



Garden Myths & Legends: Which ones really work?

Eric Barrett – OSU Extension



THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES



Miracle Cures?



THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES



I heard...

My neighbor grows great
plants. He says this stuff...

- ...repel pests, **kill bugs**,
- ...increases fruit production,
- ...**prevent weeds**, aerates clay soil,
- ...**prevents disease**,
- ...is 100% organic,
- ...adds **essential nutrients**,
- ...**attracts the good insects**

Results or Entertainment?



Grandma's Home Remedies

Really?

- Directly from site...
 - aa) Some people have used chocolate flavored Ex-lax to keep chipmunks and moles from destroying their gardens.

Really? Really?
REALLY?

- And the cost of this is what?

They Claim Results!

- Beautiful blooms
- Bountiful harvest
- Least amount of work!
- Using the 'miracle cure':
 - Costs?
 - Treating the problem, or the symptoms?



Research Based

- This is why we have land grant universities and extension
- Opportunities for Master Gardener Volunteer Research
- Yes, more research needs done

Our Mission

Engaging people to strengthen their lives and communities through research-based educational programming.



What is a chemical?

- A better question – what is not?
- LD₅₀
- 'Organic' or Man Made – too much is never a good thing
- "It's not important whether a chemical is natural or synthetic. What is important is knowing the properties (like toxicity and environmental persistence) of chemicals we apply to landscapes."



Propagation



THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES

Propagation

- Can I start a rose in a potato?
 - Keeps the cut stem area moist as the sugars flowing from the leaves and stem collect at the wound site to initiate callus growth which develops into roots. Roots then find a moist media (soil like) to grow in.
- What's wrong with our normal propagation practices?
 - Is this easier?
 - More difficult?



Cover a plant with a Quart jar

- Duplicate the conditions needed for a plant to root from a cutting:
 - High humidity, indirect light and soil temperatures of 70 to 80 degrees F
 - Keep cuttings under glass or in plastic bags
 - Shield from direct sunlight, especially if they are under glass or plastic.
- Check medium moisture every few days
- Can take a few days or several months
- Test for rooting by gently tugging, if there is resistance, rooting has started and the plastic cover may be removed



Soaking Seeds

- Eureka! (kind of)...
- Seeds must absorb water to get germination going
 - Presoaking seeds **may** speed up the process
 - Change the water often and wash afterwards
 - Do not soak treated seed
 - One hour for corn, Overnight for okra
 - You can soak too long...
- Plant shallow if moisture is present
- Cool soils will be a detriment to germination
- Bean Seed - Most varieties tend to crack and germinate poorly if the soil's moisture content is too high. Thus, never soak bean seed before planting.



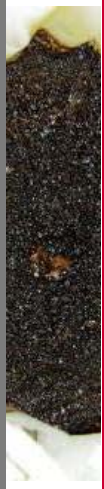
Soils



THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES

Coffee Grounds



- Yes – adds nitrogen (protein from the bean) to compost pile
- No more than 20% of pile
- Acidic? No, not stable - pH 4.6-8.4
 - What's the pH of tap water?
 - Some use distilled water!
- Appear to suppress some common fungal rots and wilts as part of compost on plants
- Positive AND negative effects on plant growth
- Do not use as mulch (it forms a mat) – BUT – they are earth worm food – increases organic matter in soil as they as deposited deeper
- Does it keep cats away?

Plant a penny or nail...



- Penny with your hydrangea
 - Could be as copper breaks down Cu^{++} would grab OH^- ions which would lower pH (turn flowers blue)
 - Adding aluminum sulfate ($\text{Al} + \text{SO}_3$) is better for lowering pH and Lime (CaCO_3) for raising pH .
- Nail with tomato? Cutworm?
 - Nails use to be iron based product.
 - Nail corrodes, iron available for plant
 - Real Problem - pH too high
 - Today's nails are aluminum coated or zinc coated so they don't rust

Egg Shells?



- Egg shells = calcium = lime = high pH
- Slug control?
 - I guess, but they aren't very pretty.
 - Many sites say to use a coffee grinder or food processor. Interesting...
- For planting with tomatoes?
- NO! Calcium in the soil is most likely not the cause of blossom end rot

Putting Ashes on your Garden



- Wood ashes contain about 1% phosphorous, 5% potassium and small amounts of other elements
- The potassium combines with soil water to form an alkaline substance commonly called "lye" – which reacts to raise soil pH (like lime)
- 2 lbs = 1 lb lime
- Not more than 5lbs/100ft² /year

Epsom Salts

- Magnesium deficiency
 - Naturally occurring in light, sandy soils (because minerals leach out)
 - Also happens when Potassium levels are high
- Symptoms first appear as interveinal chlorosis in the older leaves
- Do a soil test and know!
- Dolomitic limestone contains Mg



Sanitation



THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES

Suckering & Tying Tomatoes

- You must do it? Really?
- Tying
 - Keep them off the ground!
 - Air and sunlight penetration
 - Easier to harvest
- Pruning (Suckering)
 - Plant structure and health
 - Many heirlooms 'throw' a lot of branches
 - Reduce extensive foliage
 - Larger fruit
- Give them some space!

