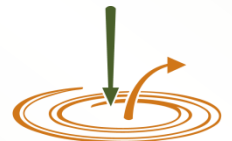


Lesson 3: Regulatory Compliance

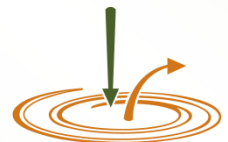
Learning Objectives:

- Understand the general framework of Florida's Chapter 62-709 composting rule
- Know key terms and definitions
- Learn key requirements for registered facilities handling yard trash, source-separated food waste, and/or manure
- Learn key requirements for classification, distribution and use of compost



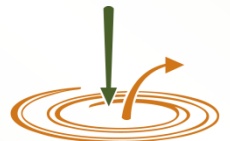
Outline of Chapter 62-709

- .201 Definitions
- .300 General Provisions
- .305 Exemptions
- .320 General Provisions for Registrations
- .330 Specific Criteria for Registration Facilities
- .350 Specific Criteria for Registration Facilities
- .460 Special Permitting Criteria for Pilot Projects
- .500 Design Criteria for Permitted Facilities
- .510 Operation Criteria for Permitted Facilities
- .530 Testing, Recording & Reporting Requirements
- .550 Classification of Compost
- .600 Criteria for the Use of Compost
- .901 Permit forms



Feedstock Definitions

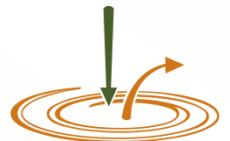
- .201(25) Yard Trash (YT): vegetative matter from landscaping or land clearing operations
- .201(24) Vegetative Waste (VW): source-separated material from non-residential sources such as fruits, vegetables & grains, including decomposable packaging
- .201(17) Pre-consumer Vegetative Waste (PCVW): has not come in contact with end-user or animal products / byproducts



Feedstock Definitions

(continued)

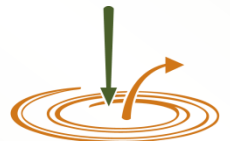
- .201(2) Animal Byproducts (AB): source-separated waste such as meat, fat, dairy or eggs from non-residential sources, not including waste from abattoirs, meat manufacturing or packing plants, or butchers
- .201(13) Manure (M): excreta of animals and residual materials used for bedding or feeding purposes



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Regulatory Types of Facilities

1. Exempt
2. Registration – Yard Trash Processing
3. Registration – Composting Vegetative Wastes, Animal Byproducts (AB) or Manure (M), or Blending Manure (BM)
4. Special Permit Pilot Projects
5. Permit



Summary of Facilities and Applicable Regulations

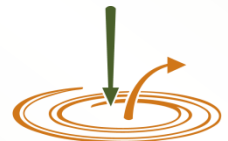
Facility Type	Requirements and Applicable Section of 62-709				
	General	Siting & Design	Operating	Testing, Recording & Reporting	Classification & Use
Exempt	305			530 ¹	550 & 600 ¹
Registration – YT Processing	300 & 320	320	320 & 330	320 & 530	550 & 600
Registration – VW, AB, & M Composting	300 & 320	320	320 & 350	320 & 530	550 & 600
Special Permit	300	460	460	460 & 530	550 & 600
Permit	300	500	510	530	550 & 600

¹ Exempt farm composting operations that distribute compost for use off farm must comply with these rules.



General Provisions for All Facilities

- Siting Prohibitions (62-701.300 and 62-701.320(13))
 - Where geotechnical conditions will not support solid waste
 - <500 ft (<100 ft if YT only) from pre-existing potable water well; and other requirements are met
 - In unlined dewatered pit
 - In water body or wetland
 - <200 ft (<50 ft if YT only) from water body; and other requirements are met
 - On public highway, road or alley
 - <10,000 ft from jet airport runway, <5,000 ft from prop airport runway and other requirements are met (does not apply to YT and select other facilities)



General Provisions for All Facilities (cont.)

