



Yankton
Seed Library



Presented
by
Missouri
Valley
Master
Gardeners

MONARCH



PAINTED LADIES ON THE MOVE



FALL BLOOMERS



FALL FLOWERS TO SUPPORT INSECT

- ✘ Goldenrods, asters, sunflowers and other fall-blooming flowers are vital for many insects
- ✘ Misconception that goldenrods cause hay fever, the real hay fever culprit (ragweed, which is wonderful for quail)



Ragweed

Goldenrod

THINK ABOUT NESTING AS YOU PREPARE FOR WINTER

- ✘ Most of the native bee species in the U.S. are solitary ground-nesters
- ✘ They excavate nests in the ground and provision them with pollen and nectar for their young.
- ✘ Use lighter weight mulches or leave bare



WINTER HOMES

- ✘ Leaving dead wood and standing snags, drilling holes in dead wood, and leave twigs nesting pollinators
- ✘ Providing a sand-loam mix for ground nesting pollinators



CHOOSE APPROPRIATE PESTICIDES

- ✘ Some insecticides have active ingredients that are less likely to cause mortality or sublethal effects in pollinators (granular powders are less noxious than dust), and to break down more rapidly than others.
- ✘ Microencapsulated formulations should be avoided because they mimic pollen.
- ✘ Apply pesticides selectively. Producers may be able to avoid during a crop's bloom period, apply them at night while pollinators are in nests, and apply them on the ground rather than in aerial spray.
- ✘ Convert some or all fields to organic production.

WHAT DO I DO WITH MY CONTAINERS

- ✘ Because the soil will expand and contract over our winter, empty out plastic, ceramic and clay pots to protect them from cracking
- ✘ Or move to a place they will not freeze
- ✘ Tomatoes should not be grown in the same soil a second year
- ✘ Next year mix in $\frac{1}{4}$ to $\frac{1}{3}$ new mix with saved
- ✘ Old soil is an excellent top dressing for your beds or lawn



PLAN AHEAD FOR SPRING

- ✘ Decide what you want to plant
- ✘ Research varieties
- ✘ Order seeds early
- ✘ Create a “growing calendar”
- ✘ Maintain compost





- ✘ Maintain garden equipment
- ✘ Collect newspapers
- ✘ Educate yourself
- ✘ Start seedlings about 6 weeks before last frost date
- ✘ Enjoy bounty of previous year

CROP ROTATION

- ✘ Change the planting location each season
- ✘ Reduces damage from insects
- ✘ Limits development of diseases
- ✘ Helps manage soil fertility



PLANNING ROTATION

- ✗ Base on vegetable crops you grow
- ✗ Don't plant crops of same family in same location in succeeding years
- ✗ Keep a garden map yearly
- ✗ Have a 3 to 4 year rotation plan
- ✗ Plant cover crops/ green manures before or in place of vegetables (space allowing)

ROTATION WITH RAISED BEDS



- ✗ Soil replacement is an (expensive) option
- ✗ Select disease resistant varieties
- ✗ Exclude certain crops from rotation
- ✗ Use container gardening as part of rotation

Vegetable Families*

PLANT FAMILY	VEGETABLES
Carrot (Apiaceae)	Carrot, celery, parsley, parsnip
Goosefoot (Chenopodiaceae)	Beet, spinach, Swiss chard
Gourd (Cucurbitaceae)	Cucumber, muskmelon, pumpkin, squash, watermelon
Grass (Poaceae)	Ornamental corn, popcorn, sweet corn
Mallow (Malvaceae)	Okra
Mustard (Brassicaceae)	Broccoli, Brussels sprouts, cabbage, cauliflower, collard, kale, kohlrabi, mustard greens, radish, rutabaga, turnip
Nightshade (Solanaceae)	Eggplant, pepper, potato, tomato
Onion (Alliaceae)	Chives, garlic, leek, onion
Pea (Fabaceae)	Beans, peas
Sunflower (Asteraceae)	Endive, lettuce, sunflower