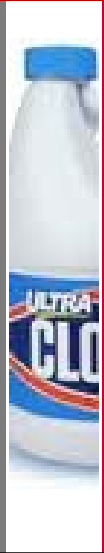


Concoctions for Cut Flowers

- Adding aspirin, wine, or pennies to cut flowers WILL NOT help to keep them fresh longer.
- A floral preservative is a complex mixture of sucrose (energy) ; acidifier (for water pH), an inhibitor of microorganisms; and a respiratory inhibitor.
- WHAT TO DO?
 - Sanitize the vase, remove leaves below water
 - Check the water level daily
 - Keep away from hot or cold air drafts
 - Recut the stems and remove excess foliage
 - Harden by setting in warm water in a cool place



Bleaching your tools



- Most not mixing it correctly
 - 1 tsp. per gallon of water
- To clean tools properly, they must be washed first, then use:
 - Household Cleaners (Listerine, Lysol, Pine-Sol)
 - Rubbing Alcohol
- The bad parts...
 - Corrosive! To you, clothes, plants
 - Also corrosive to: iron, stainless steel, copper, brass, aluminum, tin
 - Minimal residual kill power
 - Inactivated by organic matter
- Only 'needed' IF bacterial disease present

Watering



- Why are we adding water?
 - Wilting plant (is that a sign?)
 - Low soil moisture
 - Consistent moisture needed
 - Unsteady rainfall
- When do we water?
 - Morning
 - Afternoon
- How do we water?
 - At the rootzone

Sodium Bicarbonate (SBC)



- It does not kill fungi
- It WILL inhibit fungi growth (supression)
- Practical?
 - Water soluble – washes off
 - Need too much
 - Phytotoxic
- Research?
 - R. Kenneth Horst, Cornell, suppression of PM & blackspot
 - 3-4 days, solution of water & insecticidal soap.
 - (Surfactants are chemical agents that alter the surface properties of a liquid.)
 - 0.5% solution most effective



Weed Control



THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES

Mulch – Seed & Termites!

- Weed Seed
 - Know the source of your mulch
 - Generally, mulch from tree cutting firms has NO WEED SEED!
- Termites
 - Survive chipping? Not likely.
 - Survive away from colony? Decreases further.
 - Did survive? Not as likely to be sustained by a diet of mulch as by their normal diet.
- Bark mulch – can repel water
- Wood chips – better water holding capacity



Landscape Cloth Works?!

- Usually for those with lots of mulch and just a few shrubs
- It will rot before you know it
- Weeds will grow in the mulch, dust and other debris which lands on top
- Rubber mulch & other synthetics
 - How do you keep it in place?
- Organic mulches are your best bet



Organic Weed Control

- Corn gluten meal
 - Protein-based w/some pre-emergent control
 - No effect on established weeds
 - Not selective. Inhibits germination of desirables
 - Most beneficial in lawns
 - Needs to build up in soil (crabgrass)
 - Price? (you'll need a 'ton' for your lawn)
- Newspapers
 - Will decompose
 - Shiny ones take longer – soy ink?
 - 2-4 layers thick
 - Also, shredded



Vinegar 'kills' weeds

- ...and everything it gets sprayed on!
- Environmentally friendly, but expensive
- Cornell
 - Acetic acid (vinegar) at 5% (off shelf)
 - Ineffective, short-term (three apps better)
 - Controls crabgrass/plantain in lawns
 - Generally – lots of applications
- USDA Research
 - 10 to 20% conc. ⇒ 80-100% control of annuals like foxtail, lambsquarters, pigweed, velvetleaf
 - Perennial weeds (Canada thistle) - 5% vinegar showed 100% shoot burndown, roots not affected



Salt to kill weeds



- “...drop a small pinch of table salt at the base of the undesirable plants...kill the plant but will **dilute down to harmless in the next few rainfalls**”
- Salt inhibits water penetration in the soil
- Also, rains can leach the salt out of the asparagus bed and into the rest of the garden, injuring other vegetables that are less salt tolerant than asparagus.
- Asparagus – Native to Mediterranean



Insects & Wildlife



THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES

Ants on Peonies



- The presence of ants on peony blossoms is neither beneficial nor harmful to the plant.
- Ants are simply attracted to the sugary liquid secreted by flower buds.
- Dust with black pepper to get them off?
 - Save the pepper for your baked potato

Any Soap will do...



- Insecticidal Soaps
 - Control small, soft-bodied arthropods: i.e. aphids, mealybugs, psyllids, spider mites
 - Easy to use, safe, selective action, but limits:
 - Must wet the insect during application
 - No residual effectiveness
 - Damages some plants – use below 90°, overcast
 - Mix with water, 2% concentration
- Dishwashing Soap
 - Phytotoxic
 - Lotions and other additives

Slugs?



