Certified Kind: Production Rules



Certified Kind, LLC 2014

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Dedication

For Gaia.

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Introduction

Certified Kind Statement of Intent

Certified Kind agriculture is an earth-friendly way of farming rooted firmly in the idea that the way we farm is just as important as the yield. Certified Kind growers produce crops in harmony with natural systems using methods that are **Kind to Life, Kind to Earth.**

Certified Kind draws inspiration from the creative force of natural ecosystems and the power of plants to shape and transform human culture. The principals of health, ecology, fairness, and care, so eloquently defined by the International Federation of Organic Agricultural Movements (IFOAM), helped guide the development of the Certified Kind rules.

The Certified Kind rules have been modeled after the IFOAM Norms for Organic Production and Processing, the USDA National Organic Program (NOP) standards, and the organic standards of the European Union, Canada, and Mexico.

Each of these standards has historical roots in regional grassroots movements initiated by farmers deeply committed to growing a healthy planet. Activist farmers allied with like-minded food processors and consumers created the Organic Movement — literally out of the soil. Over the past 35 years, the sector has blossomed into an accepted alternative to conventional, chemical, toxic agriculture.

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Chapter 1: General Rules

Certified Kind General Rules

Use of the term, "Certified Kind"

The term, "Certified Kind," may only be used by operations that are inspected by a Certified Kind inspector, comply with Certified Kind rules, have a valid Certified Kind certificate, and have signed a contract for rights to use the "Certified Kind" name and logo.

Certified Kind production and system plan

The Certified Kind producer, processor, or retailer intending to sell, label, or represent products as "Certified Kind" must provide a description of the production practices and procedures to be performed in enough detail to allow a thorough on-site inspection. Specific information required to achieve Certified Kind certification may vary depending on the type and complexity of the operation, but will always include the following:

i.) A list of each substance to be used as a production or processing input indicating its composition and source. This means a Certified Kind grower must disclose information about all inputs such as fertility materials, pest control materials, potting soil, seeds, production aids, etc. A food processor must disclose all ingredients used to make a product, as well, as facility sanitizers and pest control products.

- ii.) A description of the production practices including size and scope of the production for farms and complete product formulation and ingredient information for product processing.
- iii.) Evidence that the Certified Kind applicant is legally registered as a grower, processor, or retailer in the State where production and/or distribution activities occur.
- iv.) A certified Kind producer must provide additional information deemed necessary to evaluate compliance with Certified Kind rules.

Recordkeeping requirements

Detailed and adequate recordkeeping is an essential part of Certification because it allows the producer to develop a body of evidence that helps prove compliance to the Certification rules.

A Certified Kind operation must keep adequate records in order to show compliance with the Certified Kind Rules. Detailed records must be maintained and made available during the inspection. The records must be in a form that can be easily understood and audited.

Adequate documentation may include: Production records, records documenting the application of fertility and pest control materials, cleaning and sanitation records, receipts for production inputs, harvest records, sales and/or transaction records, ingredient records, inventory records.

Prohibited technologies and substances in Certified Kind production and processing

Certified Kind products must be produced and/or handled without the use genetically modified organisms, ionizing radiation, sewage sludge, or nanotechnology. Synthetic substances and ingredients are generally not permitted except as specifically allowed by Certified Kind rules.

Examples of allowed synthetic substances include pest control and fertility materials for growing Certified Kind products like copper hydroxide and fish emulsion, and some basic food processing substances like baking soda or non-GMO yeast.

For a complete list of allowed substances see the Certified Kind Big Green List (appendix 1).

Social justice requirements

The principles of organic agriculture require thoughtful consideration of ecosystems and living organisms. Certified Kind operations must extend this principle of stewardship and care to their workers and ensure basic principles of social justice and worker rights are part of their businesses.

Certified Kind operators must respect the rights of indigenous peoples and must not exploit land whose inhabitants or farmers have been impoverished, dispossessed, colonized, expelled, exiled or killed, or which is currently in dispute regarding legal or customary local rights to its use or ownership.

All permanent employees must have access to potable water, food, and housing.

Product cannot be Certified Kind if it is produced in a manner that violates human rights, such as forced or involuntary labor, or illegal child labor or violates indigenous land rights.

Certified Kind operations must allow their employees or contractors the freedom to associate, organize and to bargain collectively.

