

## Pioneering Higher Ground: Explorations in Designing Rooftop Habitats

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### *Influential factors in green roof plant community development:*

- Regional climate: rainfall pattern, summer humidity, night-time temperatures
- Shelter / exposure (wind, shade/sun, reflected light & heat)
- Moisture availability: drainage design + supplemental water sources
- Media Depth
- pH (typically neutral to alkaline)
- organic matter & fertility (typically low)
- Disturbance & Maintenance practices

### *Typical minimum media depths:*

- sedums and drought tolerant reseeding species: 3-4 inches
- drought tolerant perennials and grasses, with supplemental water: 6-8 inches
- drought tolerant perennials and grasses, without supplemental water: 12+ inches
- shrubs, typ. with supplemental water: 16-18+ inches
- trees, with supplemental water: 30+ inches

### *Advantages of species establishment through seeding*

- native species establishment into shallower soil depths with less supplemental water
- greater diversity of species and genetics
- low cost relative to live plants

### *Other considerations for plant establishment via seeding*

- serendipitous plant establishment and pattern
- species emerge over time

*Species suitable for establishment from seed. Seed into cover crop or companion planting (e.g. sedum).*

#### Annuals & Biennials:

Chamaecrista fasciculata	Partridge pea
Gaillardia pulchella	Indian blanket
Monarda punctata	Spotted horsemint
Talinum calycinum	Fame flower (use starter plants)

#### Grasses

Andropogon ternarius	Splitbeard bluestem
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Bouteloua curtipendula	Sideoats gramma
Eragrostis spectabilis	Purple love grass
Festuca sp. (not native)	Hard fescue, Sheep fescue
Schizachyrium scoparium	Little bluestem
Sporobolus asper / S. compositus	Rough dropseed / Tall dropseed (tentative)

Perennials:

Aquilegia canadensis	Eastern columbine (use starter plants)
Achillea millefolium	Common yarrow
Coreopsis grandiflora	Largeflower tickseed
Coreopsis lanceolata	Lanceleaf coreopsis
Dianthus sp. (not native)	Pinks
Echinacea pallida	Pale purple coneflower
Echinacea purpurea	Purple coneflower
Lespedeza virginica	Slender lespedeza
Penstemon digitalis	Beardtongue
Penstemon grandiflorus	Large Beardtongue (minor)

*Low-competition native species, suitable for green roofs*

Aquilegia canadensis	Eastern columbine
Phlox subulata	Moss phlox
Bigelovia nuttallii	Nuttall's rayless goldenrod
Coreopsis grandiflora	Largeflower tickseed
Coreopsis lanceolata	Lanceleaf coreopsis
Talinum calycinum	Fame flower

*Native grasses, suitable for green roofs, best established as live plants*

Sporobolus heterolepis	Prairie dropseed
Panicum virgatum & cultivars	Switchgrass (may self-seed aggressively)
Koeleria macrantha	Prairie Junegrass
Bouteloua gracilis	Blue gramma

*Occasional forbs, potential but sporadic from seed; best as live plants*

Allium	Ornamental onions
Aster/ Symphyotrichum	Asters
Asclepias	Milkweeds
Baptisia	False Indigos
Liatris	Blazingstars
Solidago	Goldenrods

*Native species suitable for localized moist sheltered sun to part-shade (e.g. near roof leader)*

Lobelia siphilitica	Great blue lobelia
Monarda fistulosa	Wild bergamot
Eupatorium perfoliatum	Common boneset
Helenium flexuosum	Purple-headed sneezeweed
Pycnanthemum tenuifolium	Slender mountain mint
Verbena hastata	Blue vervain

*Other native volunteers*

Andropogon virginicus	Broomsedge
Asclepias syriaca	Common milkweed
Erigeron annuus	Daisy fleabane
Juniperus virginiana	Red cedar
Solidago sp.	Goldenrod sp.
Oenothera biennis	Common evening primrose

*Weeds of concern, for active management*

Artemisia vulgaris	Mugwort
Conyza canadensis	Horseweed
Digitaria ischaemum	Smooth crabgrass
Echinochloa crus-galli	Barnyard grass
Hieracium sp.	Hawkweeds
Kummerowia striata/ Lespedeza striata	Japanese clover / Common lespedeza
Medicago lupulina	Black medic
Securigera varia	Crown vetch
Setaria faber	Giant foxtail
Setaria viridis	Green foxtail
Setaria pumila	Yellow foxtail
Trifolium repens	White clover