



MENDOCINO COUNTY MEMORANDUM

TO: PLANNING COMMISSION

FROM: DUSTY DULEY – PLANNER II

SUBJECT: NORTH AMERICAN ORGANICS USE PERMIT #UR 49-85/09 & #U 15-09

DATE: JANUARY 10, 2011

The purpose of the memorandum is to provide the Commission with a better understanding of North American Organics (NAO) current operations and their business limitation to the storage and sale of “pre-composted” materials only. NAO stores various materials on-site that are blended into specialty mixes for customers. A list of available materials, compiled by the County Division of Environmental Health (DEH), is attached and includes in part; mushroom compost, rabbit compost, worm castings, grape pomace, chicken manure, cow manure, and rice hulls.

Over the years, the County has received complaints from neighbors to the business, objecting to malodors they believe to have originated at the NAO property. As discussed within the staff report, the County Air Quality Management District (AQMD) and DEH have both responded to past odor complaints. AQMD has noted that the level of complaints has not reached the threshold of calling NAO’s operation a public nuisance, but rather a private nuisance. DEH has not discovered any violations.

Staff visited the business shortly before the October 21, 2010 Commission meeting and detected a strong odor upon turning onto Held Road, approximately 1,000 feet from NAO’s operation. Staff discovered that the odor was coming from large piles of fresh grape pomace that had been recently unloaded from off-site vineyards. The pomace was in its raw form and had yet to go through any composting process. Staff does not consider raw grape pomace to be “pre-composted” material. To the applicant’s credit they have always been upfront over the years in their request to accept grape pomace. It’s noted in their past application and is discussed in the August 5, 1999 Commission meeting minutes for their last Use Permit Renewal #UR 49-85/99. Also, the County has not provided a clear definition as to what is considered to be “pre-composted” material which has been problematic to determining compliance with the Use Permit. Staff researched literature on composting and could not find a definition of “pre-composted” materials. State Title 14 regulations do not define “finished product” or “finished compost” either, but “stabilized compost” is defined [14 CCR 17852.(a)]. According to a November 2009 Discussion Draft paper authored by the California Department of Resources Recycling and Recovery (CalRecycle) entitled “Farm and Ranch Composting / Compostable Materials Storage Volume Limitations Issue Paper”,

“Stabilized compost” is material that has completed a pathogen reduction (133°F and above) process and has reduced biological activity demonstrated by lower temperatures (below 122°F) and/or respiration rates than active compost. “Active compost” is compost feedstock that is biological active as indicated by the temperature (122°F and above) or respiration rate of the material [14 CCR 17852.(a)(1)].

Staff is considering that NAO’s limitation to accept and sell only “pre-composted” material be changed to “stabilized compost” as defined by CalRecycle.

According to neighbor's testimony, noxious odors are present even during times when fresh grape pomace is not being delivered to the business. As materials are composted, they initially go through the pathogen reduction process, referred to as the active composting stage, before going through the curing process. CalRecycle defines curing as,

"...the final stage of the composting process that occurs after compost has undergone pathogen reduction, as described in section 17868.3, and after most of the readily metabolized material has been decomposed and stabilized."

Much of the information staff reviewed recommends that compost should cure six months before use. It may be that NAO is accepting materials that have gone through the pathogen reduction process but have not yet gone through the entire composting curing stage to reach a level of completeness or degree of maturity. When assessing compost stability and maturity, CalRecycle notes that,

"In general a mature compost will not contain recognizable feedstock material and should smell like rich soil. It should not smell foul or of ammonia."

In staff's opinion, materials that meet the mature compost characteristics are appropriate for sale at NAO's location, as they should not be producing strong odors that can impact the neighborhood. Staff is recommending that Condition Number 9 of the staff report be revised to state,

"Only stabilized compost, as defined by the California Department of Resources Recycling and Recovery (CalRecycle), that has been cured to the extent that the compost is no longer producing foul odors, may be accepted and stored on-site. No active composting shall occur on the property. Violation of this condition shall be grounds to revoke the Use Permit."

