

Butterfly Garden Seed Bombs



A Seed Bomb, is a small handsize ball made of clay, soil, and seeds--that can be tossed into gardens to grow plants. This handout outline how you can make two types of butterfly garden seed bombs to transform Chicago's gardens into hospitable areas for butterflies.

The two types of seed bombs: 'nectar bombs' sprout to provide food for adult butterflies, and 'host bombs' develop into plants that butterflies lay their eggs in. The back of this handout are lists seeds for each type of seed bomb. Seed bombs offers an opportunity to celebrate and enhance the ecology and communal life of the city.

How to Make Seed Bombs

Supplies Needed

- 4 parts natural clay
- 1 part seed starting mix or compost
- 1 part wildflower seeds

1. Flatten clay into a sheet with your palm. Sprinkle seed starting mix or compost and wildflower seeds in center of clay, and knead until everything is mixed in and seeds and soil are well distributed.
2. Roll clay out into a thin snake.
3. Pinch off ½-inch sections and roll into balls.
4. Place on a tray to dry and harden.

Soil Remediation Seed Bombs



A Seed Bomb, is a small handsize ball made of clay, soil, and seeds--that can be tossed into gardens to grow plants. This handout outline how you make seed bombs that restore Chicago's polluted soil.

The seed bombs will grow into hyperaccumulators, plants that draw toxic metals out of the soil (a process known as phytoremediation). Seed bombs offers an opportunity to celebrate and enhance the ecology and communal life of the city. Seed lists and further info on the back of handout.

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Native Nectar Bomb Seeds

Butterfly bush (*Buddleja davidii*)
Purple coneflower (*Echinacea purpurea*)
Chrysanthemum (*Dendranthema x grandiflora*)
Black-eyed susan (*Rudbeckia hirta*)
Hairy wild petunia (*Ruellia humilis*)
Wild blue sage (*Salvia azurea grandiflora*)
French marigold (*Tagetes patula*)
Common zinnia (*Zinnia elegans*)
Butterfly milkweed (*Asclepias tuberosa*)
Aromatic aster (*Symphotrichum oblongifolium*)
Blazingstar (*Liatris cylindracea*)

Common Butterflies of Illinois

Red Admiral (*Vanessa atalanta*) Viceroy (*Limenitis archippus*)
Monarch (*Danaus plexippus*) Painted Lady (*Vanessa cardui*)
Cabbage White (*Pieris rapae*) Black Swallowtail (*Papilio polyxenes*)

Native Host Bomb Seeds

Dill (*Anethum graveolens*)
Fennel (*Foeniculum vulgare*)
Parsley (*Petroselinum crispum*)
Butterfly milkweed (*Asclepias tuberosa*)
Prairie Milkweed (*Asclepias sullivantii*)
Purple Prairie Clover (*Dalea purpurea*)
White Prairie Clover (*Dalea candida*)

Online Resources

http://www.illinoiswildflowers.info/prairie/plant_index.htm#blue_sage
<https://www.thebutterflysite.com/butterfly-food.shtml>
<https://www.chicagobotanic.org/butterflies/gardening>
<http://plantwhateverbringsyoujoy.com/butterfly-gardens-host-plants-vs-nectar-plants/>
<https://www.goodhousekeeping.com/home/gardening/a20705759/how>
<https://www.chicagobungalow.org/single-post/2017/04/10/Where-to-Buy-Native-Plants-Perennials>
<https://www.dnr.illinois.gov/education/Pages/ForbInst.aspx>



Native Hyperaccumulator Seeds and Accumulated Metals

Canada goldenrod (*Solidago canadensis*) Aluminum
Field goldenrod (*Solidago nemoralis*) Aluminum
Annual sunflower (*Helianthus annuus*) Copper, Chromium, Lead, Zinc
Downy sunflower (*Helianthus mollis*) Copper, Chromium, Lead, Zinc
Prairie sunflower (*Helianthus pauciflorus*) Copper, Chromium, Lead, Zinc
Western ragweed (*Ambrosia psilostachya*) Lead
Widows cross (*Sedum pulchellum*) Cadmium, Zinc

Online Resources

http://www.illinoiswildflowers.info/prairie/plant_index.htm#blue_sage

https://en.wikipedia.org/wiki/List_of_hyperaccumulators

<http://melchin.org/oeuvre/revival-field>

<https://www.goodhousekeeping.com/home/gardening/a20705759/how-to-make-seed-bombs/>

<https://www.chicagobungalow.org/single-post/2017/04/10/Where-to-Buy-Native-Plants-Perennials>





Callaloo
Amaranth herb
Malanga

Health Benefits

- Vitamin K is known to reduce excessive bleeding by improving blood clotting. This type of vitamin also improves the functioning of the kidney. Vitamin K serves as cure for some types of cancer.

- Vitamin C improves the rate at which a wound on the body heals. It also improves the health of teeth and strengthens the gums. Vitamin C increases the rate at which iron is absorbed into the body. It also reduces aging and increases ones immunity.

- Magnesium improves the circulation of blood throughout the circulatory system. It also helps to regulate the sugar levels in the blood. Magnesium also serves to protect the muscles of the body from spasms.

- The fiber in Callaloo helps to prevent constipation and create a good environment for growth of probiotic bacteria thus boosting your immune system.

Collard Greens



Health Benefits

- Collard greens detoxify the body, have high levels of antioxidants and reduce inflammation — making this powerful vegetable a natural cancer fighter and preventer.
- They not only help remove toxins, but they eliminate them from the body, too. A component in collard greens called isothiocyanates (ITCs) is made from glucosinolates. They're reported to help detox the body at the cellular level.
- Vitamin K, which is abundant in collard greens, is a critical nutrient for reducing inflammation and protecting cells that line blood vessels, including both veins and arteries.
- Soluble fiber binds cholesterol in the digestive system, causing it to be excreted by the body.

