Gardening in Sandy Soil

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Topics

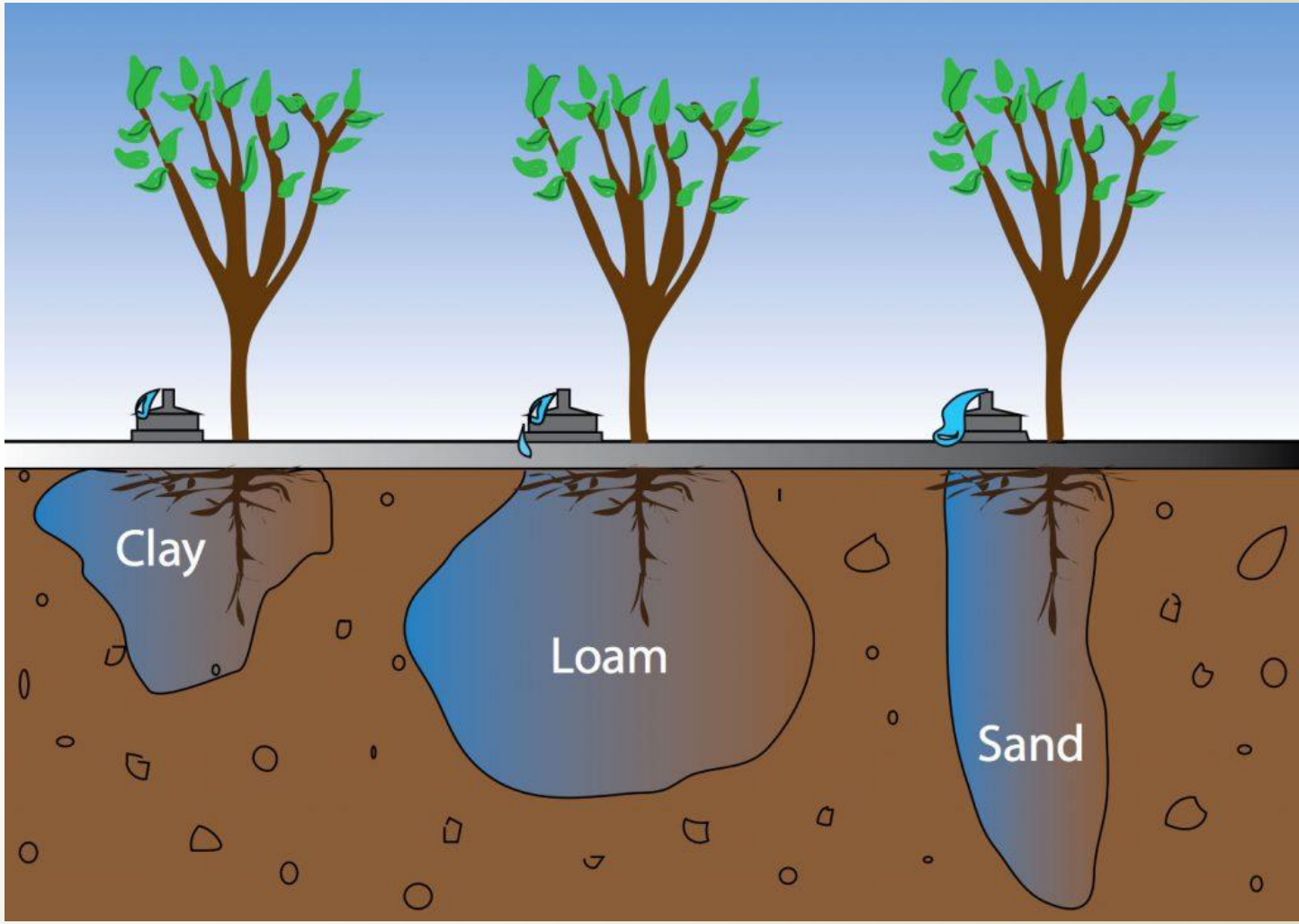
- Sandy soil challenges
- Gardening techniques
- Suitable plants
- Soil Amendments

Sandy Soil Characteristics

- Light, warm, dry, acidic, low in nutrients
- Easy to work with
- Quick to drain
- Leaches nutrients
- Consumes organic matter quickly
- Warm earlier in spring
- Dry earlier in summer
- Cool earlier in fall

Water Retention

- Water moves rapidly downward through sand and does not spread laterally to any great extent.
- It takes approximately ½” of water to infiltrate 1’ of sandy soil.



Water repellent or hydrophobic soil

Most often a problem in neglected soil

Water Infiltration Time	Severity
< 5 sec	No problems
5 sec-1 min	Slightly repellent
1-20 mins	Repellent
>10 mins	Severely repellent

How to work sandy soil

- **No till**
  - Shallow cultivation or no cultivation
  - Weed, rake, plant
- **Irrigate methodically**
  - Early morning
  - 1hr later if soil is dry, water again
  - Short bursts, wait 1/2hr, let settle, do again
- **Leave compost on top of soil**
  - Acts as sponge and holds moist at the top layer of soil
  - Golden rule: smaller quantities of organic matter more often
- **Keep the soil covered**
  - Mulch to reduce soil temperature and retain moisture
- **Use cover crops**—if appropriate
  - Fix nitrogen
  - Keep soil conditioned
  - Reduce weeds and need for weeding

