

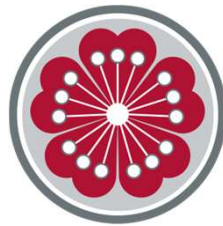


# The Grass Isn't Always Greener

Environmental friendly lawn care, removal of turf and options for alternative plants aesthetically similar to traditional grass lawns.

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Create an adaptable workforce



Providing a secure food supply system



Helping to maintain sustainable natural resources



Supporting thriving, healthy communities, families, and individuals



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## WSU Extension Master Gardener Mission

Engaging university-trained volunteers to empower and sustain diverse communities with relevant, unbiased, research-based horticulture and environmental stewardship education.





# Program Priorities

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Allowing plants to grow longer and flower provides food and shelter for pollinators. Plant variety in lawns often requires little to know pesticides and fertilizers.



Lawns with a variety of plant types helps create resilient landscapes that are better adapted to a changing climate and use less fossil fuels to maintain.



Moving away from monoculture in turf lawns promotes stewardship of diverse ecosystems and restoration of landscapes.



# Popularity and Benefits of Grass Lawns

- First English word for “lawn” dates to 1500’s described as “open space among trees”
- Lawns cover over 40 million acres in the U.S.
- Has a market value around \$150 billion
- Status symbol that rose in popularity in the 50’s
- Uniform and manicured aesthetic
- Lower maintenance once established - doesn’t require pruning or deadheading
- Many varieties can withstand heavy foot traffic
- Traps more runoff water and higher cooling effect than hardscapes
- Estimated 25 sq feet provide enough oxygen for one adult a day



# Environmental Costs of Turf Grass

- Lawns consume nearly 3 trillion gallons of water a year
- Nearly 200 million gallons of gas from lawn mowers
- 70 million pounds of pesticides
- Lawns are considered “dead zones” from a biodiversity standpoint
- Don’t support pollinators or create habitat for insects
- Rainwater runoff can carry pesticides and fertilizers into water ways harming fish and vertebrates



# Easy options to Mitigate Negative Impacts of turf lawn

- Remembering you don't need to eradicate all lawns
- Practicing “no mow” approaches which allows clovers and other flowering weeds to flower and support pollinators as well as creating habitat among taller grass
- Mowing only as much as necessary ie. Creating paths with mower
- Reseed existing lawn in fall with clover to add nitrogen to soil and feed grass
- Embrace seasonal “brown” by not watering during the summer months





# Options for Removing Lawn

- Physical removal; using sod cutter or digging out
  - Pros quick removal
  - Cons can remove top soil layer and physically demanding
- Sheet Mulching; using layers of cardboard and newspaper under several inches of mulch (Recommended Approach)
  - Pros improves soil quality
  - Cons takes a long time may not remove some varieties of Bermuda grass
- Solarization; covers grass with black plastic to heat and kill grass
  - Pros low effort
  - Cons unsightly and can kill beneficial organisms temporarily
- Chemical removal; using weed killers
  - Not recommended due to negative environmental impact



