production or handling operation that produces “100 percent organic,” “organic,” or “made with organic…” **must be certified** …

(b) … production or handling operation … deemed to be certified under the Act until the operation’s next anniversary date of certification.

**§ 205.101 Exemptions and exclusions**

(a) (1) …gross agricultural income from organic sales < $5,000 annually

(2)…retail food establishment that handles organically produced agricultural products but does not process them

(3)…handles agricultural products that contain less than 70%organic ingredients

(b) (1)… handling operation …only sells “100 percent organic,” “organic,” or “made with organic…” and

(i) Are packaged … and

(ii) Remain in the same package and are not processed while in the control of the handling operation.

(c) (1) Records maintained by exempt operations:

(i) Prove ingredients were organically produced and handled; and

(ii) Verify quantities produced from such ingredients.

(2) Records must be maintained for no less than 3 years beyond their creation …

# Production and Handling

- Processor Categories
- Inputs
- Processing
- Commingling and product integrity
- Sanitation
- Audit Trail
- Certification

Simple Organic Solutions

This is the preview of the rest of the categories that will be discussed in more detail.

Historical adherence to a Minimalist and Natural approach. Reliance on basic processing techniques - i.e. cooking, baking, heating, drying, mixing, grinding, etc.

Precautionary Principle vs. Risk Assessment - burden of proof proving that a material or process is safe rather than assuming safety until risks outweigh the benefits.

Segregation from Non-Organic Food

All of these categories to be discussed in subsequent slides.

# Processor Categories

- Handler-Primary producer
  - You pay for certification
- Handler-Co-packer
  - Can only organically process for the certificate holder
  - Contractor-may not need to be certified
- Repacker
  - Certification depends on activity
- Warehouse, Trucker, Retailer
  - Exempt from certification

Simple Organic Solutions

Lots of different categories depending on who takes possession, what is being done etc.

Handler (USDA term)-Primary producer:

Pays for certificate and pays certifier fees.

Responsible for submitting production summaries.

Responsible for acquiring all documentation (certificates of organic origin).

May or may not take legal possession of product (generally does).

Handler (USDA term)- Co-packer:

Primary pays for certificate and certifier fees. Some debate as to whether they really need to be certified, since they aren't actually processing-clarification to come from USDA.

Primary generally responsible for acquiring necessary documentation. Exceptions being when produce is directly shipped from farm to co-packer. Then co-packer is responsible to insure the organic status of the load and retain documentation.

Can only process for the primary.

Does not take legal possession of product. Is only providing a service for a fee.

Handler:

Warehouse services, cold storage services, distributor. Exempt as long as there is no changes in packaging.

Repacker:

If product changes packaging, must be certified.

Retailer: Trucker:

Exempt from certification.

# Inputs

- Fruit
  - Must be organically grown
- Ingredients
  - NOSB List (USDA list of acceptable chemical additives
  - OG grown: 100%, >95%, 70-95%, <70%
- Processing Aids
  - DE, press aids, enzymes
- Water and Steam
  - Testing requirements, Cl addition

Simple Organic Solutions

Fruit: Must be certified OG. Can't take a grower's word for it, must be 3rd party certified and include current certificate

Ingredients: Recent change to 70%; incidental contamination; minor compositional aspects (salt with anti-caking agents).

NOSB List: reason for getting the Fed's involved.

Processing aids: Most used by the juice industry are acceptable, including DE, bentonite, rice hulls and enzymes.

Enzymes: Problem with the GMO's Mostly done by traditional breeding and selection, but now they are starting to be done with GE. Lost the original cultures and can't go back.

100% products: to be discussed later. Can't use ANY non-organic ingredient or aid (enzymes, DE are definitely out). Organic rice hulls would be acceptable, but regular rice hulls would not be.

Water and Steam: Potable water (meeting the SWDA) are necessary. Flume water: finish water must not exceed the SWDA (4ppm), but no cap on maximum addition (in the NOP). Recommendations: must do pre-washes to remove dirt load before Cl additions. Then treat with chlorine.