Certified Kind operations must provide employees and contractors equal opportunity and not act in a discriminatory way.

Certified Kind operators must provide written conditions of employment to both permanent and temporary employees. The terms and conditions must at least specify ages, frequency and method of payment, location and type of work, hours of work and overtime, holiday pay, sick pay or sick benefits, and other benefits such as maternity and paternity leave.

Certified Kind workers must be provided adequate protection from noise, dust, sunlight, and exposure to chemicals in all production and processing operations.

Chapter 2: Crop Rules

Certified Kind Crop Production Practices

Natural resource stewardship

A Certified Kind grower must implement practices that preserve and/or rehabilitate local resources and biodiversity. The overall effect of production practices must be adapted to local conditions and sustain the health and integrity of the ecosystem. Natural resource stewardship must include practices designed to prevent soil erosion and degradation of water sources.

Irrigation water must come from legal sources; illegal diversion of water is prohibited. When production occurs in semi-arid, or areas with seasonal rains, and water is diverted from surfaces sources, growers are encouraged to store water during winter months for use in the summer.

The use of off-grid diesel or gasoline fuel generators for crop production is prohibited, except where the grower can demonstrate that generator use has no adverse impact on soil or water quality.

Certified Kind producers must demonstrate an effort to use applicable energy efficient technologies to minimize environmental impacts of lighting and heating and/or other climate control techniques used in greenhouse and indoor production facilities.

For indoor and greenhouse production that use artificial lighting and heating, the producer must conduct an energy audit that identifies energy sources and energy consumption per amount of crop produced and/or surface area of crop production. The audit must occur on an annual basis starting in year two of certification. Energy audit results can be used as guidance to develop energy saving and energy efficient practices.

Land eligibility and history

Soil or soil medium where crop is planted must be free of prohibited substances for no less than three years prior to harvest of the crop. Transitional status may be granted if soil is free from prohibited substances for no less than one year prior to harvest of the crop.

For production in grow bags or other container systems with imported growing medium (soil mix), the growing medium must have been free of prohibited substances for no less than three years prior to the harvest of the crop.

Crops grown in soil or soil medium that has been free of prohibited materials for at least one year prior to the harvest of the crop may be eligible for Certified Kind transitional status. Transitional status is often the first step for growers converting farms to Certified Kind production.

Production areas must have distinct and defined boundaries that adequately prevent contamination from adjacent production areas or land uses that are not Certified Kind.

Fertility and crop nutrient management

Stewardship of soil is the soul of organic farming. Organic farmers understand that healthy soil can help plants enhance their ability to uptake nutrients and fight off disease and pests. Yet the term organic also has been used to describe products grown in containers with potting soil mixes.

- a.) As applicable to the crop production system, the Certified Kind producer must maintain or improve soil conditions and minimize soil erosion. Fertility and healthy soil building practices must not cause or contribute to contamination of soil, water, or the crop. Techniques used by successful organic farmers in outdoor production to enrich soil conditions include cover cropping, crop rotation, and the application of plant organic matter, manure, and compost.
- b.) To improve soil, or to grow healthy plants, a producer may use non-synthetic fertility materials that are listed on the Certified Kind Big Green List (appendix 1).

Examples include bone meal, feather meal, blood meal, guano, non-GMO microorganisms, rock dust, and alfalfa meal.

c.) To improve soil, or to grow healthy plants, a producer also may use synthetic fertility materials, or plant or animal materials that have been chemically altered, only if listed on the Certified Kind Big Green List and used with respect to listed restrictions.

For example, humic acids, micronutrients, and liquid fish products are on the Big Green List and are allowed as long as the listed restrictions are followed.

d.) Use of any synthetic fertility material is prohibited if the material is not on the Certified Kind Big Green List.

Examples of prohibited synthetic fertility materials include synthetic fertilizers like potassium nitrate, ammonium nitrate, Triple 16, Super phosphorous, etc.

- e.) Use of liquid fertilizers with nitrogen content greater than 3% is prohibited, unless the liquid fertilizer is approved by OMRI, WSDA, Certified Kind, or an equivalent USDA accredited organic materials review organization.
- f) Grow media, such as potting soils and soil mixes, must be comprised of allowed substances listed on the Certified Kind Big Green List, and must be able to be recycled or re-used by the operation if possible.