# Sheet Mulching How To

Step 1) Saturate the ground with water

Step 2) Mow down grass as short as possible leaving clippings

Step 3) Cover area with up to 8 layers of newspaper for turf

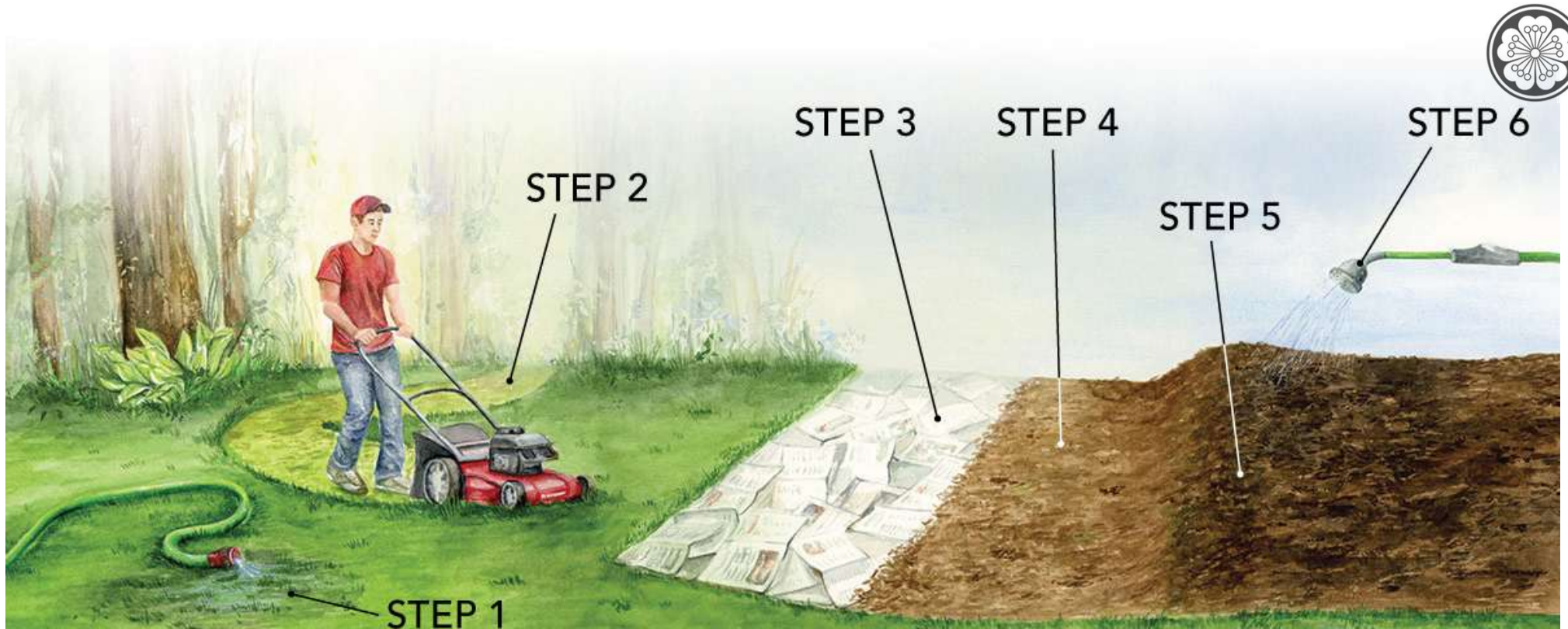
Step 4) Cover with 2-4 inches of mulch

Step 5) Additional layers can be added for well established lawns

Step 6) Water weekly in dry conditions

## Important Notes

- This process can take a year or more to complete
- Builds soil as it decomposes
- Can limit water absorption during process leading to increased runoff
- Overall the is process not very aesthetically pleasing



## Sheet Mulching Step by Step



# Four Options for Lawn Alternatives

The following slides outline four different plants that will create a similar aesthetic to the traditional turf lawn. These include a “green” color and overall uniform look.



# Clover Lawn

## *Trifolium*

- Small herbaceous plants in the legume family known for their three-leaflet pattern
- Grows well in zone 3 to 10
- Excels at pulling Nitrogen from air and fixing into soil
- Needs minimal mowing in some cases only 4 times a year depending on preference
- Blooms provide food for pollinators
- Prevents soil erosion and soil health
- Stays green during hot summer months
- Recommended to mix into grass variety or use multiple clover varieties to avoid monoculture

# Clover Lawns

## Popular Varieties

- **Dutch white clover (*Trifolium repens*)** grows 8-10 inches unless mowed, fast spreading
- **Micro clover (*Trifolium repens L*)** best option for lawn look alike; grows 4-6 inches
- **Red clover (*Trifolium pratense*)** grows best mixed with other grasses; grows 12-18 inches

## Possible drawbacks

- Does not handle foot traffic as well as turf
- Some pollinators that are attracted to flowers can sting
- Prefers soil above 6.0 pH so if too acidic amend with lime
- Can spread to other areas of garden
- Recommended to plant a variety to avoid monoculture

# Fescue Lawn

## *Festuca*

- A large genus of grasses with fine, hair-like blades
- Unmown grasses grow to 8-16 inches
- Drought and shade tolerant
- Tolerates heavy foot traffic
- Offers erosion control
- Grows floppy creating a wind-swept look
- Thrives in zone 3-8





# Fescue Lawns

## Popular Varieties

- Hard Fescue - *Festuca trachyphylla*
- Sheep Fescue - *Festuca ovina*
- Chewings Fescue - *Festuca rubra var commutata*
- Creeping Red Fescue - *Festuca rubra*
- Slender Creeping Red Fescue - *Festuca rubra*