Steam: No volatile boiler additives (if there is direct contact) allowed. Ok if everything is in jacketed kettles or heat exchangers.

# Processing Requirements

- Organic Handling Plan
- Receiving
- Pre-processing
- Processing
  - Pasteurization
- Storage
- Paper Trail


Organic Handling Plan: Document all processes, changes from conventional, identify organic control points (like CCP's in HACCP plan), scheduling concerns, pest control procedures, labeling requirements.

Receiving: Weights, lot numbers, grower certificates, field of origin must be recorded.

Pre-processing: Sanitation, process scheduling, lockouts, documentation of cleanup and any other process changes needed to process organically.

Processing: Pasteurization: recent FDA regulations regarding pasteurization. Must be pasteurized or must be labeled with "Warning: this product has not been pasteurized and, therefore, may contain harmful bacteria which can cause serious illness in children, the elderly, and persons with weakened immune systems". These groups are often the targets of organic products. Some citrus can be unpasteurized and avoid the labeling by demonstrating a process that gives 5 log reduction in pathogens.

Two pieces of equipment (not very common) that cannot be used for organic processing. Gamma source weigh belts and gamma source dud detectors for PET bottles (or any other radiation source or irradiated product). This may mean that Scholle® bags will be prohibited by the NOP.

Storage: GMP. Adequately labeled. Segregated. No contact with fogging or fumigations, including packaging and labeling used for organic production.

Paper trail: Complete record of all processing runs. All inputs (weights and lot numbers), losses, shrinkage, purges, etc.

# Processing and Plant Management

- Organic Handling Requirements
  - Acceptable processes
  - Allowed ingredients
- Pest management
  - Acceptable methods
  - Allowed materials
- Commingling
- Contact with Prohibited Substances
  - Processing aids

Simple Organic Solutions

Definition: Handler: Any person engaged in the business of handling agricultural products, including producers who handle crops or livestock of their own production, except such term shall not include final retailers of agricultural products that do not process agricultural products.

**§ 205.270 Organic handling requirements.**

(a) Mechanical or biological methods…cooking, freezing, canning, packaging…for the purpose of retarding spoilage or … preparing the agricultural product for market. …no ionizing radiation
<ingredients discussed later>

(c) The handler … must not use … (1) Practices prohibited…(2) …volatile synthetic solvent or other synthetic processing aid…

**§ 205.271 Facility pest management**

(a) (1-3) Removal of habitat, exclusion, environmental controls
(b) (1-2) Mechanical or physical means, lures or repellents consistent with the National List
(c-f) exceptions with certifier ok, handling plan update and prevention of contact with organic products.

**Commingling:** must not happen. Organic handling plan must specify how you will prevent any contamination.

**Contact with Prohibited Substances:** Must not occur. Includes packaging, labels, reusable containers that may be treated, as well as ingredients.

# Commingling and Product Integrity

- Process Scheduling
  - OG after cleanup, NOG later
- Changeover procedure
  - Equipment that can't be completely cleaned out
- Plant fumigation/pest management
  - Still must follow GMP, but OG rules very restrictive
- Packaging, Storage, Transportation
  - Must insure no contamination


Scheduling:

Do OG after a full plant cleanup if at all possible.

Generally organic runs are small and can be scheduled to run first.

Easier to change from organic to conventional than vise versa.

Changeover:

Continuous running equipment that can't easily be thoroughly cleaned can be accommodated with a suitable purge.

Pest Management:

Exclusion and cleanliness are the best prevention.

No warehouse fumigation or fogging while organic product is present.

No warehouse fumigation or fogging of labels, packaging material, containers, etc.

Packaging:

No preservatives allowed in the packaging.

# Sanitation

- GMP (Good Manufacturing Practices)
  - Must be followed
- Cleaning
  - Standard cleaning practices with extra rinses
- Sanitizing
  - Cl, $ClO_2$, $H_2O_2$, peroxyacetic acid…
  - No Quats
- HACCP
  - Organic regulations apply after HACCP rules

Simple Organic Solutions

GMP:

for general plant sanitation and safety

Standard cleaning procedures with extra water rinses to insure removal of chemical cleansers.