Staff recognizes that what may be considered "foul odors" is highly subjective. Should the County receive odor complaints in the future, staff envisions a County representative visiting the site to determine what materials, if any, are producing the objectionable odors. For example, if the mushroom compost is determined to be the cause of strong odors, staff would perform a simple test (i.e. Solvita test) that measures the compost's stability (temperature and rate of respiration). The test results may show that that compost has only been cured for a short period of time. If so, staff may request that the material be removed from the site (see Condition Number 4), or other alternatives that would effectively minimize the odor impact to the neighborhood (i.e. don't move pile during windy periods, misting system to capture odor particles, etc...). Staff will work with the NOA business to ensure compliance with the condition, but to avoid unnecessary hardships; it may be in the best interest of the applicant to conduct their own testing of in-coming materials to ensure that they are only taking materials that have gone through the curing process (possibly around 6 months) so as to not smell foul. According to the applicant, the material suppliers do not currently provide information on their product's stability or maturity.

INCORRECT STATEMENT:

Staff found an error on the 3rd paragraph down on Page PC 2 of the staff report. Condition Number 1 states that the project must comply with Section 5650 of the Fish and Game Code and does not specifically mention a prohibition of composting materials on-site. Rather the limitation is referenced in the previous Use Permit Renewal #UR 49-85/99 staff report under the project request and environmental review section as well as in the public notice created for the August 5, 1999 public hearing.

Cc: Chris Brown - AQMD
David and Kathy Lowe – Applicants
Trey Strickland – DEH
#UR 49-85/09 Case File

Att: CalRecycle Definitions
Organic Matter Decomposition Curve
DEH materials inspection list for NAO
NAO Product Price List



Regulations: Title 14, Natural Resources--Division 7, CIWMB

**Chapter 3.1. Compostable Materials Handling
Operations and Facilities Regulatory Requirements**

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Article 1

General
 Section 17850-17852

Article 2

Regulatory Tiers for
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Article 3

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Article 5

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 Facility Siting and Design
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 Sections 17865-17866

Article 6

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Article 7

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 Standards
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Article 1. General

Section 17850. Authority and Scope.

(a) This Chapter is adopted pursuant to and for the purpose of implementing the California Integrated Waste Management Act of 1989 (Act) commencing with section 40000 of the Public Resources Code, as amended. These regulations should be read together with the Act.

(b) This Chapter implements those provisions of the Act relating to composting. Nothing in this Chapter is intended to limit the power of any federal, state, or local agency to enforce any provision of law that it is authorized or required to enforce or administer.

(c) Biological decomposition of organic material can be both a naturally occurring or artificially controlled process. This Chapter establishes standards and regulatory requirements for intentional and inadvertent composting resulting from the handling of compostable materials, including but not limited to feedstock, compost, or chipped and ground materials as defined in section 17852.

(d) Nothing in these standards shall be construed as relieving any owner, operator, or designee from the obligation of obtaining all required permits, licenses, or other clearances and complying with all orders, laws, regulations, or reports, or other requirements of other regulatory or EA, including but not limited to, local health entities, regional water quality control boards, air quality management districts or air pollution control districts, local land use authorities, and fire authorities.

(e) Nothing in these standards precludes the EA or the board from inspecting an activity, operation or facility to determine if it is subject to these standards.

Note:

Authority cited:

Sections 40502, 43020, and 43021 of the Public Resources Code.

Reference:

Sections 43020 and 43021 of the Public Resources Code.

Section 17852. Definitions.

(a) For the purposes of this Chapter:

(1) "Active Compost" means compost feedstock that is in the process of being rapidly decomposed and is unstable. Active compost is generating temperatures of at least 50 degrees Celsius (122 degrees Fahrenheit) during decomposition; or is releasing carbon dioxide at a rate of at least 15 milligrams per gram of compost per day, or the equivalent of oxygen uptake.

(2) "Additives" means material mixed with feedstock or active compost in order to adjust the moisture level, carbon to nitrogen ratio, or porosity to create a favorable condition. Additives include, but are not limited to, fertilizers and urea. Additives do not include septage, biosolids, or compost feedstock.

(3) "Aerated Static Pile" means a composting process that uses an air distribution system to either blow or draw air through the pile. Little or no pile agitation or turning is

performed.

(4) "Aerobic Decomposition" means the biological decomposition of organic substances in the presence of oxygen.

(5) "Agricultural Material" means material of plant or animal origin, which result from the production and processing of farm, ranch, agricultural, horticultural, aquacultural, silvicultural, floricultural, vermicultural, or viticultural products, including manures, orchard and vineyard prunings, and crop residues.

