

Troubleshooting and Management Guide (Source: *On-Farm Composting Handbook* NRAES 54)

Condition or Situation	Possible Source or Reason	Other Clues	Remedy
Pile fails to heat	Materials too dry	Cannot squeeze water from material	Add water or wet ingredients
	Materials too wet	Materials look or feel soggy; pile slumps; moisture content greater than 60%	Add dry amendments
	Not enough nitrogen, or slowly degrading or stable materials	C:N ratio greater than 50:1; large amount of woody material	Add high nitrogen ingredients; change composting recipes
	Poor structure	Pile settles quickly; few large particles; not excessively wet	Add bulking agent
	Cold weather and small pile size	Pile height less than 3.5 ft	Enlarge or combine piles; add highly degradable ingredients
	pH excessively low	pH measures less than 5.5; garbage like odor	Add lime or wood ash and remix
Temperature falls consistently over several days	Low oxygen; need for aeration	Temperature declines gradually rather than sharply	Turn or aerate pile
	Low moisture	Cannot squeeze water from material	Add water
Uneven Temperatures or varying odors in pile	Poorly mixed material	Visible differences in the pile moisture and materials	Turn or remix the pile
	Uneven airflow or air short circuiting	Visible differences in the pile moisture and materials	Shorten aeration pipe; remix pile
	Materials at different stages of maturity	Temperature varies along the pile length	None required
Gradually falling temperatures; pile does not reheat after turning or aeration	Composting nearing completion	Approaching expected composting time period; adequate moisture available; C:N ratio less than 20:1	None required
	Low moisture	Cannot squeeze water from materials	Add water and remix
Extremely high Temperatures (greater than 170° F)	Pyrolysis or spontaneous combustion	Low moisture content; pile interior looks or smells charred	Decrease pile size; maintain proper moisture content; add water to charred or smoldering sections; break down pile, combine with other piles

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Pile overheating (temperature greater than 150°F)	Insufficient aeration for heat removal	Pile is moist	Turn pile or increase the airflow rate
	Moderate to low moisture; limited evaporative cooling	Pile feels damp but not excessively wet or dry	Add water; continue turning and aeration to control temperature
	Pile is too large	Height greater than 8 ft.	Decrease the pile size
High temperatures or odors in curing or storage pile	Compost is not stable	Short active composting period; temperature and odor change after mixing	Manage pile for temperature and odor control; turn piles as necessary; limit pile size
	Piles are too large	Height greater than 8 ft; width greater than 20 ft	Decrease pile size
Ammonia odor coming from compost piles	High nitrogen level	C:N ratio less than 20:1	Add high carbon amendments
	High pH	pH greater than 8.0	Lower pH with acidic ingredients and or avoid alkaline ingredients
	Slowly available carbon source	Large woody particles; C:N ratio less than 30:1	Use another carbon amendment or increase the carbon proportion
Rotten egg or putrid odors coming from composting piles continually	Anaerobic conditions	Low temperatures	
	Materials too wet		Add dry amendment
	Poor structure		Add bulking agent
	Pile compacted		Remix pile and add bulking agent if necessary
	Insufficient aeration		Turn pile or increase airflow rate
	Anaerobic conditions	High temperatures	
	Pile too large		Decrease pile size
	Uneven airflow or short circuiting		Remix pile; change recipe
Odors generated only after turning	Odorous raw materials	High temperatures	Frequent turnings; increase porosity; add odor – absorbing amendment
	Insufficient aeration; anaerobic	Falling temperatures	Shorten time interval between turnings;

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	interior		increase porosity
Site related odors (piles not odorous)	Raw materials	Odor is characteristic of raw material	Handle raw materials promptly with minimal storage
	Nutrient rich puddles because of poor drainage	Standing puddles of water; ruts in pad	Divert runoff away; maintain pad surface
	Holding pond or lagoon overloaded with nutrients or sediment	Heavy algae and weed growth; gas bubbles on pond surface	Install sediment trap; enlarge pond surface area; use runoff and pond water on cropland
Fly or mosquito problems	Flies breeding in compost piles	Fresh manure or food material at pile surface; flies hover a	Turn piles every 4 to 7 days; cover static piles with 6-in layer of compost
	Flies breeding in raw materials	Wet raw materials stored on site more than four days	Handle raw materials promptly
	Mosquitoes breeding in stagnant water	Standing puddles of water; nutrient rich pond or lagoon	Grade site properly; maintain pad surface; maintain holding pond or lagoon in aerobic condition
Compost contains clumps of materials and large particles; texture is not uniform	Poor mixing of materials or insufficient turning	Original materials discernable in compost	Screen compost; improve initial mixing
	Airflow uneven or short circuiting	Wet clumps of compost	Screen or shred compost; improve air distribution
	Raw materials contain large particles and non-degradable or slowly degradable materials	Large, often woody particles in compost	Screen compost; grind and/or sort raw materials
	Active composting not complete	Curing piles heat or develop odors	Lengthen composting time or improve composting conditions