Plant propagation

The plant propagation standard is intended to promote the use of Certified Kind plant material in a manner that offers flexibility to growers for the use of new, rare, or highly sought after varieties that are not readily available as Certified Kind.

The producer must use Certified Kind or certified organic seed and planting stock. Planting stock includes plants that have been propagated through leaf cuttings/clones. However, if Certified Kind or certified organic seed and planting stock is not commercially available in the form, variety, quality or quantity desired, producers may use

non-Certified Kind or non-certified organic untreated seed and planting stock, as long as the seed and planting stock has not been genetically modified.

Lack of commercial availability of the desired Certified Kind seed and planting stock must be documented and at least three reasonable sources must be searched, prior to use of non-Certified Kind or non-certified organic varieties.

For the production of edible sprouts, Certified Kind or certified organic seed must be used.

Annual seedlings must be Certified Kind or certified organic after year one of certification.

Perennial planting stock intended for redistribution or sale as Certified Kind planting stock must be managed per Certified Kind rules for at least one year before it can be represented as Certified Kind planting stock.

Crop rotation

In organic farming systems, crop rotation can play a critical role in the cycling of nutrients, prevention of soil erosion, soil improvement, and disruption of pest cycles.

The Certified Kind grower must implement a crop rotation, if applicable to the type of production system used to grow the crop. For example, a crop rotation must be developed for in-ground crop production, but is not required for indoor or greenhouse container production.

Crop pest, weed and disease management

How a farmer deals with pests, weeds, and disease depends on the crop and production system, as well as tolerance for crop loss and crop damage. Philosophies regarding organic pest management are as diverse and colorful as the pests themselves, but are rooted in practices that prevent pest problems, and minimize the release of poisonous chemicals. Organic farming was founded as an alternative to chemical agricultural systems that are dependent on the use of synthetic fertilizers and pesticides.

A Certified Kind producer must attempt to prevent crop pests, weeds and disease using management practices and tools designed to prevent and disrupt pests, such as: crop rotation, cultivation, mulching, cover cropping, weeding, sterile seed beds, floating row covers, greenhouses, temperature control, precision irrigation, sanitation, sticky traps, etc.

Additionally, plant varieties bred for pest and disease resistance or adaptability to site-specific microclimates may be used. Promoting predatory insect habitat and trap crops and releasing beneficial insects are allowed pest control practices. Mechanical traps, lures, and natural repellents may also be used.

Plastic and landscape fabric may be used to prevent weeds as long as the material is not left in the ground to decompose and does not contaminate the soil.

Non-synthetic, plant-based pest control products, microorganisms, and minerals may be used to address plant disease issues. Examples include garlic extract, non-GMO Bacillus subtilis, and elemental sulfur, respectively.

When the above-mentioned, or other allowed pest control practices, are insufficient to prevent or control crop pests, a material on the Certified Kind Big Green List (appendix 1) may be used.

Wood treated with a prohibited substance may not be used in a manner that could contaminate crop soil.

Certified Kind post-harvest handling requirements

The harvest amounts of Certified Kind Crops must be documented to allow traceability of the harvested crop from seed/clone to finished product.

Simple post-harvest handling of Certified Kind crops (such as trimming, drying, packaging, and storage) must occur at a location legally registered for such activities

and reported in the producer's Certified Kind management plan.

Certified Kind products must not be mixed or comingled with non-Certified Kind products.

Multi-ingredient Certified Kind products must be produced at a location legally registered for such activities and reported in the producer's Certified Kind management plan.

Detailed records must be kept for post-harvest handling, storage, and transportation of Certified Kind product.

Chapter 3: Processing Rules

Certified Kind Processing Requirements

Indoor production or processing facility pest management

Within indoor production or processing facilities, a Certified Kind producer or processor must use allowed pest control practices intended to prevent pests.

Examples of preventative pest control practices for indoor production and processing facilities include environmental control of light, humidity, temperature, air-flow, as well as pest habitat removal, pest exclusion methods, mechanical traps, and sound.

When preventative pest control practices prove ineffective, a Certified Kind producer may use pest control materials on the Certified Kind Big Green List.

If both preventative pest control practices and pest control materials on the Certified Kind Big Green List are insufficient to prevent or control pests, a conventional synthetic pest control material may be used as a last resort, but only when pre-approved by Certified Kind staff and only for indoor facilities.