(6) "Agricultural Material Composting Operation" means an operation that produces compost from green or agricultural additives, and/or amendments.

(7) "Amendments" means materials added to stabilized or cured compost to provide attributes for certain compost products, such as product bulk, product nutrient value, product pH, and soils blend. Amendments do not include septage, biosolids, or compost feedstock.

(8) "Anaerobic Decomposition" means the biological decomposition of organic substances in the absence of oxygen.

(9) "Biosolids" means solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Biosolids includes, but is not limited to, treated domestic septage and scum or solids removed in primary, secondary, or advanced wastewater treatment processes. Biosolids does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings generated during the preliminary treatment of domestic sewage in a treatment works.

(10) "Chipping and Grinding Operations and Facilities" means an operation or facility, that does not produce compost, that mechanically reduces the size or otherwise engages in the handling, of compostable material and:

(A) The site does the following:

1. The site handles only material, excluding manure, allowed at a green material composting operation or facility as set forth in section 17852(a)(22); and
2. Each load of green material is removed from the site within 48 hours of receipt. The EA may allow a site to keep green material on-site for up to 7 days if the EA determines that the additional time does not increase the potential for violations of this Chapter.

(B) If the site fails to meet the definition of green material because it exceeds the contamination limits in section 17852(a)(21), the site shall be regulated as set forth in the Transfer/Processing Regulatory requirements (commencing at section 17400).

(C) If the site fails to meet the definition of this section because the green material remains on-site for a longer period of time than allowed, then the site shall be regulated as a compostable material handling operation or facility, as set forth in this Chapter.

(11) "Compostable Material" means any organic material that when accumulated will become active compost as defined in section 17852(a)(1).

(12) "Compostable Material Handling Operation" or "Facility" means an operation or facility that processes, transfers, or stores compostable material. Handling of compostable materials results in controlled biological decomposition. Handling includes composting, screening, chipping and grinding, and storage activities related to the production of compost, compost feedstocks, and chipped and ground materials. "Compostable Materials Handling Operation or Facility" does not include activities excluded from regulation in section 17855. "Compostable Materials Handling Operation

or Facility" also includes:

- (A) agricultural material composting operations;
- (B) green material composting operations and facilities;
- (C) research composting operations; and
- (D) chipping and grinding operations and facilities.

(13) "Curing" means the final stage of the composting process that occurs after compost has undergone pathogen reduction, as described in section 17868.3, and after most of the readily metabolized material has been decomposed and stabilized.

(14) "Domestic Sewage" means waste and wastewater from humans or household operations that is discharged to or otherwise enters a treatment works.



(15) "Disposal" means:

(A) stockpiling of compostable material onto land for a combined period of time greater than six months, or agricultural and green material for twelve months on prime agricultural land as defined in Government Code section 51201, unless the RWQCB in consultation with the EA makes a written finding that the material may remain within the operations area for a period of time greater than specified.

(B) disposal does not include the use of compostable material for alternative daily cover material at a solid waste landfill. Notwithstanding this section, use of compostable organic material as a alternative daily cover material shall still require approval for use pursuant to Title 27, California Code of Regulations, section 20680 and may require additional approvals from other governmental agencies, including, but not limited to RWQCB and Air Districts.

(C) disposal does not include land application of compostable organic material. "Land Application" means the application of compostable material, excluding food material or mixed solid waste for the following applications: to forest, agricultural, and range land at agronomic rates; in accordance with California Department of Food and Agriculture (CDFA) requirements for beneficial use as authorized by Food and Agricultural Code section 14501 et seq.; or for beneficial uses that may be otherwise exempt or excluded from regulation by CDFA.

(D) Should the EA have information that a compostable material handler is engaging in other activities that meet the definition of disposal, the burden of proof shall be on the land owner or operator to demonstrate otherwise.

(E) If the activities at a site meet the definition of disposal, the site shall be regulated as set forth in the Consolidated Regulations for Treatment, Storage, Processing or Disposal of Solid Waste (commencing at Title 27, California Code of Regulations, section 20005).

(16) "Dry Weight Basis" means weight calculated on the basis of having been dried until reaching a constant mass, that results in essentially 100 percent solids content.

