

Gardening on the Cheap

Academy for Lifelong Learning
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Clueless Read wanted

...curb appeal for his newly-built, 3 bedroom house on a 1/8 acre lot, so he bought

Full-size foundation plantings including Canadian hemlocks

20 Leyland cypress for a 40' privacy hedge

A 20# bag of “Southern mix” grass seed

A selection of tea roses

What do you think is going to happen?

Daydream Hunter wanted

...a natural, English-style spring look for her south-facing Aiken garden, so she bought

36 primroses in 3" pots

120 mixed Darwin tulips

200 Thalia narcissi, landscape size

50 Ziva paperwhite bulbs on sale

12 box trees, 1 gallon size

What do you think will happen?

Gardening on the Cheap Can Save You Thousands

How much do you think Clueless would have had to spend to have his lot professionally (properly) landscaped?

Eight to ten thousand (that's \$8,000-10,000)

How much could Daydream's spring garden cost her?

Minimum of \$500 plus cost of planting (\$20 / hour) and preparation (e.g., bone meal)

Gardening cost-effectively starts
with a *PLAN*

The PLAN must take into account your garden's orientation, soil characteristics, size, water supply, etc., as well as the character of your home and neighborhood

What should the plan cover?

- The budget
 - How much to spend, on what, when
 - Contingency provision
- The priorities
 - What look are you trying to achieve?
 - What do you want your garden to do for you?
- The time frame
 - How long do you have to create your garden?
 - What are you going to plant while your garden develops?

1. The Gardening Budget

Main elements:

1. Seeds, bulbs, plants (perennial vs. annual)
2. Soil conditioners, mulch
3. Fertilizer
4. Pest control
5. Tools & non-consumable “materials”
6. Water

Which of these can I control?

How much do I need for contingencies?

Good news!

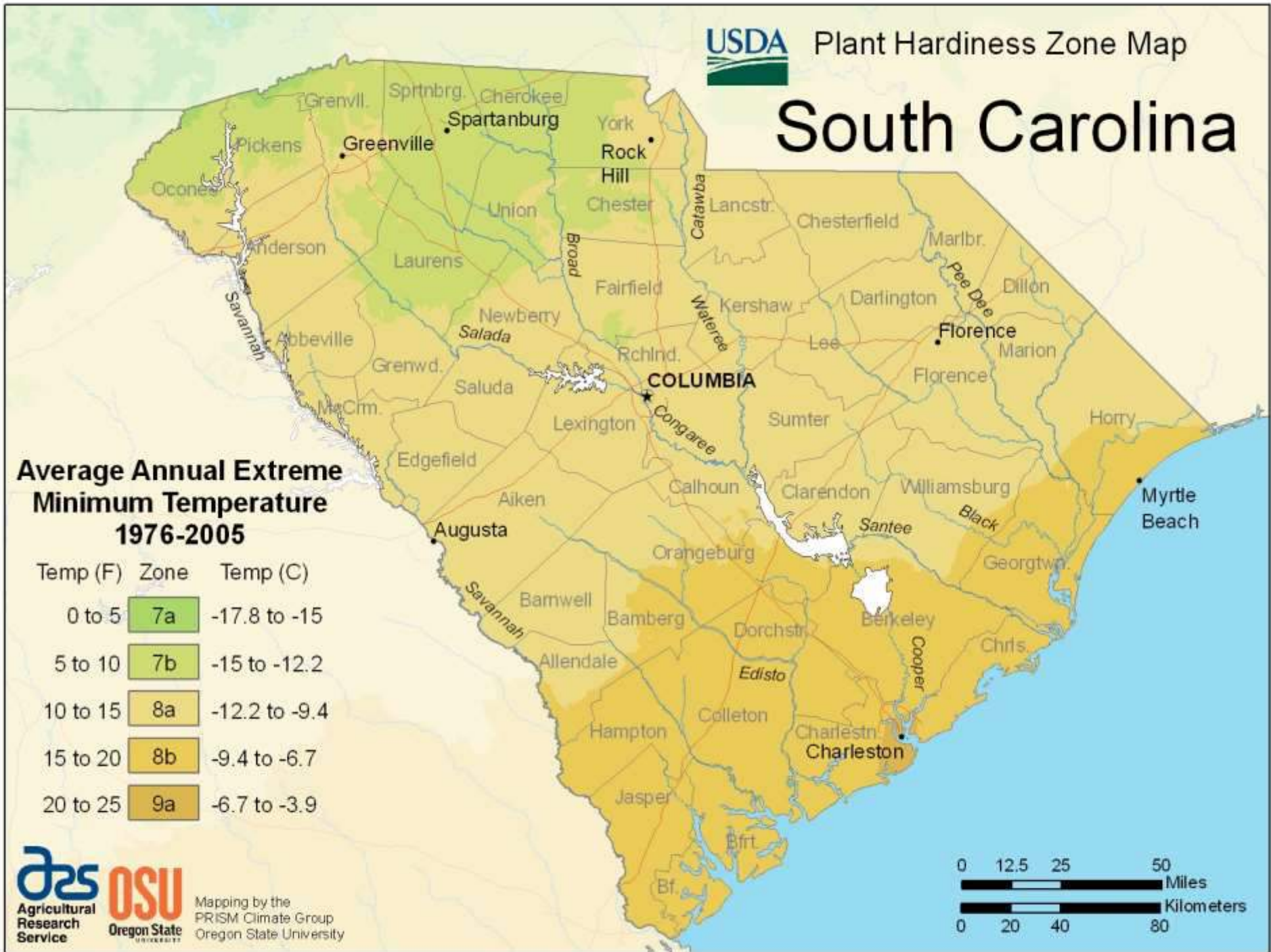
You can control all of these costs,
provided you plan ahead