May require more extensive equipment tear down and cleaning than is routinely done between runs.

Cleaning:

Make sure there isn't any chance for co-mingling or contamination.

Generally the SOP's of a plant are still applicable to organic processing.

Some changes and awareness of potential contamination points or troublesome to clean areas are needed.

Sanitizing:

Don't quit cleaning, because the organic folks don't like chemicals. Extra rinses and the use of suitable chemicals are acceptable.

Reason for no Quats (quaternary ammonium based sanitizers). They are great sanitizers because they leave a residue and have a good kill spectrum and time. Because they leave a residue and don't rinse off well they are incompatible with OG processing. There are a few exceptions, but don't rely on exceptions to allow their use-change to a compatible sanitizer.

New regulations may mean changes in allowed cleaners and sanitizers. Check with your certifier.

HACCP: Must be incorporated into organic handling plan.

# Audit Trail

- Farm to consumer and back
  - This is the goal your expected to reach
- Receiving Records
  - BOL and weigh tickets must clearly indicate OG
- Documentation of OG
  - All inputs must be third party certified
- Processing Records
  - All lot numbers and records must show OG status and inputs
- Shipping Records
  - Customer needs to know its OG


In CA all documents must contain the COFA wording.
"Grown and processed in accordance with the California Organic Foods Act of 1990"
This will change with the NOP, and how CA deals with their state program.

Farm and back:
Requirement is to be able to track all the ingredients in a retail package back to the farm(s) and field(s) of origin.
Only responsible for the audit integrity from receiving to shipping dock.
Not difficult to do with proper record keeping.

Receiving:
Make sure lot numbers and/or farm and field of origin are clearly marked.

Documentation:
All inputs must be accompanied by valid organic grower or processor certificates.
Processing aids and non-organic ingredients must have appropriate documentation that they are acceptable, and haven't been subjected to prohibited practices.

Processing records:
Must indicate all inputs to product with lot numbers and amounts.

Shipping records:
Must indicate organic status of shipment, and lot numbers of product.

# Certification

- Make organic claims-Must be third party certified
- Who-Private or State certifiers
- What-Third party certification
- When-October 2002
- Why-COFA 1990, OFPA-USDA regulations
- Costs-Dependent on amount of OG business

Simple Organic Solutions

Who: Private; Oregon Tilth, CCOF, FVO, OCIA, QAI, OGBA, others
State; Washington, Idaho, Texas, Colorado, New Mexico…

What: Definition of Certifying Agent
An independent public or private organization that uses on-site inspections and document review to verify that farmers, handlers, and processors are producing and handling food in accordance with applicable state, federal, and private organic standards.
These will be the organizations actually going into the plants to do the certifications and insure compliance with the bill.

When: OFPA originally published in 1990
NOP first in March 2000
Final rule Dec 2000
Takes effect Feb. 20, 2001 with 18 month to fully comply (August 2002)

Why: **Anyone making organic claims will have to be third party certified.**

| Cost estimates: | small farm | med farm | large farm | super farm |
|---|---|---|---|---|
| OTCO-in | 608 | 1603 | 2517 | ?150,300? |
| OTCO-out | 768 | 1698 | 2852 | 12,052 |
| WSDA | 480 | 1555 | 3040 | 12,480 |

# Labels and Labeling

- Categories
  - 100% Organic
  - Organic
  - Made with organic (specified ingredients or food group(s)
  - <70% organic ingredients
- Calculation
  - By weight or volume
  - Less salt and water


No health claims can be made. FDA and FSIS labeling regulations still apply.

**§ 205.302 Calculating the percentage of organically produced ingredients.**

(a) The percentage … must be calculated by:

(1) Dividing the total net weight (excluding water and salt) of combined organic ingredients at formulation by the total weight (excluding water and salt) of the finished product.

(2) Dividing the fluid volume of all organic ingredients (excluding water and salt) by the fluid volume of the finished product (excluding water and salt) if the product and ingredients are liquid. If the liquid product is identified on the principal display panel or information panel as being **reconstituted from concentrates, the calculation should be made on the basis of single-strength concentrations** of the ingredients and finished product.