(17) "Enclosed Composting Process" means a composting process where the area that is used for the processing, composting, stabilizing, and curing of organic materials, is covered on all exposed sides and rests on a stable surface with environmental controls for moisture and airborne emissions present.

(18) "EA" means enforcement agency.

(19) "Feedstock" means any compostable material used in the production of compost or chipped and ground material including, but not limited to, agricultural material, green

material, food material, biosolids, and mixed solid waste. Feedstocks shall not be considered as either additives or amendments.

(20) "Food Material" means any material that was acquired for animal or human consumption, is separated from the municipal solid waste stream, and that does not meet the definition of "agricultural material." Food material may include material from food facilities as defined in Health and Safety Code section 113785, grocery stores, institutional cafeterias (such as, prisons, schools and hospitals) or residential food scrap collection.

(21) "Green Material" means any plant material that is separated at the point of generation, contains no greater than 1.0 percent of physical contaminants by weight, and meets the requirements of section 17868.5. Green material includes, but is not limited to, yard trimmings, untreated wood wastes, natural fiber products, and construction and demolition wood waste. Green material does not include food material, biosolids, mixed solid waste, material processed from commingled collection, wood containing lead-based paint or wood preservative, mixed construction or mixed demolition debris.

(22) "Green Material Composting Operation" or "Facility" is an operation or facility that composts green material, additives, and/or amendments. A green material composting operation or facility may also handle manure and paper products. An operation or facility that handles a feedstock that is not green material, manure, or paper products, shall not be considered a green material composting operation or facility. "Green Material Composting Operation" or "Facility" does not include activities excluded from regulation in section 17855.

(23) "Handling" means the processing, transfer, and storage of compostable materials. Handling of compostable materials results in controlled biological decomposition. Handling includes composting, screening, chipping and grinding, and storage activities related to the production of compost, compost feedstocks, and chipped and ground materials.

(24) "Insulating Material" means material used for the purpose of minimizing the loss of heat from a compost pile undergoing the "Process to Further Reduce Pathogens" (PFRP), as described in section 17868.3. Insulating material includes, but is not limited to, soil and stabilized compost.

(25) "Manure" is an agricultural material and means accumulated herbivore or avian excrement. This definition shall include feces and urine, and any bedding material, spilled feed, or soil that is mixed with feces or urine.

(26) "Mixed Solid Waste" means any material that is part of the municipal solid waste stream, and is mixed with or contains non-organics, processed industrial materials, or plastics. A feedstock that is not separated or contains 1.0% or more physical contaminants by weight is mixed solid waste. Compostable material that contains mixed demolition or mixed construction debris shall be considered mixed solid waste.

(27) "Mushroom Farm" means an activity that produces mushrooms. The handling of compostable material at a mushroom farm prior to and after use as a growth medium is subject to regulation pursuant to this chapter and is not considered mushroom farming.

(28) "Operations Area" means the following areas within the boundary of a compostable material handling operation or facility:

(A) equipment cleaning, maintenance, and storage areas;

(B) feedstock, active, curing and stabilized compost processing or stockpiling areas; and

(C) process water and stormwater drainage control systems.

(29) "Operator" means the owner, or other person who through a lease, franchise agreement or other arrangement with the owner, becomes legally responsible for the following:

- (A) complying with regulatory requirements set forth in this Chapter;
- (B) complying with all applicable federal, state and local requirements;
- (C) the design, construction, and physical operation of the site; and
- (D) site restoration.

(30) "Owner" means the person or persons who own, in whole or in part, a compostable material handling operation or facility, or the land on which these operations or facilities are located.

(31) "Pathogenic Organism" means disease-causing organisms.

(32) "Physical Contamination" or "Contaminants" means human-made inert products contained within feedstocks, including, but not limited to, glass, metal, and plastic.

(33) "Process Water" means liquid that is generated during or used in the production of compost or chipped and ground materials.

(34) "Research Composting Operation" means a composting operation, that is operated for the purpose of gathering research information on composting.

(35) "Separated At The Point of Generation" includes material separated from the solid waste stream by the generator of that material. It may also include material from a centralized facility as long as that material was kept separate from the waste stream prior to receipt by that facility and the material was not commingled with other materials during handling.

(36) "Stabilized Compost" means any organic material that has undergone the Process to Further Reduce Pathogens (PFRP), as described in section 17868.3, and has reached a stage of reduced biological activity as indicated by reduced temperature and rate of respiration below that of active compost.