1.1 Seeds, bulbs, plants

- Nature wants to maximize the chances of reproduction for native *& zone-appropriate* plants:
 - Plants set numerous, fertile seeds that you can save
 - Bulbs produce offsets you can separate or allow to naturalize
 - Plants can be vegetatively propagated more or less easily
- Sources of supply?
 - Friends (pass-along plants, saved seeds, cuttings, etc.)
 - Sale or “orphan” areas of nurseries
 - Wholesalers (if you can make the \$ minima)
 - Seed saver organizations, garden clubs, AMGA sale, propagation class sale at the high school, farmers market



South Carolina



Average Annual Extreme Minimum Temperature 1976-2005

Temp (F)	Zone	Temp (C)
0 to 5	7a	-17.8 to -15
5 to 10	7b	-15 to -12.2
10 to 15	8a	-12.2 to -9.4
15 to 20	8b	-9.4 to -6.7
20 to 25	9a	-6.7 to -3.9



Mapping by the PRISM Climate Group
Oregon State University



Buying Sale Plants

- Many sale plants are good investments – others, not so much
- Don't waste money on annuals in mid-season
- Look at the root ball – avoid pot-bound or girdling plants
- Plants at big box stores have often been stressed, so buy with caution
- Be prepared to prune and wait when you buy sale
- Keep an eye on frost dates when buying on sale
- It's not a bargain if it's not in the plan

Girdled and Pot-bound Plants



Transplant Shock

You bought “smart” - now plant smart

1. Get your plants into the shade & spritz or water them
2. Go dig the holes (remember you had a plan of where everything should go?)
3. Plant in the evening, day of purchase if possible
4. Some gardeners add epsom salts to the holes
5. Water again after planting

Additional Tips for Small Spaces

1. vertical gardening
2. intensive planting
3. two crops per year
4. container gardening (plants must be hardy to 2 additional zones for winter survival)
5. “complementary” plants – e.g., the three sisters (squash, beans, and corn)

A Common Mistake

We all want an instant show, but you need to buy plants based on mature size

- Planting excessively big plants costs \$\$\$, creates work later, and may result in misshapen plants
- “Big” plants, particularly annuals, are often pot-bound and will fail in the garden
- Certain plants need significant space around them – e.g., Leyland cypress

1.2 Soil conditioners, mulch

- Step 1: get your soil tested. \$6 through Clemson: standard test includes pH, phosphorus, potassium, calcium, magnesium, zinc, manganese, copper, boron, sodium; gives lime requirements and general recommendations.
- Step 2: start a compost pile (or just use a \$13 garbage bin)
- Newspapers can be covered with mulch to suppress weeds and give a tidy look (N.B. undyed mulch is significantly cheaper than dyed)



1.3 Fertilizer

- Follow the recommendations of your soil test: do not over-fertilize
- Choose the right NPK ratio for your purpose
- Consider plant partners and nitrogen-fixing plants rather than fertilizer
- Compost does a better job than fertilizer – conditions the soil as well as provides nutrients
- Urine (diluted 5:1 with water) has a high nitrogen content and makes a good fertilizer