- .300(4): Closure: notify DEP 45 days prior to closing; all materials removed within 1 month of closing
- .300(5): Must comply with storm water rules in Chapters 62-25 and 62-330
- .300(6): Activities not regulated under 62-709:
 - Exposure of solid waste without mechanical handling (considered disposal under 62-701)
 - Composting for volume reduction prior to disposal (considered disposal under 62-701)
 - Composting of biosolids with YT (regulated under 62-640)
 - Industrial byproduct management that is exempt or regulated by another permit

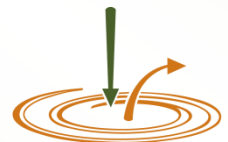


General Provisions for All Facilities

(continued)

■ Other Prohibitions

- No biomedical, hazardous or asbestos-containing waste or used oil (709.300(7))
- No CCA-treated wood (701.300(14))
- No objectionable odors violating 62-296 (709.300(7))
- No dust violating 62-296 (701.300(15))
- No product placed in water body or wetland without permit, or in sinkhole or dewatered pit (709.300(7))

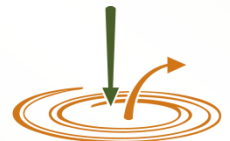


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Exempt Operations

.305:

- Backyard composting
- On-site composting with <100 cubic yards of materials (feedstocks, composting materials, & finished compost) on-site at any one time
- Land application of processed YT size-reduced to <6 inches
- Beneficial use of YT, M or VW that is not expected to pose a significant threat to public health or the environment



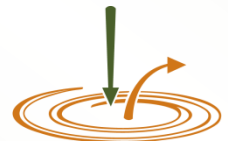
Exempt Operations

(continued)

.305:

■ Normal farming

- On-farm waste for on-farm use
- On-farm waste for off-farm use (must comply with .530 thru .600)
- Off-farm YT, M or VW for on-farm use
- Off-farm waste needed to optimize on-farm YT or M for off-farm use (must comply with .530 thru .600)
- Manure management operation regulated under Chapter 63-670

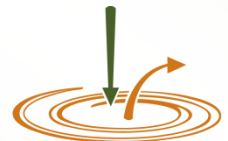


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Regulatory Definition of Compost

.201(6):

“...solid waste which has undergone biological decomposition of organic matter, has been disinfected using composting or similar technologies, and has been stabilized to a degree that is potentially beneficial to plant growth and that is used or sold for use as a soil amendment, artificial top soil, growing medium amendment or other similar uses.”



Disinfection Requirement

.300(8) Option 1:

■ Pathogens Limits:

- Fecal coliform <1,000 MPN/gm

or

- Salmonella species <3 MPN/4gm

and

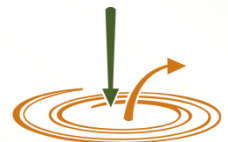
■ Time, temperature & turnings:

- $\geq 55^{\circ}\text{C}$ for 3 days in aerated static pile or in-vessel composting

or

- $\geq 55^{\circ}\text{C}$ for 15 days with ≥ 5 turnings in windrow

MPN = Most Probable Number



Disinfection Requirement

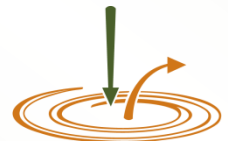
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.300(8) Option 2:

■ Pathogens Limits:

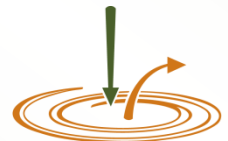
- Fecal coliform <1,000 MPN/gm
or
- Salmonella species <3 MPN/4gm
and
- Enteric virus <1 PFU/4gm
and
- Helminth ova <1/4gm

PFU = Plaque Forming Units



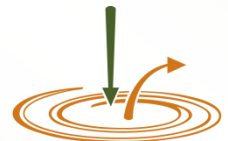
Disinfection Exemption

- Facilities handling PCVW and/or YT
- Exempt on-farm composting operations that utilize all compost on-site



Registration Facility: Acceptable Feedstocks

- Yard Trash (YT)
- Pre-consumer Vegetative Waste (PCVW)
- Vegetative Waste (VW)
- Animal By-products (AB)
- Manure (M)