(3) For products containing organically produced ingredients in both solid and liquid form, dividing the combined weight of the solid ingredients and the weight of the liquid ingredients (excluding water and salt) by the total weight (excluding water and salt) of the finished product.

(b) The percentage of all organically produced ingredients in an agricultural product must be **rounded down to the nearest whole number**.

(c) … percentage … determined by the handler who affixes the label on the consumer package and verified by the certifying agent …

**Can't have both an organic form and non-organic form of the same ingredient.**

# “100 percent Organic”

- Principal display panel
  - “100 percent organic” (optional)
  - USDA seal and certifying agent seal(s) (optional)
- Information panel
  - “100% organic” (optional)
  - Certifying agent name (required)
- Ingredient statement
  - Multi-ingredient product, identify each ingredient as “organic” (optional)

Simple Organic Solutions

Labeling category

"100 percent Organic" (Entirely organic; whole, raw or processed product).

New category that hasn’t been used by certifiers in the past.

Principal display panel

"100 percent organic" (optional).

USDA seal and certifying agent seal(s) (optional)

Information panel

"100% organic" (optional)

Certifying agent name (required); business/Internet address, tele. No. (optional)

Ingredient statement

If multi-ingredient product, identify each ingredient as "organic" (optional)

Other package panels

"100 percent organic" (optional). USDA and certifying agent seal(s) (optional)

Everything in the product must be 100% Certified organic. No processing aids allowed unless they are all certified organic.Example: one could use certified organic rice hulls as a press aid, but not enzymes nor bentonite.

## “Organic” (95% or more organic ingredients)

- Principal display panel
  - “Organic” (plus product name) (optional)
  - “X% organic…” (optional) USDA and certifying agent seal(s) (optional)
- Information panel
  - “X% organic…” (optional)
  - Certifying agent name (required)
- Ingredient statement
  - Identify organic ingredients as “organic”

Simple Organic Solutions

Labeling category

"Organic" (95% or more organic ingredients).

Principal display panel

"Organic" (plus product name) (optional).

"X% organic" (optional) USDA seal and certifying agent seal(s) (optional).

Information panel

"X% organic" (optional)…

Certifying agent name (required); business/Internet address, tele. No. (optional)

Ingredient statement

Identify organic ingredients as "organic" (required if other organic labeling is shown).

Other package panels

"X% organic" (optional). USDA and certifying agent seal(s) (optional).

Most common category. All processing aids must be on the National List. No prohibited processing practices used on anything in the 5% non-organic ingredients.

# “Made with Organic Ingredients” 70-95%

- Principal display panel
  - “made with organic (ingredients or food group(s))” (optional)
  - “X% organic…” (optional)
  - Certifying agent seal of final product handler (optional)
  - Prohibited: USDA seal
- Information panel
  - “X% organic ingredients” (optional)
  - Certifying agent name (required)
  - Prohibited: USDA seal
- Ingredient statement
  - Identify organic ingredients as “organic”

Simple Organic Solutions

Labeling category

"Made with Organic Ingredients" (70 to 95% organic ingredients).

Principal display panel

"made with organic (ingredients or food group(s))" (optional).

X% organic…" (optional)

Certifying agent seal of final product handler (optional).

Prohibited: USDA seal

Information panel

"X% organic ingredients" (optional).

Certifying agent name (required); business/Internet address, tele. No. (optional).

Prohibited: USDA seal

Ingredient statement

Identify organic ingredients as "organic" (required if other organic labeling is shown).

Other package panels

"made with organic (ingredients or food group(s))" (optional) "X% organic" (optional).

Certifying agent seal of final product handler (optional).

Prohibited: USDA seal.

No prohibited practices allowed on any of the ingredients (organic and non-organic). OK to use substances not on the National List in the 30% non-organic portion.

# Organic ingredients- less-than 70%

- Principal display panel
  - Prohibited: Any reference to organic content
  - Prohibited: USDA seal & certifying agent seal
- Information panel
  - "X% organic…" (optional)
  - Prohibited: USDA seal & certifying agent seal
- Ingredient statement
  - Identify organic ingredients as "organic" (optional) (required if % organic is displayed)

Simple Organic Solutions

Labeling category

Less-than 70% organic ingredients.