Prevention of commingling and contact with prohibited substances

The Certified Kind producer must defend the purity of Certified Kind Products from any and all types of contamination. Comingling and mixing of Certified Kind products with non-Certified Kind products is prohibited and measures must be taken to adequately mark and/or distinguish Certified Kind product from non-Certified Kind product at all stages of production.

Storage and packaging practices must maintain the purity of the product and not include the use of any prohibited fungicides, preservatives, or fumigants. Only clean reused containers or clean new containers that pose no contamination risks may be used.

Processed product composition and labeling

Producers or processors of single ingredient product that has only been subjected to simple processing (such as drying, curing, sorting, and packaging) may label product as Certified Kind.

Multi-ingredient products, such as liniments or brownies, which contain edible Certified Kind ingredients may be labeled as Certified Kind if all ingredients in the product are Certified Kind or certified organic.

Multi-ingredient products that contain at least 95% Certified Kind or Certified "Organic" ingredients (by weight or fluid volume excluding salt and water) can be labeled as Certified Kind. However, any non-organic processing aid or non-organic ingredient used in a Certified Kind product

must be listed as allowed on the Certified Kind Big Green List (appendix 1).

Products that contain less than 95% Certified Kind or "Organic" ingredients may NOT be labeled as Certified Kind.

Certified Kind and organic ingredients used in a product labeled as Certified Kind must be identified on the ingredient statement.

Any product labeled as Certified Kind cannot contain any ingredient from a genetically modified organism or any ingredient that was irradiated or grown with sewage sludge or is deemed a manmade nanotechnology ingredient.

All labels using the Certified Kind name or logo must be pre-approved by Certified Kind. Product labels that use cartoons or cartoon characters, or appear to target people under the age of 21 are prohibited.

Certified Kind edible products must adhere to applicable state labeling requirements.

Chapter 4: Administrative Rules

ADMINSTRATIVE PROCESS

General requirements for certification

Anyone wishing to obtain or maintain permission to represent product as Certified Kind must:

- a.) Comply with all applicable Certified Kind program rules and requirements
- b.) Maintain an accurate Certified Kind management plan that describes the agricultural or food processing practices used to produce the product
- c.) Allow annual on-site inspections and complete access of all facilities
- d.) Maintain sufficient records for no less than 5 years and make said records available for review during the inspection
 - e.) Pay all certification and inspection fees
- f.) Inform Certified Kind staff about any significant changes to production practices that could affect compliance or any event such as pesticide drift or accidental application of a prohibited material

Application for certification

A person seeking certification of a production or handling operation must apply using Certified Kind intake forms. The intake form will serve as the initial application for certification services and will serve as the basic Certified Kind Management Plan.

Review of application

During the initial application process, Certified Kind will assess whether the applicant appears to comply with the Certified Kind rules.

If the application complies with the Certified Kind rules, the applicant will be notified. Once payment for certification is received, the on-site inspection date will be confirmed, and inspection conducted.

If the applicant is not able to comply with Certified Kind rules, the applicant will be notified and fees will not be charged, and any fee already paid will be refunded. The applicant can re-apply at any time.

On-site inspection

A Certified Kind operation will be physically inspected at least once each year. The on-site inspection is essential to determine compliance with Certified Kind rules. Inspectors are the eyes and ears of Certified Kind and will make observations about the production practices at the farm or processing facility. The inspector will attempt to verify that: the Certified Kind Management Plan is accurate, Certified Kind rules are being followed, no prohibited materials or ingredients are being used, and product contamination has not occurred.

The inspector will conduct an Exit Interview at the end of the inspection to communicate inspection findings, observations, and/or any issues of concern. The inspector is

responsible for writing an inspection report that details observations made during the inspection. A copy of the inspection report will be provided to the inspected operation after it is received, reviewed and processed by Certified Kind staff. Additional inspections to assess compliance as needed may be announced or unannounced. Certified Kind will pay for unannounced inspections. If an applicant or renewing operation seeking certification renewal agrees to an additional inspection to address compliance issues, or to add additional grow locations or processing facilities, the additional inspection will be paid for by the applicant or renewing operation.

Verification of certification

After an operation has been inspected, the inspection report along with the operation's Management Plan will be reviewed for compliance to the Certified Kind rules. Once all aspects of the operation have been determined to be compliant to the Certified Kind rules, the operation will receive notification of successful certification.