Composting

- Make your own compost: layer “brown” and “green” material, keep it moist: add your ingredients to the compost pile when you get them, turn the pile regularly
- Green material is high nitrogen; brown is high carbon – it's not necessarily color-related (e.g., manure is “green”)
- The 30:1 C:N ratio and getting enough carbon
- Home compost piles generally don't get hot enough to kill weed seeds – better to dispose of weeds in the city collection (which is commercially composted)

Lasagna Gardening: The Ultimate Lazy Approach

1. Build up a bed with alternating brown and green material, perlite, shredded newspaper, etc.
2. Make narrow but adequate “walkways”
3. Top “bed” areas with 1” of soil and 2” of fine mulch
4. Plant directly into the bed; keep watered
5. Add layers of brown and green in the walkways and around the plants – you can also bury kitchen waste
6. In year 2, plant in the walkways and build up the beds; keep alternating

1.4 Pest Control

- IPM, integrated pest management, is environmentally sound and cheaper than incessant spraying
- Learn to distinguish (and tolerate) modest levels of pest damage vs. situations requiring treatment

1.5 Tools

- Borrow, or buy used – yard sales, charity shops, estate sales – and choose hand, not power, tools
- Care for your tools and sharpen bladed tools
- What tools do you need?
 - Trowel (buy the strongest you can afford)
 - Rake
 - Spade (and maybe a shovel, too)
 - Secateurs (and maybe loppers if you have lots of shrubs)
 - Garden fork
- If your soil is compacted, or has lots of roots, add a mattock

The spade has a "D" handle, which I recommend for the shovel, too



Pick mattock

Non-consumable Materials

1. make cloches out of soda bottles, milk jugs – cut off the tops and invert over tender seedlings
2. extend the season by using taped-together plastic bags for floating row covers
3. make vine supports and row cover arches out of metal coat hangers
4. after pruning, save large branches to grow peas
5. start seeds in newspaper “pots”
6. popsicle sticks and old venetian blinds for labels
7. wild bamboo, pallets, and plumbing stock for arbors, fences, compost pile containment
8. emergency frost protection - use thrift shop blankets



1.6 Water

- Ultimate solution: xeriscaping
- Intermediate solution: drought-tolerant plants
- Minor fixes: timing of watering, reuse of grey water, soaker hoses
- Major fixes: irrigation (drip irrigation best), especially with rain sensor control

2. The Priorities

- What look are you trying to achieve? Consider the potager approach if space is limited
- Recognizing the limitations of your USDA zone
- Working by area vs. working by plant type
- Preparation and resolving problems vs. actually planting
- Recognizing the role of hardscaping
- Stretching the gardening budget

2.1 Propagation

- Cuttings
- Layering
- Dividing
- Seeds
- Budding
- Grafting

Budding and grafting take practice and are advanced methods of vegetative propagation



Really cheap options

- Garden from garbage: carrot tops, sweet potato slips, green potatoes, celery bottoms, pineapple tops, ginger, lemongrass, unusably small garlic cloves, scallions, fennel, leeks, beet tops
- Collect native flowers (responsibly)
- Abandoned homesteads
- Gifts from friends, family
- The “free” section of Craig's List
- Trash picking

2.2 Seed Saving

- If you intend to save seed, plant only one variety (to avoid cross-pollination issues)
- Know when your seeds are mature (not the same time that the plant flowers or the vegetable is edible)
- Dry seeds (beans, peas) are ready to save when the pods are dry
- Wet seeds (e.g., tomatoes) need to have their germination-inhibiting coats scrubbed off before being dried

Note: Hybrid plants will not generally set viable seed, or the seeds will not resemble the parent

Part of SSE Guide (5 pp)