Principal display panel

Prohibited: Any reference to organic content of product.

Prohibited: USDA seal & certifying agent seal.

Information panel

"X% organic…" (optional)

Prohibited: USDA seal & certifying agent seal.

Ingredient statement

Identify organic ingredients as "organic" (optional) (required if % organic is displayed).

Other package panels

Prohibited: USDA seal & certifying agent seal).

No prohibited practices allowed on organic ingredients. Ok to use prohibited practices on non-organic ingredients.

# Inspection Process

- Who to contact
  - Listed at end of presentation
- How to prepare
  - Before applying
  - Before the inspection
- What to expect
  - Inspector activities
  - Advice
  - Spot inspections

Simple Organic Solutions

Preparations:

Organic handling plan: this is the master document that needs to be prepared early to determine what all else is needed. Certifier and inspector are no longer allowed to offer advice about how to comply.

Forms from the certifier. Water reports, State (Federal) inspection reports, certified fruit sources, MSDS on cleaners, sanitizers, boiler chemicals.

What to expect:

Outline of inspection process. Inspector is the eyes and ears of the certification agency. It is the certifier that has the final say in what is necessary to get certified.

Plant walk through, following product from receiving , to warehousing, staging, processing, packaging and final warehousing.

Paper trail of all of the above

Receiving records, organic certificates, BOL's, processing records, batch numbering, lot numbering, etc. and finally shipping records. Mock product recall to insure paper trail is intact. Product audit: full pounds in/ pounds out for an item or two.

Other items:

Sanitation chemicals and cleaning logs; pest management chemicals and logs.

Spot Inspections:

Certifiers reserve the right and are being required by ISO regulations to perform unannounced spot inspections occasionally. The just started doing these in 2000. OTCO will be 7-10 unannounced plant inspections per year.

# Hot Topics for the Juice Industry

- GMO's and GE
  - Processing enzymes
  - Ingredients
- Synthetics
  - National List
- Inerts
  - Allowed processing aids
- 100% Juice
- Commercial Availability
- Decertification

Simple Organic Solutions

GMO's and GE: Genetically Modified Organisms and Genetically Engineered are no-no's to the organic industry. The NOP states that no GMO's (or other prohibited practices) will be allowed on any ingredient used in any product that gets labeled as >70% organic. Prohibited practices are allowed on non-organic ingredients in products that contain <70% organic.

Enzymes: No GMO enzymes allowed. Must have documentation from supplier that they are ok for organic processing.

Ingredients: Soy products, corn products (corn syrup, starch) are troublesome as many forms are now from GMO crops. Citric acid has restrictions on its production methods

Synthetics: currently each certifier has their own list, but they will be standardizing on the National List. More about this in other slides.

Inerts: processing aids, enzymes, etc. may need to be approved if they contain synthetic components that are questionable. Best solution is to get the product approved by OMRI.

100% Juice: Cannot use ANY synthetics in a 100% Organic Juice. That means no enzymes, filter aids, press aids, etc. Only exception would be the allowance of using organic rice hulls as press aid.

Commercial Availability: Must use organic ingredients if they are available in quantity, quality. Price may be a factor-still under debate.

Decertification: Will likely be handled through the State, but this is still unknown.

# National List

- Nonagricultural Ingredients
  - Nonsynthetics allowed-if on the National List
  - Synthetics allowed-if on the National List
  - Within the % labeling limits
- Non-organically produced agricultural ingredients
  - Within the % labeling limits
- Amending the list
- Not on the National List?
  - Can't use it


**§ 205.605** Nonagricultural (nonorganic) substances allowed as ingredients in or on processed products labeled as "organic" or "made with organic"

**(a) Nonsynthetics allowed: 20 categories with about 27 items**

(1) Acids…(ii) Citric—produced by microbial fermentation of carbohydrate substances.
(5) Colors, nonsynthetic sources only.
(8) Enzymes …
(9) Flavors…no solvents … or any artificial preservative.
(19) Waxes—nonsynthetic.