Denial of certification

When Certified Kind has reason to believe that an applicant for certification cannot comply with Certified Kind rules, a Notice of Non-Compliance will be sent to the applicant. The Notice of Non-Compliance will include a description of each non-compliance and the date by which the applicant must correct or rebut the non-compliance, if correction or rebuttal is possible.

After reception of the Notice of Non-Compliance, the applicant may respond to the Notice of Non-Compliance with proposed corrective actions and any applicable supporting documentation or may respond with a rebuttal of the non-compliance and any applicable documentation that supports the rebuttal.

After issuing a Notice of Non-Compliance, Certified Kind will review the applicant's proposed corrective actions or rebuttal, and conduct an additional onsite inspection if necessary. (Additional inspections are paid for by the applicant.)

If corrective actions or rebuttal are adequate to resolve the compliance concern, certification will be granted. If corrective action is not adequate to resolve the non-compliance, then the certification request will be denied with no refund of fees paid.

Applicants denied certification can reapply at any time or they can request mediation. Mediation will be paid for by the applicant.

If Certified Kind has reason to believe that an applicant has made false statements on the application or misleading statements regarding compliance to the Certified Kind rules, the application may be denied without first issuing a Notice of Non-Compliance.

Continuance of Certification

To continue using the Certified Kind label and logo, a producer must pay annual certification and inspection fees,

update their Certified Kind Management Plan with any new information that could affect compliance to the Certified Kind rules, provide an update on any previously identified and corrected minor noncompliance(s), and comply with all applicable Certified Kind rules.

After Certified Kind receives annual fees and any updated information, a renewal inspection will be conducted to verify continuing compliance with all applicable parts of the Certified Kind rules.

Expertise, Confidentiality, Conflict of Interest

Certified Kind review and certification staff are trained according to Certified Kind rules and have expert knowledge of the USDA National Organic Program regulations, EU Organic Production Rules, Canada Organic Regime, and the Mexican Organic Products Law. Inspectors are trained in Certified Kind rules and the USDA National Organic Program regulations.

Confidentiality of all information submitted to Certified Kind is strictly maintained.

No information about applicants or certified operations is shared or redistributed. The Certified Kind Trademark Use Agreement and Contract also addresses concerns about confidential information.

Conflicts of interests are avoided through conflict of interest reports collected each quarter from all Certified Kind staff. Certification staff with conflicts of interest with any applicant or renewing client cannot be involved in the certification of the operation in question.



Appendix 1

CERTIFIED KIND BIG GREEN LIST OF ALLOWED MATERIALS

Part I. Nonsynthetic Materials Fertility

List of nonsynthetic fertility materials allowed for use in Certified Kind crop production.		
A. Plant and Animal Origin Animal manure	Restriction	
Blood meal, bone meal, crab meal, crab meal, chitin, hoof and horn meal, feather meal, fish meal, oyster shell meal, shell meal		
Compost – Ani- mal manure based Compost – Plant matter based Guano (Bat or		

Notural plant harmonas auch as
Natural plant hormones such as
gibberellic acid, indoleacetic acid,
and cytokinins. Must not contain
prohibited synthetic materials.
- "· · · · · · · · · · · · · · · · · · ·
For potting mixes only. No
synthetic additives.
Free of contaminants.
Worm feedstock must be from
nonsynthetic materials listed as al-
lowed on the Certified Kind Big
Green List.
From untreated wood
sources.
Restriction
From natural brine process. Al-
lowed as a foliar spray.
Examples include: Basalt, benton-
ite, biotite, calcium carbonate
(limestone), calcium sulfate (gyp-
sum), chalk, charl, dolomite,

	feldspar, granite powder, green-
	sand, kieserite, langbeinite,
	leonardite, magnesium carbonate,
	magnesium chloride, magnesium
	rock, magnesium sulfate (Epsom
	salts), marl, mica, potassium sul-
	fate, pulverized rock, pumice, rock
	dust, sand, sodium bicarbonate,
	stone meal, sulfate of potash
	magnesia, vermiculite, zeolite.
Mined substances	Potassium chloride.
of high solubility	Allowed from mined sources only
	and accumulation of chloride in
	the soil must be minimized.
Elemental Sulfur	
Trace elements	
(micronutrients	
non-synthetic)	
Vitamins	Nonsynthetic origin.
C. Materials	Restriction
Microbial	
Origin	
Microorganisms	Must not be genetically modified.
	,
C. Other Fer-	Restriction
tility Materials	
Biodynamic prep-	
arations	
Molasses	
	Notinal compact Everence Viscos
Wetting agents	I Natural Sources, Example: Yucca
Wetting agents Cardboard, paper	Natural sources. Example: Yucca Non-waxed, non-fumigant treated.