SEED SAVING GUIDE

Crops	Species	Family	Life Cycle	Primary Pollination Method	Recommended Isolation Distance for Seed Saving	Population Size (Number of plants)		
						Viable Seeds	Variety Maintenance	Genetic Preservation
adzuki bean	<i>Vigna angularis</i>	Fabaceae	annual	self	10-20 feet (3-6 m)	1	10-25	50+
amaranth	<i>Amaranthus spp.</i>	Amaranthaceae	annual	wind	650-1,300 feet	1	5-25	50+
Armenian cucumber	<i>Cucumis melo</i>	Cucurbitaceae	annual	insect	800 feet-1/2 mile (244-805 m)	1	5-10	25+
artichoke	<i>Cynara cardunculus</i>	Asteraceae	perennial	insect	800 feet-1/2 mile (244-805 m)	5	20-50	80+
arugula (rocket)	<i>Eruca sativa</i>	Brassicaceae	annual	insect	800 feet-1/2 mile (244-805 m)	5	20-50	80+
asparagus	<i>Asparagus officinalis</i>	Asparagaceae	perennial	wind	800 feet-1/2 mile (244-805 m)	2 (1 male, 1 female)	20-50	80+
barley	<i>Hordeum vulgare</i>	Poaceae	annual	self	10-20 feet (3-6 m)	1	5-10	20+
bean (common bean)	<i>Phaseolus vulgaris</i>	Fabaceae	annual	self or insect	10-20 feet (3-6 m)	1	5-10	20+
beet	<i>Beta vulgaris</i>	Amaranthaceae	biennial	wind	800 feet-1 mile (244 m-1.6 km)	5	20-50	80+
Belgian endive	<i>Cichorium intybus</i>	Asteraceae	biennial	insect	800 feet-1/2 mile (244-805 m)	5	20-50	80+
broccoli	<i>Brassica oleracea</i>	Brassicaceae	biennial	insect	800 feet-1/2 mile (244-805 m)	5	20-50	80+
broccoli raab	<i>Brassica rapa</i>	Brassicaceae	annual/biennial	insect	800 feet-1/2 mile (244-805 m)	5	20-50	80+
broomcorn	<i>Sorghum bicolor</i>	Poaceae	perennial	self or wind	100-200 feet (30-61 m)	1	10-25	50+

2.3 IPM – Overall Approach

- DIY vs. a company
- Identify the responsible pest and look up its life cycle in Clemson's H&G database
- Monitor the numbers of the pest in your garden
- Set your action threshold (economic, health or aesthetic)
- Choose the appropriate combination of management tactics – which may involve chemical control
- Evaluate results and revise your IPM plan

Specific Steps toward IPM

- Encourage “beneficials”
- Create wildlife habitat
- Maintain air circulation
- Prune trees and shrubs that block light and air
- Rotate vegetable plantings
- Avoid “marginal” plants – they'll always be vulnerable

2.4 Tool Selection

- Buy and wear gloves, the right kind of glove: leather, rubberized cotton, nitrile
- Buy used tools or borrow; if buying new, consider ergonomics
- Consider the state of your soil (compacted?) and whether you'll pay for garden help
- In general, avoid electrically powered tools (clippers, edgers, tillers....)

3. The Timeframe

- How long are you willing to wait to achieve your “look”?
- Can you afford shortcuts, like “caliper trees”?
- How will you fill in while the garden develops?
- How will you control weeds and invasions during this time?
- How will you plan for replacement of short-lived perennials and shrubs?

Recap: Cost Control in the Garden

Have a documented plan

Apply the principles you already know: reduce, reuse, recycle

Balance your investment between annuals and perennials

Buy with friends to get bulk savings

Patronize local sales, farmers markets, botanical gardens, estate sales, garden shows

Be an active learner: use free resources

Appendices

Organizations to Join

- Aiken Master Gardener Association
- Seeds Savers Exchange
- American Horticultural Society
- American Community Garden Association
- If you are an enthusiast for a particular plant, join that society (e.g., American Primrose Society)
- Online communities: e.g., permies.com

Partial Shade, Partial Sunlight

- Partial sun: ≥ 4 hrs to ≤ 6 hrs of sun per day
- Partial shade: ≥ 1.5 hrs, ≤ 4 hrs per day
- Plants for partial shade should be sheltered from afternoon sun; often they flourish in filtered or dappled light under larger plants, trees, or lattice structures
- You can measure the exact amount of sunlight with the roughly \$20 “suncalc” device

What does NPK mean?

- Elements: nitrogen-N, phosphorus-P, potassium-K
- Nitrogen promotes overall growth at the expense of flowers and fruit
- Phosphorus does more for roots, flowering, setting fruit – associated with algal blooms
- Potassium helps roots and increases drought and disease resistance
- Plants need different NPK ratios at different times

Good Online Sources

- Clemson's H&G database: hgic.clemson.edu
- Gardenmyths.com
- Gardeningknowhow.com
- Dave'sgarden.com – especially reviews
- preparednessmama.com
- Any state or university botanical garden