**(b) Synthetics allowed: about 36 listings**

(4) Ascorbic acid.
(9) Chlorine materials—disinfecting and sanitizing food contact surfaces… residual chlorine levels in the water shall not exceed the maximum residual disinfectant limit under the Safe Drinking Water Act.
(19) Nutrient vitamins and minerals, in accordance with 21 CFR 104.20,
(32) Sodium hydroxide—prohibited for use in lye peeling of fruits and vegetables.
(34) Sulfur dioxide—in wine labeled "made with organic grapes,"…total < 100 ppm.

**§ 205.606 Non-organically produced agricultural products** allowed as ingredients in products labeled as "organic" or "made with organic". …Any agricultural …product may be used … when the product is not commercially available in organic form.

**five listings**
(a) Cornstarch (native)
(b) Gums—water extracted only (arabic, guar, locust bean, carob bean)
(c) Kelp—for use only as a thickener and dietary supplement
(e) Pectin (high-methoxy)

**§ 205.607** Amending the National List

(a) … the (NOSB) … evaluated … for inclusion on or deletion from the National List …
(c) A petition to amend the National List must be submitted to:
Program Manager
USDA/AMS/TMP/NOP
Room 2945, South Building
P.O. Box 96456
Washington, DC 20090–6456.

**OTCO: ingredients 91 a/r; aids 18 a/r; cleaners/sanitizers 20 a/r; pest control 18, 5 a/r**

Lots of items not addressed by the National List.

# Certifiers

- State or Private
  - CCOF, OTCO, QAI…
- Accredited
  - By USDA≈1 year, for early applicants
- Advice
  - Not allowed-conflict of interest
- Imports
  - Equivalency


State can set higher standards, but private can't. State program would have to be approved by USDA. Only applies to product produced in that state. Can't be used as a trade barrier.

Accreditations will be announced by USDA ≈1 year from implementation for certifiers that apply within 6 mo. (August 2001).

If certifier is accredited, processors will be considered in compliance until the processors next renewal date.

Consulting or advice by certifier: specifically prohibited. Potential for conflict of interest. Don't know whether that extends to the inspector, but it probably does.

Inspectors are the eyes and ears of the certifying agents. They may be independent contractors or staff.

Can't force use of certifier (or USDA) label. But other labeling requirements are addressed.

Importation requires that USDA recognize the foreign certifier as meeting the same standards as domestic production.

California regulations will have to be redrafted to be consistent with the NOP. Contact Ray Green (CA Dept. Food & Ag-Organic program director).

Rumors are: State will not be a certifier; State may take on enforcement role; State my cover small (exempt) operations

COFA language going away, but there may be some "Made in California" label claim.

# Contacts

- USDA
  - http://www.ams.usda.gov/nop/
- CCOF
  - Sue Ten Eyck 831-426-2263
- QAI
  - Maria DeVincenzo 858-792-3531
- California Department of Agriculture
  - Ray Green 916-654-0919
- Oregon Tilth
  - Connie Sperling 503-378-0690


Oregon Tilth
1860 Hawthorne NE Suite 200
Salem, OR 97303
Connie Sperling
503-378-0690
http://www.tilth.org/

CCOF
1115 Mission St.
Santa Cruz, CA 95060
Sue Ten Eyck
831-423-2263
http://www.ccof.org/

QAI
12536 High Bluff Dr. Suite 300
San Diego, CA 92130
Maria DeVincenzo
858-792-3531
http://www.qai-inc.com/

USDA-NOP
1400 Independence Rm 2945 South Bldg.
Washington D.C. 20090
http://www.ams.usda.gov/nop/index.hm
Keith Jones
202-720-3252

OMRI
P. O. Box 11558
Eugene, OR 97440-3758
Kathlene Downey
541-343-7600
http://omri.org/

CA Dept. of Food & Agriculture
Division of Inspection Services
1220 N Street
Sacramento, CA 95814
Ray Green
916-654-0919
Rgreen@cdfa.ca.gov