Pest and Disease Control

	List of nonsynthetic pest and disease control	
materials allowed for use in Certified Kind crop pro-		
duction.		
A. Plant and Animal Origin	Restriction	
Animal products and oils		
Beeswax		
Chitin	Natural origin, not processed by acid hydrolysis. Not allowed as an inert ingredient with a registered EPA fungicide.	
Beneficial insects		
Plant matter or plant based residue		
Vinegar		
Plant oils		
Plant extracts, plant pesticides	A substance obtained from a plant or its parts without undergoing a synthetic reaction. Example: Pyrethrum (Chrysanthe-	
	mum cinerariafolium), Neem (Azadirachta indica), Sabadilla.	
Plant prepara- tions	A substance obtained from a plant via a solvent without undergoing a synthetic reaction.	
B. Mineral Origin	Restriction	

Diatomaceous Earth	Natural, not calcined.
C. Microbial	Restriction
Origin	
Microorganisms	Bacteria, fungal, viral preparations.
	Must not be genetically modified.
D. Other	Restriction
Biodynamic prep-	
arations	
Pheromones	In traps and dispensers only.
Cardboard, paper	Non-waxed, non-fumigant treated.
Fiber Row Covers	Must not be incorporated into the
	soil or allowed to decompose.
Mechanical traps	Example: rodent snap traps, sticky
	traps

Part II. Synthetic materials

List of synthetic materials allowed for use in Certified Kind Crop Production.	
A. Fertility Materials	Restriction
Aquatic plant extracts (other than hydrolyzed)	Extraction process is limited to the use of potassium hydroxide or sodium hydroxide; solvent amount used is limited to that amount necessary for extraction.
Elemental sulfur	

Humic acids	Naturally occurring deposits, water and alkali extracts only.
Lignin sulfonate	Chelating agent, dust suppressant.
Magnesium sul- fate	Allowed with a documented deficiency.
Micronutrients: -Soluble boron productsSulfates, car- bonates, oxides, or silicates of zinc, copper, iron, man- ganese, molybdenum, se- lenium, and cobalt.	Not to be used as a defoliant, herbicide, or desiccant. Those made from nitrates or chlorides are not allowed. Deficiency must be documented by testing.
Liquid fish products	Can be pH adjusted with sulfuric, citric or phosphoric acid. The amount of acid used shall not exceed the minimum needed to lower the pH to 3.5. Liquid fish products with N% greater than 3% must be approved by OMRI, WSDA, or Certified Kind.
Vitamins, B ₁ , C, and E	

B. Pest Con-	Restriction
trol Materials	
Ammonium carbonate	For use as bait in insect traps only, no direct contact with crop or soil.
Aqueous potassium silicate (CAS #-1312-76-	The silica, used in the manufacture of potassium silicate, must be sourced from naturally occurring sand.
Boric acid	Structural pest control, no direct contact with organic food or crops.
Elemental sulfur	
Citric Acid	Produced by non-GMO microbial fermentation of carbohydrate substrates.
Lime sulfur—in-	
cluding calcium polysulfide	
Oils, horticultural	Narrow range oils as dormant, suffocating, and summer oils.
Soaps, insecticidal	
Sticky traps/barri- ers	
Sucrose octanoate esters (CAS #s— 42922-74-7; 58064-47-4)	In accordance with approved labeling.
Pheromones	

Vitamin D ₃	Rodenticide.
Ferric phosphate (CAS # 10045-86-0)	As slug or snail bait.
Coppers, fixed	Copper hydroxide, copper oxide, copper oxychloride, includes products exempted from EPA tolerance, <i>Provided</i> , That, copperbased materials must be used in a manner that minimizes accumulation in the soil and shall not be used as herbicides.
Copper sulfate	Substance must be used in a manner that minimizes accumulation of copper in the soil.
Hydrated lime	
Hydrogen perox- ide	
Potassium bicar- bonate	
Synthetic inert ingredients	As classified by the Environmental Protection Agency (EPA), must appear on EPA List 4, Inerts of Minimal Concern. Inerts of unknown toxicity are allowed for use only in passive pheromone dispensers and if listed on EPA List 3.