Registration Facility: Registration & Annual Report

.320(1) & (3)

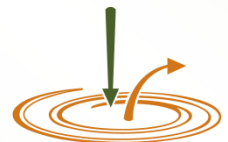
- Annual registration with DEP on Form 62-709.901(3)
[http://www.dep.state.fl.us/waste/quick_topics/forms/documents/62-709/62-709.901\(3\).pdf](http://www.dep.state.fl.us/waste/quick_topics/forms/documents/62-709/62-709.901(3).pdf)
- Registration not required if authorized under valid solid waste facility permit, e.g. landfill
- Annual registration renewal submitted by July 1st
- Annual Report submitted with application
 - Site inventory submitted with initial report
 - Monthly inbound & outbound material (cy or tons)
- Temperature records retained for three years if used to demonstrate disinfection or vector reduction



Registration Facility: Design and Operations

.320(2) Design and operations for all registered facilities:

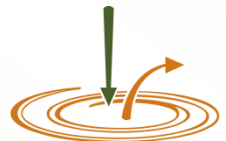
- Site entry control
- Dust & litter control
- Fire protection & control (20 ft perimeter, no compaction, <50 ft access to all material)
- Vector & odor control
- Clean storm water & drainage systems if present
- YT size-reduced within 6 months or 12,000 cubic yards
- Putrescible waste (e.g. VW, AB, or M) incorporated into compost pile within 48 hours
- When operations cease, all material removed per 62-701 requirements (DEP notification not required)



Registration Facility: Special Requirements

.330 Yard Trash Processing:

- Processed material shall be removed within 18 months, unless material is to be used on-site and DEP authorizes on-site storage for longer
- Only YT and bags used to collect shall be accepted at facility

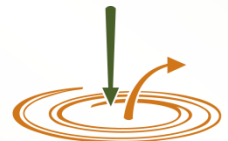


Registration Facility: Special Requirements

(continued)

.350 VW, AB, M Composting:

- C:N ratio > 20:1
- Windrow height \leq 12 ft
- Materials removed within 18 months (unless material is to be used on-site and DEP authorizes on-site storage for longer)
- Prove disinfection standard is achieved, unless composting PCVW and/or YT only
- Vector attraction reduction:
 - 14 days \geq 40°C and average \geq 45°C, or
 - Specific oxygen uptake rate \leq 1.5 mg O₂/hr/gm TS



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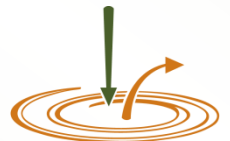
Special Permit Pilot Project

.460(1) Applicability:

- Projects that do not qualify for registration
- Initially operate for ≤ 18 months, option to extend for an additional 18 months
- Accept $\leq 10,000$ cy of feedstock in total

.460(2) Siting:

- General prohibitions modified:
 - < 250 ft from pre-existing potable water well
 - < 100 ft from water body



Special Permit Pilot Project

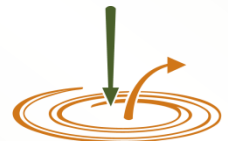
(continued)

.460(3) Design & Operations:

- Site entry control
- Dust & litter control
- Fire protection & control (20 ft perimeter, <50 ft access to all material)
- Vector & odor control
- Clean storm water & drainage system
- Immediately contain & remove biomed, hazardous & polychlorinated bi-phenol (PCB) wastes
- When closed, remove or dispose of all materials

.460(5) Vector Attraction Reduction:

- 14 days $\geq 40^{\circ}\text{C}$ and average $\geq 45^{\circ}\text{C}$, or
- Specific oxygen uptake rate $\leq 1.5 \text{ mg O}_2/\text{hr}/\text{gm TS}$



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Special Permit Pilot Project

(continued)

.460(4)&(7) Permit Application:

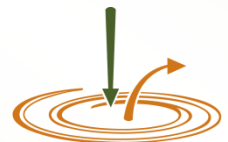
- Submit application on Form 62-709.901(4)
[http://www.dep.state.fl.us/waste/quick_topics/forms/documents/62-709/62-709.901\(4\).pdf](http://www.dep.state.fl.us/waste/quick_topics/forms/documents/62-709/62-709.901(4).pdf)
- Renewal application for additional 18 months submitted at least 90 days before permit expires

.460(9) Recordkeeping:

- Monthly inbound & outbound material (cy or tons)
- Temperature records retained for three years if used to demonstrate disinfection or vector reduction

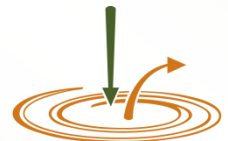
.460(6)&(8) Reporting:

- Progress report within 9 months of permitting
- Final report within 60 days of permit expiration



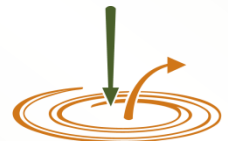
Permit Facility

- Compliance with 62-701 permitting and design rules
- .500 Design Criteria
 - Detailed & extensive facility design plans; engineering report; stormwater management design standards & calculations; detailed operations plan
 - Design features must include: impermeable surfaces for certain materials, and leachate collection and treatment
 - Ability to weigh materials received required for facility owned or operated by or on behalf of local government



Permit Facility (continued)

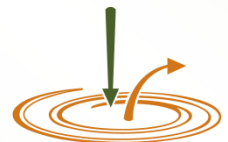
- Compliance with 62-701 operating rules
- .510 Operation Criteria:
 - Properly maintain & operate as designed
 - Operated to control odors and vectors
 - Ensure suitable staffing
 - Avoid mixing solid waste with compost
 - 50% of compost used each year, older than 3 years must be disposed
 - Process waste within 72 hours
 - Monitor temps daily during 1st week then weekly thereafter



Testing, Recording and Reporting Requirements

.530(1):

- Composite sample every 20,000 tons or quarterly, whichever comes first, analyzed for:
- All compost:
 - Moisture, Reduction in Organic Matter, Organic Matter, and pH
- If not YT or PCVW:
 - Compliance with disinfection standards
- If not YT, VW, AB, or M:
 - Foreign matter, and Metals (Cd, Cu, Pb, Ni, and Zn)

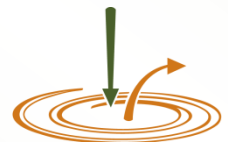


Testing, Recording and Reporting Requirements

(continued)

.530(1):

- DEP can change required parameters or frequency
- All sampling & analysis must comply with 62-160 Quality Assurance Rules

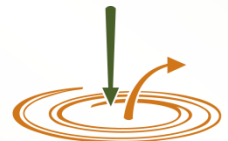


Testing, Recording and Reporting Requirements

(continued)

.530(2)&(3):

- Maintain monthly records for 3 years of:
 - Compost analytical results
 - Quantity, type & source of waste received
 - Quantity & type of waste processed, compost produced, and compost removed
- Solid Waste compost facilities must submit annual report

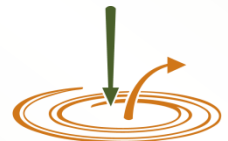


Compost Classification

.550:

■ Based on:

- Type of waste processed
- Maturity
- Foreign matter content
- Particle size and organic matter content
- Heavy metal concentrations



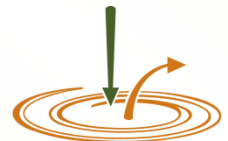
Compost Classification

(continued)

.550(1)(b) & (3):

■ Maturity

- Mature: Prolonged decomposition; Does not reheat $>20^{\circ}\text{C}$; Reduction in Organic Matter $>60\%$
- Semi-mature: At mesophilic stage; Reheats $>20^{\circ}\text{C}$; Reduction in Organic Matter $>40\%$ and $\leq 60\%$
- Fresh: At thermophilic stage; Reheats $>20^{\circ}\text{C}$; Reduction in Organic Matter $>20\%$ and $\leq 40\%$