(37) "Static Pile" means a composting process that is similar to the aerated static pile except that the air source may or may not be controlled.

(38) "Vector" includes any insect or other arthropod, rodent, or other animal capable of transmitting the causative agents of human disease.

(39) "Vermicomposting" means an activity that produces worm castings through worm activity. The EA may determine whether an activity is or is not vermicomposting. The handling of compostable material prior to and after use as a growth medium is subject to regulation pursuant to this chapter and is not considered vermicomposting.

(40) "Windrow Composting Process" means the process in which compostable material is placed in elongated piles. The piles or "windrows" are aerated and/or mechanically turned on a periodic basis.

(41) "Within-vessel Composting Process" means a process in which compostable material is enclosed in a drum, silo, bin, tunnel, reactor, or other container for the purpose of producing compost, maintained under uniform conditions of temperature and moisture where air-borne emissions are controlled.

(42) "Wood Waste" means solid waste consisting of wood pieces or particles which are generated from the manufacturing or production of wood products, harvesting, processing or storage of raw wood materials, or construction and demolition activities.

(43) "Yard Trimmings" means any wastes generated from the maintenance or alteration of public, commercial or residential landscapes including, but not limited to, yard



Organic Matter Decomposition Curve

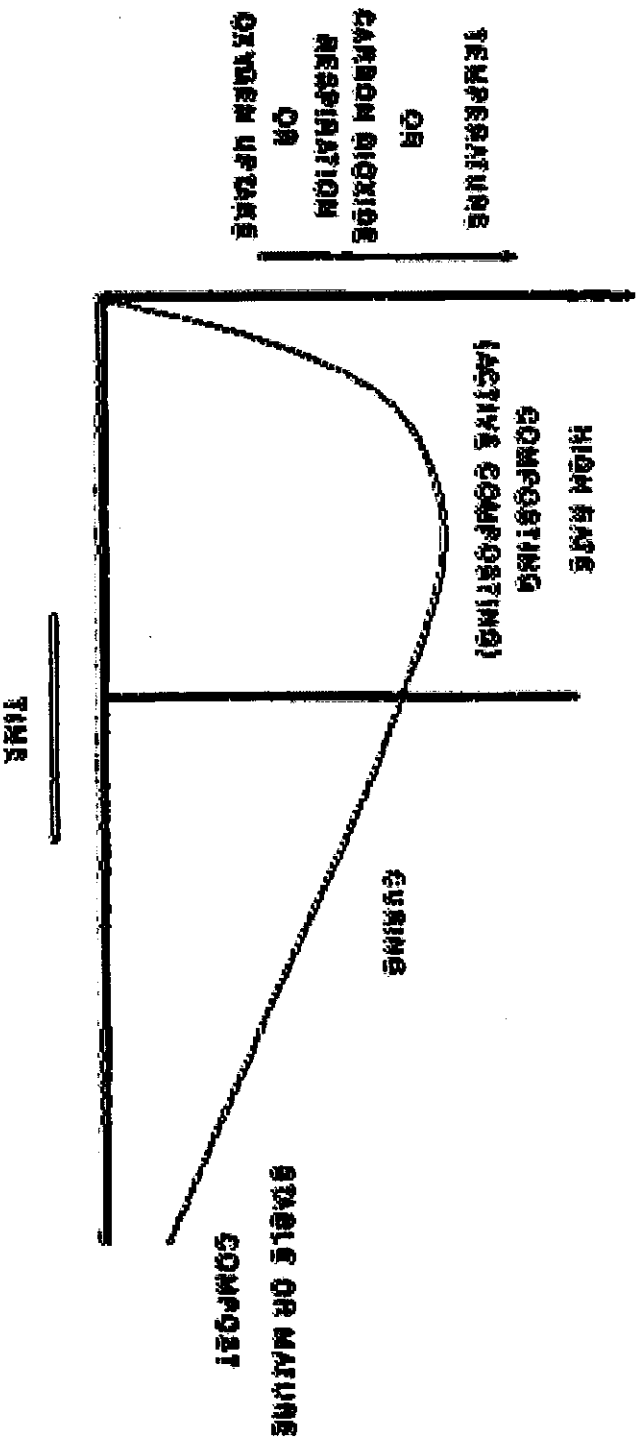


FIGURE 5.3. Phases during composting as related to temperature, and carbon dioxide respiration or oxygen uptake.