C. Algicide, Disinfectant, and Sanitizer	
Alcohols	Ethanol or isopropanol.
Chlorine materials: - Calcium hypochlorite - Chlorine dioxide - Sodium hypochlorite	For pre-harvest use, residual chlorine levels in the water in direct crop contact or as water from cleaning irrigation systems applied to soil must not exceed the maximum residual disinfectant limit under the Safe Drinking Water Act, except that chlorine products may be used in edible sprout production according to EPA label directions.
Hydrogen perox- ide	
Ozone gas	For use as an irrigation system cleaner only.
Peracetic acid	For use in disinfecting equipment, seed, and asexually propagated planting material. Also permitted in hydrogen peroxide formulations at concentration of no more than 6%.
Soap-based algi- cide/demossers	
Sodium carbonate peroxyhydrate (CAS #-15630-89-4)	Approved food uses as identified on the product label.

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D. Weed Bar- riers, Mulches, Herbicides	
Soap Based Herbicides	For use in farmstead maintenance (roadways, ditches, right of ways, building perimeters) and ornamental crops.
Newspaper Mulch or other recycled paper.	No glossy or colored inks.
Plastic mulch and covers	Petroleum-based other than polyvinyl chloride (PVC).
E. Crop Production Aids	
Citric Acid	Produced by microbial fermentation of carbohydrate substances. Fermentation microbes must be non-GMO. Example, pH adjuster or irrigation line cleaner.
Microcrystalline cheesewax (CAS #'s 64742- 42-3, 8009-03-08, and 8002-74-2)	For use in log grown mushroom production. Must be made without either ethylene-propylene copolymer or synthetic colors.
Synthetic Rooting Hormones	Allowed for use during first year of Certified Kind production if non-synthetic rooting hormone is not available, until 12/31/2017.

Big Green List of Synthetic Materials Allowed in Certified Kind Processed Products.

Nonagricultural substances allowed as ingredients in or on processed products labeled as "Certified Kind".	
A. Nonsyn- thetics allowed:	
Acids: Alginic; Citric; and Lactic.	Produced by microbial fermentation of carbohydrate substances. Microbes used in fermentation must be non-GMO.
Agar-agar	
Animal enzymes	Rennet—animals derived; Catalase—bovine liver; Animal lipase; Pancreatin; Pepsin; and Trypsin.
Attapulgite	As a processing aid in the handling of plant and animal oils.
Bentonite	
Calcium car-	
bonate	
Calcium chloride	
Calcium sulfate	Mined.
Carrageenan	
Dairy cultures	Non-GMO.
Diatomaceous earth	Food filtering aid only
Egg white lyso-	
zyme (CAS # 9001-63-2)	

Enzymes	Must be derived from non-GMO, edible, nontoxic plants, nonpathogenic fungi, or nonpathogenic bacteria.
Flavors	Nonsynthetic sources only and must not be produced using synthetic solvents and carrier systems or any artificial preservative.
Gellan gum (CAS # 71010-52-1)	High-acyl form only.
Glucono delta- lactone	Production by the oxidation of D-glucose with bromine water is prohibited.
Kaolin	
L-Malic acid (CAS # 97-67-6)	
Magnesium sul- fate	Nonsynthetic sources only.
Microorganisms	Any food grade bacteria, fungi, and other microorganism.
Nitrogen	
Oxygen	
Paper	
Perlite	For use only as a filter aid in food processing.
Potassium chlo- ride	
Potassium iodide	

Sodium bicar-	
bonate	
Sodium car-	
bonate	
Tartaric acid	Made from grape wine.
Waxes	Nonsynthetic (Carnauba wax; and
Wancs	Wood resin).
Yeast	When used as food or a fermentation agent in products labeled as "Certified Kind," yeast must be certified organic if its end use is for human consumption; nonorganic yeast may be used when organic yeast is not commercially available. Growth on petrochemical substrate and sulfite waste liquor is prohibited. For smoked yeast, nonsynthetic smoke flavoring process must be documented. Non-GMO.
B. Synthet-	
Acidified sodium chlorite	Secondary direct antimicrobial food treatment and indirect food contact surface sanitizing. Acidified with citric acid only.
Activated char-	Only from vegetative sources; for
coal (CAS #s	use only as a filtering aid.
7440-44-0;	
64365-11-3	
Alginates	
Ammonium bicarbonate	For use only as a leavening agent.