Compost Classification

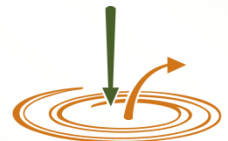
(continued)

.550(1)(c):

- Foreign Matter
 - $\leq 2\%$ dry weight (dw)
 - $> 2\%$ and $\leq 4\%$ dw
 - $> 4\%$ and $\leq 10\%$ dw

.550(1)(d):

- Particle Size
 - Fine: $\leq 10\text{mm}$ (0.4 in) and Organic Matter $\geq 25\%$
 - Medium: $\leq 15\text{mm}$ (0.6 in) and Organic Matter $\geq 30\%$
 - Coarse: $\leq 25\text{mm}$ (1.0 in) and Organic Matter $\geq 35\%$



Compost Classification

(continued)

.550(1)(e): Heavy Metal Concentrations				
Parameter	Code 1	Code 2	Code 3	Code 4
Cadmium (Cd)	<15	15 - <30	30 - 100	>100
Copper (Cu)	<450	450 - <900	900 - 3,000	>3,000
Lead (Pb)	<500	500 - <1,000	1,000 - 1,500	>1,500
Nickel (Ni)	<50	50 - <100	100 - 500	>500
Zinc (Zn)	<900	900 - <1,800	1,800 - 10,000	>10,000



Compost Classification

(continued)

Summary of 62-709.500 Compost Classifications

Compost Type	Feedstock	Maturity	Foreign Matter	Particle Size	Heavy Metals
Type Y	YT	Mature or Semi-mature	≤2%	Fine, medium or coarse	Code 1
Type YM	VW, AB, or M w/ or w/o YT	Mature or Semi-mature	≤2%	Fine, medium or coarse	Code 1
Type A	Other Solid Waste	Mature	≤2%	Fine	Code 1
Type B	Other Solid Waste	Mature or Semi-mature	≤4%	Fine or medium	Code 1 or 2
Type C	Other Solid Waste	Mature or Semi-mature	≤10%	Fine, medium or coarse	Code 1, 2 or 3
Type D	Other Solid Waste	Fresh	≤10	Fine, medium or coarse	Code 1, 2 or 3
Type E	Other Solid Waste	N/A	N/A	N/A	Code 4



Compost Distribution and Use

Summary of 62-709.600 Distribution and Use Requirements				
Type Y	Unrestricted distribution & use			
Type YM	Unrestricted distribution & use			
Type A	Unrestricted distribution & use			
Type B	Restricted to commercial, agricultural, institutional and governmental operations			
Type C	Restricted to commercial, agricultural, institutional and governmental operations; general public contact not allowed			
Type D	Restricted to landfills and land reclamation projects; general public contact not allowed			
Type E	Must be disposed			
Cumulative Loading Rate (lbs/acre)				
Cadmium (Cd)	Copper (Cu)	Lead (Pb)	Nickel (Ni)	Zinc (Zn)
4.45	111	445	111	222



DEP Forms and Contact Information

- Registration Project Permit Form submitted to DEP Main Office:
 - .901(3) Application for Registration and Annual Report for a Yard Trash Transfer Station or Solid Waste Organics Recycling Facility
[www.dep.state.fl.us/waste/quick_topics/forms/documents/62-709/62-709.901\(3\).pdf](http://www.dep.state.fl.us/waste/quick_topics/forms/documents/62-709/62-709.901(3).pdf)
- Pilot Project Permit Form submitted to DEP District Office:
 - .901(4) Permit Application for a Solid Waste Organics Recycling Pilot Project
[www.dep.state.fl.us/waste/quick_topics/forms/documents/62-709/62-709.901\(4\).pdf](http://www.dep.state.fl.us/waste/quick_topics/forms/documents/62-709/62-709.901(4).pdf)
- DEP Compost Contact Person:

Francine Joyal
Francine.Joyal@dep.state.fl.us
(850) 245-8747
Solid Waste Section
2600 Blair Stone Rd. MS 4565
Tallahassee, FL 32399-2400