April 15, 2006

North American Organics inspection with Kathy Lowe.

The following soil amendment piles were checked for temperature using a 4-foot probe. The probe was inserted horizontally into each pile approx. 1/3 of the way up from ground level.

<u>Soil amendment</u>	<u>Temperature</u>	<u>Cover Type</u>	<u>Add'l. notes</u>
50/50 Blend (Soil/Farmers)	82 F	tarped	
Mushroom compost	105 F	untarped	
Mushroom compost	108 F	tarped	newly received- steaming
Mushroom compost-old	89 F	under roof	
Garden mix- old	87 F	under roof	
Garden mix- new	77 F	under roof	
Spyrock mix- new	112 F	under roof	steaming slightly
Spyrock mix- old	107 F	under roof	
Chicken manure	113 F	tarped	
Worm castings	84 F	tarped	
Unknown pile	56 F	untarped	
Rabbit manure	99 F	under roof	
Mushroom compost	96 F	under roof	Backside interior of pile
Farmer's mix	84 F	tarped	
Garden mix	88 F	tarped	Large windrow
Spyrock mix	100 F	tarped	Large windrow
Grape pomace	98 F	tarped	Large windrow
Grape pomace	87 F	tarped	Large windrow, working face
Bulking agent	68 F	partially tarped	Large windrow
Rice hulls	76 F	partially tarped	Large windrow
Farmer's mix	111 F	tarped	Large windrow, non-screened
Grape pomace	77 F	tarped	Lg. windrow, tarp blown off
Mushroom compost	79 F	under roof	Backside of pile
Customer blend	82 F	tarped	
Customer blend	90 F	tarped	

North American Organics (Prices as of 9/1/05)

1790 Held Road, Redwood Valley

(707)485-7947

MUSHROOM COMPOST is well-rounded compost that has a NPK of 3-2-2 and a Ph of 6.5 to 6.8. This works great, as a mulch, when spread on top of the soil in the fall or early spring. In addition, it may also be tilled or mixed into vegetable gardens. Mushroom compost is made-up of straw, horse manure, chicken manure, gypsum, peat moss, lime, and molasses and cottonseed meal.

GARDEN MIX is our "house blend" which is ideal for flowers and vegetables. This, "all purpose mix," is used directly in the ground or in planter boxes, and is great for lawn. The garden mix contains mushroom compost, rice hulls, grape pumice, shavings, a little chicken litter and a small amount of lava sand (to help retain moisture).

ROSE MIX is used for plants, bushes, or trees that need extra strength to hold their roots. Our rose mix consists of sandy loam, mushroom compost, chicken litter, rice hulls, cocoa bean hulls, granite dust, and fir shavings. It may also be used in raised beds.

FARMER'S MIX is a blend of local ingredients, which is typically used for breaking up large pieces of ground that have not been worked up. Farmer's mix is not recommended for general gardening. This mix consists of dirt, grape pumice, chicken manure, cow manure, and diatomaceous earth.

SPY ROCK MIX is our hottest mix, and is full of nutrients. This mix consists of chicken manure, cow manure, worm castings, mushroom compost, rice hulls, grape pumice, and granite dust. **USE CAREFULLY!!!**

MANURES

Mushroom Compost	New.....	\$35
	Old.....	\$45
Chicken Litter.....		\$35
Worm Castings.....		\$200
Cow.....		\$35
Sheep.....		\$45

AMENDMENTS

Cocoa Bean Hulls.....		\$45
Rice Hulls	Fresh (Organic)...	\$35
	Composted.....	\$35
Redwood Sawdust.....		\$30
Shredded Redwood Bark.....		\$30
Wood Chips.....		\$27
Sandy Loam.....		\$30

Beach Sand.....	\$40
Lava Sand.....	\$30
Oyster Shell Flour (Lime).....	\$140
Oyster Shell (Whole Shell).....	\$135
Granite Dust.....	\$140
Grape Pumice.....	\$22

MIXES

Garden Mix	New.....	\$35
	Old.....	\$45
Rose Mix.....		\$45
Farmer's Mix.....		\$27
50/50 Mix (1/2 Farmer's, 1/2 Dirt).....		\$30
Spy Rock	New.....	\$75
	OLD	\$90