Ammonium car-	For use only as a leavening agent.
bonate	
Ascorbic acid	
Calcium citrate	
Calcium hydrox-	
ide	
Calcium phos- phates:	
Monobasic, diba-	
sic, and tribasic.	
Carbon dioxide	
Cellulose	For use in regenerative casings,
	as an anti-caking agent (non-chlo-
	rine bleached) and filtering aid.
Chlorine materi-	Disinfecting and conitining food
als:	Disinfecting and sanitizing food contact surfaces, <i>Except</i> , That, re-
- Calcium hypo-	sidual chlorine levels in the water
chlorite	shall not exceed the maximum re-
- Chlorine dioxide	sidual disinfectant limit under the
- Sodium hypo-	Safe Drinking Water Act
chlorite	-
Cyclohexylamine	For use only as a boiler water ad-
(CAS # 108-91-8)	ditive for packaging sterilization.
Diethylaminoeth-	For use only as a boiler water ad-
anol (CAS # 100-	ditive for packaging sterilization.
37-8)	dilive for packaging sterilization.
Ethylene	Allowed for postharvest ripening of
	tropical fruit and degreening of cit-
	rus.

Ferrous sulfate	For iron enrichment or fortification			
remous sunate				
	of foods when required by regula-			
	tion or recommended			
Chronidas	(independent organization).			
Glycerides: mono and di	For use only in drum drying of food.			
Thorio and di	1000.			
Glycerin	Produced by hydrolysis of fats and			
3,,001111	oils.			
Hydrogen perox-				
ide				
Magnesium chlo-	Derived from sea water.			
ride				
Nutrient vitamins	In accordance with 21 CFR			
and minerals.	104.20, Nutritional Quality Guide-			
	lines For Foods and from non-			
	GMO sources.			
0-4-1	Farmer			
Octadecylamine	For use only as a boiler water ad-			
(CAS # 124-30-1)	ditive for packaging sterilization.			
Ozone				
Paper				
Peracetic acid/	For use in wash and/or rinse water			
Peroxyacetic acid	according to FDA limitations. For			
(CAS # 79-21-0)	use as a sanitizer on food contact			
(0/10 # 19-21-0)	surfaces.			
	Carrageo.			
Phosphoric acid	Cleaning of food-contact surfaces			
priorio dola	and equipment only.			
Potassium acid				
tartrate				

Potassium car-	
bonate	
Potassium citrate	
	Duckikitad fan waa in by anadina af
Potassium hy- droxide	Prohibited for use in lye peeling of fruits and vegetables except when used for peeling peaches.
Silicon dioxide	
Sodium acid pyrophosphate (CAS # 7758-16-9)	For use only as a leavening agent.
Sodium citrate	
Sodium hydrox-ide	Prohibited for use in lye peeling of fruits and vegetables.
Sodium phos- phates	For use only in dairy foods.
Tartaric acid	Made from malic acid.
Tetrasodium py- rophosphate (CAS # 7722-88- 5)	For use only in meat analog products.
Tocopherols	Derived from vegetable oil when rosemary extracts are not a suitable alternative.
Xanthan gum	

References

- USDA National Organic Program Rules.
 - $\label{lem:http://www.ams.usda.gov/AMSv1.0/ams.fetchTemplateData.do?template=TemplateA&navID=NationalOrganicProgram&leftNav=NationalOrganicProgram&page=NOPNationalOrganicProgram-Home&acct=AMSPW$
- IFOAM. http://www.ifoam.org/en/organic-landmarks/principles-organic-agriculture
- European Union Organic Production Rules. http://ec.europa.eu/agriculture/organic/organic-farming/index en.htm
- Canadian Food Inspection Agency; Canada Organic Regime. http://www.inspection.gc.ca/eng/1297964599443/1297965645317
- SAGARPA/SENASICA Ley de Productos Orgánicos. http://senasica.gob.mx/default.asp?id=3448



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