Recipe: Callaloo with Bacon

INGREDIENTS

- 1 bunch of fresh Callaloo kale, collard greens (about 1 1/2 pound)
- 2 thick bacon strips cut in pieces
- 3-4 garlic cloves minced
- 1 medium onion
- 1/2 teaspoon smoked paprika
- 1 sprig of fresh thyme
- 1 fresh tomato
- 1 whole scotch bonnet pepper
- Salt and pepper to taste
- 3- 4 ripe plantains
- cooking spray- or very little cooking oil
- Salt and pepper optional

DIRECTIONS

1. Cut leaves and soft stems from the callaloo branches, then soak in a bowl of cold water for about 5-10 minutes or until finish with prep.
2. Proceed to slicing the onions, mincing the garlic and dicing the tomatoes. Set aside
3. Remove callaloo from water cut in chunks.
4. Place bacon on saucepan and cook until crispy. Then add onions, garlic, thyme, stir for about a minute or more
5. Add tomatoes; scotch bonnet pepper, smoked paprika. Sauté for about 2-3 more minutes.
6. Finally add vegetable, salt, mix well, and steamed for about 6-8 minutes or until leaves are tender. Add a tiny bit of water as needed. Adjust seasonings and turn off the heat.



Recipe: Greens Curry

INGREDIENTS

- 2 tablespoons coconut oil
- 2 medium green onions, coarsely chopped
- 2 cloves garlic, minced
- 1 large head fresh broccoli, washed and chopped
- 1 tablespoon basil leaves, dried
- 2 cups chopped spinach, kale, turnip greens, collards or Swiss chard
- 2 quarts chicken broth
- 1 can coconut milk
- 1 tablespoon sea salt
- 1 tablespoon curry

DIRECTIONS

1. In large soup pan, melt coconut oil and sauté green onions and garlic for 1–2 minutes, until translucent.
2. Add chopped broccoli and stir. Cook over medium heat, stirring, until broccoli turns bright green.
3. Add basil and additional chopped greens. Cover and steam-sauté for 3–4 more minutes.
4. Transfer vegetables to food processor or blender. If using blender process in two batches. Add a little coconut milk and process until smooth.
5. Transfer vegetables and stock to pot and add remaining ingredients. Reheat gently and stir. Serve.



Swiss Chard



Health Benefits

- One of the primary flavonoid antioxidants found in the leaves of chard is known for regulating blood sugar levels found to reduce diabetes, anti-aging antioxidants also help to prevent cancer, heart disease, eye and skin disorders.
- Swiss Chard is considered an anti-hypertensive vegetable because it contains many trace minerals that are crucial for proper circulation, blood vessel health, and heart beat regulation. Magnesium, potassium, copper, iron and calcium for example are all minerals found in Swiss chard work together to aid in red blood cell formation, nerve signaling, blood vessel constriction and help control blood pressure levels.
- Swiss Chards leafy greens contain many cancer fighting antioxidants and phytonutrients — in fact it is one of the most antioxidant-rich foods on the planet!
- Betalains and the other antioxidants found in Swiss chard defend brain cells from mutation, protect from DNA damage, reduce free radicals, and lower the risk of disorders including Alzheimer's and Parkinson's disease.

Kale



Health Benefits

1. Kale is low in calorie, high in fiber and has zero fat. One cup of kale has only 36 calories, 5 grams of fiber and 0 grams of fat. It is great for aiding in digestion and elimination with its great fiber content. It's also filled with so many nutrients, vitamins, folate and magnesium as well as those listed below.
2. Kale is high in iron. Per calorie, kale has more iron than beef. Iron is essential for good health, such as the formation of hemoglobin and enzymes, transporting oxygen to various parts of the body, cell growth, proper liver function and more.
3. Kale is high in Vitamin K. Eating a diet high in Vitamin K can help protect against various cancers. It is also necessary for a wide variety of bodily functions including normal bone health and blood clotting. Also increased levels of vitamin K can help people suffering from Alzheimer's disease.
4. Kale is filled with powerful antioxidants. Antioxidants, such as carotenoids and flavonoids help protect against various cancers.
5. Kale is high in calcium. Per calorie, kale has more calcium than milk, which aids in preventing bone loss, preventing osteoporosis and maintaining a healthy metabolism. Vitamin C is also helpful to maintain cartilage and joint flexibility
6. Kale is high in Vitamin C. (And Vitamin A & Vitamin K) This is very helpful for your immune system, your metabolism and your hydration.
7. The potassium content of kale may help reduce the risk of heart disease. Increasing potassium intake while decreasing sodium intake is recommended to reduce the risk of cardiovascular disease (CVD).

Recipe

INGREDIENTS

- ¼ cup coconut oil, melted
- 2 tablespoon minced garlic
- 5 cup chicken broth
- 5 bunches chard, trimmed and chopped
- sea salt and black pepper to taste
- 1 tablespoon red pepper flakes

DIRECTIONS

1. Heat the coconut oil in a large pot over medium high heat. Add garlic and sauté for 2-3 minutes. Pour in the chicken stock and simmer for 30 minutes covered.
2. Add the chard greens to the pot and turn the heat to medium high. Let the greens cook down for about 45 minutes, stirring occasionally.
3. Reduce heat to medium and season with salt and pepper. Cook until greens are tender. Drain greens and add in red pepper flakes.

INGREDIENTS

- 4 ounces coconut water
- 4 celery stalks
- 1 cucumber
- 1 lime

DIRECTIONS

Using a vegetable juicer, juice the celery, cucumber and lime. Pour in the coconut water and gently stir juice to blend. Consume immediately.