- Slugs in your garden?
 - Sweet gum balls (too rough to climb over)
 - Spruce needles (cuts their bodies, so they'll stay away)
 - Sprinkle salt (it makes them dry out)
 - Crumble egg shells (it cuts them when they cross it)
 - Diatomaceous earth?
- OSU Extension's BugDoc
 - "They can produce enough slime that they can even crawl across a razor blade."

...and on and on...



- Marigolds will keep the rabbits out...or is it the neighbor's new dog? The coyotes!
- Moles & Voles
 - Bubble gum?
 - alka seltzer?
- Spread salt around the house to get rid of all of your insects.
- Garlic gets rid of insects on roses?



A few more...



THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES

Drainage Material in Pots



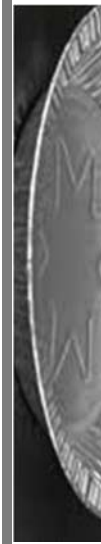
- Yes, we all do it
 - Rocks and other 'junk'
 - Styrofoam to make pots lighter (this is ok?)
- Rocks makes pots heavier
- Some research says it retards water flow
- No water holding capacity
- Solution?
 - Potting Mix - not potting soil
 - Drainage holes

Don't scratch – it'll spread



- Leaves of three – leave it be!
- Rash is a reaction – only spreading urushiol by direct contact causes rash
- Fluid from blisters will not spread the rash. Well before the blisters form, however, you may spread the urushiol
- Direct contact or contact with smoke from burning plants
- Urushiol remains active on any surface, including dead plants, for up to 5 years.

Aluminum Pie Plates



- Bird control in the vegetable garden
- Theory is shininess discourages them to land/stay
- Lots of things to try:
 - Stretch line/fishing line
 - phony owls, string-tethered balloons,
 - plastic wind turbines
 - flashing lights or loud noise
- SECRETS
 - move devices to a new location every day
 - change it up!



Know your stuff!



THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES

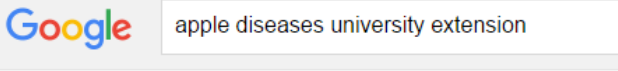
Air & Sunlight



- It's amazing when...
 - A plant is planted where it wants to grow
 - You help it with a little water when it needs it
 - You give it the proper amount of light it wants
 - You work with the natural environment to save your extra labor by 'fighting' what comes natural

OHIO STATE UNIVERSITY EXTENSION

Know how to search



- Use the Internet
 - ‘apple’
 - Add ‘Extension’
 - Get the information from the University

Disease Susceptibility of Common Apple Cultivars - Purdue Extension
<https://www.extension.purdue.edu/extmedia/BP/BP-132-W.pdf> • Purdue University •
 Purdue extension ... Department of Botany and Plant Pathology, Purdue University ... The primary diseases that affect apple production include apple scab, fire.

Diseases : Yard and Garden : University of Minnesota Extension
www.extension.umn.edu/garden/yard_garden/ • University of Minnesota •
 Tree and shrub diseases, Flower diseases, Lawn diseases, Vegetable diseases, Fruit diseases ...
 Managing apple scab on ornamentals - Powdery mildew ...

Apple scab - University of Minnesota Extension
www.extension.umn.edu/garden/yard_garden/apple_scab/ • University of Minnesota •
 Apple scab infection on crab apple. ... The most troublesome disease for apple growers in all parts of Minnesota is apple scab. ... Susceptible and very susceptible trees will require fungicide sprays every year to control the apple scab fungus.
 You visited this page on 5/6/16.

HGIC 2000 Apple & Crabapple Diseases : Extension : Clemson ...
www.clemson.edu/hgic/insects_diseases/trees/ • Clemson University •
 Many diseases commonly occur on apple (Malus domestica) and flowering ... by Joey Williamson, HGIC Horticulture Extension Agent, Clemson University 03/15.

apple diseases - Clemson University
www.clemson.edu/hgic/insects_diseases/trees/ • Clemson University •

OHIO STATE UNIVERSITY EXTENSION

Know how to search

- Ask a Master Gardener & Clinic
 - So important!
- If it sounds too good...
- Dr. Chalker-Scott's web page at <http://www.theinformedgardener.com>

OHIO STATE UNIVERSITY EXTENSION

Don't forget: Research Based




- This is why we have land grant universities and extension
- Opportunities for Master Gardener Volunteer Research
- Yes, more research needs done

Our Mission
 Engaging people to strengthen their lives and communities through research-based educational programming.

OHIO STATE UNIVERSITY EXTENSION

References & Sources



- Dr. Linda Chalker-Scott, Washington State University Extension
- Minnesota Extension Factsheet – Cut Flowers
- Iowa State Extension News
- David Chinery, Cornell Cooperative Extension
- USDA-ARS 2002 Vinegar Study
- Ohio Master Gardener Manual
- Florida factsheet: Termites in Mulch
- Pictures courtesy of plantfacts.osu.edu