

Garden Myths: practices and products

The ABC's of my educational program

- ⊗ Apply theoretical information
- ⊗ Broad audience base (academic → public)
- ⊗ Create citizen scientists

Garden myths in *The Informed Gardener* series

- ⊗ Evidence-based gardening Understanding how plants work
- ⊗ How/what/when/where to plant Soil additives
- ⊗ Mulches Miracles in a bag/bottle/box

Seminar roadmap

- ⊗ Evaluating information
- ⊗ Three case studies
- ⊗ A more sustainable approach

Types of gardening information

- ⊗ Scientific - peer reviewed, academic audience
- ⊗ Gray - not peer reviewed, professional audience
- ⊗ Popular - not peer reviewed, general audience

Using the CRAP test to evaluate gardening information*

*Adapted from "Evaluating Information - Applying the CRAAP Test" (Meriam Library, California State University, Chico CA)

- ⊗ Credibility of the source
 - ⊗ Author's credentials and qualifications?
 - ⊗ Publisher?
 - ⊗ Website urls?
- ⊗ Relevance to urban landscapes and gardens
 - ⊗ Crop production or home gardens?
 - ⊗ Geographic or other constraints on usability?
- ⊗ Accuracy
 - ⊗ Science-based?
 - ⊗ Objective?
 - ⊗ Current?
 - ⊗ Well-written?
- ⊗ Purpose
 - ⊗ Educational or commercial?
 - ⊗ Political, ideological, cultural, religious, or personal biases?
- ⊗ When in doubt, consult with Extension specialists (generally faculty with relevant PhDs) at your state landgrant university or ask an expert through eXtension.

Garden myth #1: Phosphate fertilizer stimulates root growth

Facts: Excess phosphate destroys symbiotic fungi, interferes with nutrient uptake, and contaminates soil and aquatic systems

Instead: Use a nitrogen fertilizer needed for root proteins and enzymes

Garden myth #2: compost tea fights plant diseases

- ☼ NCT = Non-aerated Compost Tea
 - ☼ Requires no aeration; contains anaerobic microbes and nutrients
- ☼ ACT = Aerated Compost Tea
 - ☼ Requires constant aeration; contains aerobic microbes and nutrients
 - ☼ Will revert to NCT if not aerated

How does compost tea work?

Contains microbes (primarily bacteria) that theoretically compete with or kill harmful microbes. If a leaf or root is colonized by beneficial microbes, harmful ones cannot take hold

What is the science behind compost tea?

NCT studies

- ☼ In general, mixed results in the lab and the field in controlling disease

ACT studies

- ☼ ACT less effective than NCT in controlling pathogens
- ☼ ACT not only was ineffective in preventing apple scab, but in some cases made it worse

Health concerns about compost teas

- ☼ ACT can contain high levels of *E. coli* and *Salmonella*
- ☼ Yard waste compost has tested for higher pathogens than manure compost
- ☼ Molasses in the mix worsens the problem

Scientific summary on compost tea

- ☼ There is no science supporting the use of ACT on turf and landscape materials
- ☼ ACT is not registered as a pesticide and cannot legally be recommended or applied as one
- ☼ ACTs have been demonstrated to harbor human pathogens, including *E. coli*

Conclusion: Aerated compost teas are an expensive and energy-wasteful “extra step” with no proven benefit to landscapes

Garden myth #3: Epsom salts create lush, healthy plants

- ☼ Epsom salts, or magnesium sulfate ($MgSO_4$), originally obtained by boiling down mineral waters at Epsom, England. Dissolved, they make bath water feel “silky”
- ☼ None of the claims for Epsom salts in home gardens and landscapes are based on research
- ☼ Have soil tests done first to establish plant nutrient needs

What you should do instead

- ☼ Have soil tests done before adding chemicals or amendments
- ☼ Select plants that are known to do well in your area
- ☼ Plant many species; diversity in landscapes increases their ability to resist pests and disease
- ☼ Install plants properly; woody plants should be bare-rooted to ensure establishment
- ☼ Protect landscape soils with organic mulch; this helps plants resist pests and disease

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