## Possible Drawbacks

- Needs to be mowed at 3-4 inches to maintain density and root depth
- Highly prone to brown patch fungus during hot, humid summers
- Non-spreading bunch grass so will not fill in on its own and will need annual overseeding
- Will need to be nitrogen fed



# Sedge *Carex*

- Grass-like perennial plants distinguished by their triangular stems
- Most varieties bloom during the spring if left un-mowed
- Some varieties spread in clumps others spread via underground rhizomes
- Typically require little to no fertilizer
- Minimal mowing with some varieties only requiring once a year
- Provides food and habitat for pollinators and insects
- Some varieties tolerate moist and shady environments





# Sedge Lawn

## Popular Varieties for PNW

- *Carex tumulicola* (*Berkeley sedge*) *BEST* variety for PNW
- *Carex praegracilis*
- *Carex flacca*
- *Carex pensylvanica* (*Pennsylvania sedge*) tolerates mowing
- *Carex jamesii* (*James' sedge*)

## Possible Drawbacks

- Low germination rate of seeds so requires high cost plugs to quickly cover a large area
- Completely weed free soil crucial to success
- Monthly mowings required to distribute seed and get lawn established



# Moss Lawns

## *Bryophyta*

- *Bryophyta* are non-vascular plants which use rhizoids to attach to surfaces instead of roots
- A good choice for shady and moist conditions
- Prefers acidic soil, will grow in rocky soil
- Does not require mowing or pesticide or herbicide use
- Does not flower so does not support pollinators
- Hand weeding is necessary to keep out competing plants
- Very soft and inviting surface area





# Moss Lawn

## Popular Varieties for PNW

- Sheet Moss (*Hypnum*) for soft, fast-spreading carpets
- Fern Moss (*Thuidium*) for textured, woodland-style groundcover
- Tree Moss (*Climacium americanum*) for vertical texture in shade
- Star Moss (*Atrichum*) for partially sunny conditions and low growing profile

## Possible Drawbacks

- Can be difficult to source spores and can be illegal to harvest wildly
- Many varieties do not transplant well
- Can take a long time to cover a large area
- Does not hold up well to foot traffic
- Animals such as birds and chipmunks can cause damage by digging up to hide food under



# Closing Thoughts

- Incorporating or transitioning entirely from traditional turf lawns has many benefits.
- Diversity of plant species in your lawn supports beneficial insects and robust soil microbiomes.
- There are many options that emulate traditional turf lawns. The plant species covered in this slide show are just the beginning!
- It is important to pick the right plant for your place-consider the needs of your lawn!
- These alternatives to turf all require less herbicides, fertilizers, water, and have lower fossil fuel admission due to reduced mowing needs.

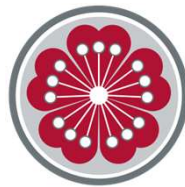




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## Sources

Helpful Extension Resources (for those interested in trying this). Here are three you could include:

<https://extension.umd.edu/resource/lawn-alternatives/>

<https://yardandgarden.extension.iastate.edu/how-to/lawn-alternatives-turfgrass>

<https://extension.oregonstate.edu/gardening/lawn/through-thoughtful-practices-lawns-can-be-climate-friendly>

•Seed Sources. You have a link to American Meadows. You could also include:

•<https://northwestmeadowscapes.com/>

•[https://www.americanmeadows.com/products/microclover-seeds-pelleted?srsId=AfmBOooTFcD9SM3Z5TALV\\_aZ8sExTyA3Y7V8vqwfA6Crqkuf3sLgRvzS4](https://www.americanmeadows.com/products/microclover-seeds-pelleted?srsId=AfmBOooTFcD9SM3Z5TALV_aZ8sExTyA3Y7V8vqwfA6Crqkuf3sLgRvzS4)

•Presentation Resources

•<https://www.nrdc.org/stories/more-sustainable-and-beautiful-alternatives-grass-lawn>

•<https://www.finegardening.com/article/what-is-sheet-mulching-and-how-do-you-do-it?srsId=AfmBOoos4qiSJknDpjlKoLJqZxMhjDbz-huRObpTFbzOgYdLFjS7R6gn>

•<https://www.marthastewart.com/8322420/clover-lawns>

•<https://www.kcur.org/news/2024-05-20/lawns-turfgrass-environmental-impacts>

<https://www.almanac.com/plant/tall-fescue-grass-planting-and-care-low-maintenance-lawn>

[https://www.bbg.org/article/sedge\\_lawns](https://www.bbg.org/article/sedge_lawns)