Choosing plants for sandy soil

- Prefer sandy soil
  - Well-drained soil
  - Summer drought conditions
  - Dry roots
  - Poor or infertile soil
- Tolerate sandy soil
- Have tap roots
- Have dense fibrous roots
- Have silver leaves
- Have hairy leaves and stems

Plant lists

- orcoastmga.org/rthandouts
  - Native plants
  - Ornamentals

Vegetables for Sandy Soil

- Root crops
  - Beet
  - Carrot
  - Onion, garlic
  - Parsnip
  - Potato
  - Radish
  - Turnip
- Asparagus
- Bean
- Corn
- Cucumber
- Green
- Lettuce
- Pepper
- Squash
- Tomato
- Zucchini
- Mediterranean Herbs
  - Oregano
  - Rosemary
  - Sage
  - Thyme

Eryngium
Sea Holly

- Likes dry, well-drained soil
- Tolerates low-fertility soil and saline conditions
- Best in full sun with cool nights
- Tends to sprawl, esp. in shadier areas
- Taproot so transplants poorly
- 24” x 18”
- Blooms July to October

Eryngium bourgatii

Echinacea Coneflower

- Many different colors
- Clump forming
- Attracts birds

Gaillardia
Blanket Flower

- Bright colored flowers
- Long bloom time
- Easily handles heat and sun

Perovskia
Russian Sage

- No fuss
- No water; no fertilizer
- Attracts pollinators
- Pairs well with contrasting flowers and foliage—dark purple or orange

Achillea
Yarrow

- Many colors
- Attracts pollinators
- Deadheading or not

Heliopsis
False Sunflower

- Long bloom time
- Attracts pollinators
- Withstands heat and dry

Hemerocallios Daylily

- Lots of different colors and flower shapes
- Very easy to grow
- Needs little water
- Disease and pest free
- Likes poor soil
- Full sun to part shade

Lavandula
Lavender

- Great plant for PNW
- Grows best in poor soil
- Do not enrich soil
- Likes sandy soil best

Ornamental Allium

- Attractive foliage
- Clusters of small purple flowers
- Attracts pollinators
- Rabbit and deer tolerant
- Tall and short varieties

Meadow Sage

- Dense flower spikes
- Various colors
- Clump forming
- Attracts butterflies, bees and hummers
- Deer and rabbit tolerant

Nepeta
Catmint

- Prefers dry soil
- Low-medium tall
- Cut back after bloom for second bloom
- Deer and rabbit tolerant

Rudbeckia
Black-eyed Susan

- Long bloom time
- Seeds for birds
- Self-seeds

Agastache
Anise Hyssop

- Prefers dry soil
- Bottlebrush like flowers
- Black licorice fragrance
- Attracts bees

Baptisia
False Indigo

- Blue, purple, yellow flowers
- Tall spiky form
- Showly seed pods
- Pairie style plant
- Limited water needs

Sweet alyssum

- Low growing plant that mats nicely
- Smells like honey
- Attracts butterflies
- Blooms spring and fall
- Full to partial shade

Penstemon ovatus
Broadleaved penstemon

- Native perennial
- Blooms May-June
- Full or partial shade
- Attracts pollinators—humming birds, native bees, beetles, moths

Sedum

- Groundcover plant
- Perennial
- Fleshy leaves with small, star shaped brightly colored flowers
- Blooms midsummer to midfall
- Thick stems retain water
- Attracts pollinators—butterflies and hummingbirds

Campsis radicans
Trumpet Vine

- Vigorous
- Yellow, orange, red flowers
- Attracts hummers
- Like sandy soil
- Needs support

And so many more

- Lamb's ear
- Dianthus
- Aster
- Liatris
- Penstemon
- Goldenrod
- Kniphofia
- Verbena
- Columbine
- Shasta daisy
- Hops
- Honeysuckle
- Passion flower
- Clematis
- Akebia
- Crabapple
- Hawthorn
- Cordyline
- Rose of Sharon
- Caryopteris
- Plumbago
- Cranesbill Geranium
- Liriope
- Phlox
- Cinquefoil
- Summer-in-snow
- Bearded iris

Amending Sandy Soil

- Improve both water and nutrient retention
- Compost will act the fastest but is short-lived
- Need to watch salt content, better to use plant-based compost
- Vermiculite will help with water retention but does not address nutrient deficiencies

Organic vs Inorganic Amendments

- Organic Soil Amendments
  - Sphagnum peat moss
  - Compost
  - Coir dust
  - Aged manure
  - Grass clippings and straw
- Inorganic Amendments
  - Vermiculite –water retention
  - Perlite - aeration

Bentonite Clay (calcium)

- Improves soils water holding ability
- Increases the CEC (cation exchange capacity) of soils
- Prevents leaching of many nutrients
- Supplies small amounts of calcium, magnesium and potassium
- 1x application; Long-lasting effect
- Apply to dry soil and dig in for 10”
- Inexpensive—50 lb for $15

Biochar

- A charcoal-like carbon substance created from slow firing organic matter
- Increases water retention
- Moderates acidity
- Improves microbial properties
- Regulates nitrogen leaching
- Adding too much is a big problem
- Works best if used with compost tea or mixed in with aged compost
- Not clear if it works better than compost alone

Questions/Discussion