

# Nature Steward

## Native plants

We advocate the vital role of native plants in the landscape to preserve ecological integrity and connect people with nature



The perfect gardener handbook you need for building a beautiful and sustainable space without native species, community gardening, composting and more.

## Community gardening

Let you harvest your own fresh fruits in the limited land of this city. Gain health, social, and environmental benefits.



## Composting

resourceful way to recycle the food scraps and yard trim you generate at home .



**Native Plants**

**Growing Food**

**Composting**

# Content

## Native Species

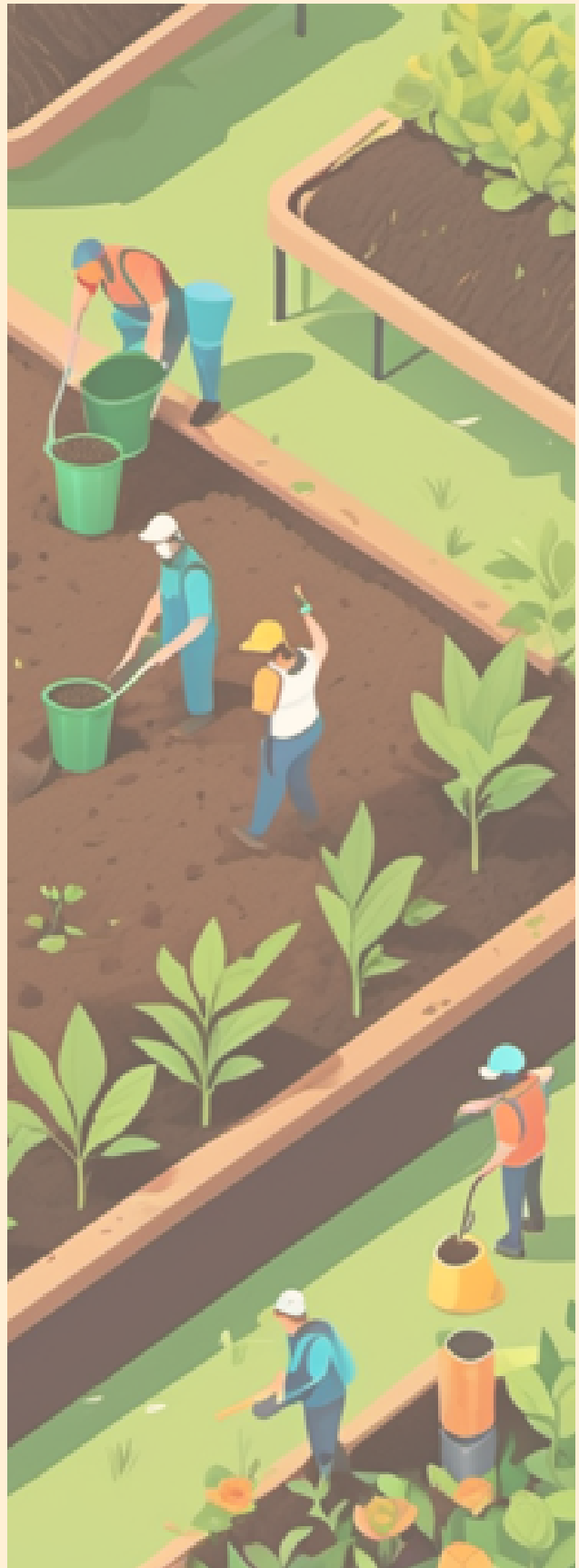
- Spiny acanthus
- Rongzhi rongzhu
- Qianqucai
- Common columbine
- Callistemon rigidus
- Big Plantain
- Society garlic plant
- Water lily
- Sage
- Sinojackia

## Growing your own food

- Tomato
- Potato
- Rice
- Eggplant
- Peanut

## Composting

- material
- steps
- tips





## Native Species

### Spiny acanthus

This is a perennial plant with a maximum height of 59 inches and a width of 24-35 inches. The leaves are deeply cut and have prickly edges. In early summer it forms upright, upright inflorescences (in which patterned flowers are arranged in clusters on a rachis) about 3 feet long with White flowers and maroon leaves.



## **Rongzhi Rongzhu**

**The lower part of the stalk is crawling on the ground, with roots growing at the nodes, up to 1 meter high, multi-branched and hairless.**

**The sheath is shorter than its internode, and the mouth of the sheath is pubescent; the ligule is truncate, about 0.5 mm long, and the hairs on the back are distributed in provinces and regions south of North China; also found in Korea, Japan, and India. Born in shady wetlands. Can be used for feed or paper making.**

## **Qianqucai (Lythrum salicaria L.)**

**They are found wild on lake beaches, swamps, and wetland grass in northern and southern China. Artificial propagation methods are mainly ramification and cutting propagation, and spring sowing can also be used. According to "Guizhou Folk Medicine", the whole plant of Qianqucai can be used as medicine. It is cold in nature, sweet in taste, and has the effects of clearing away heat and stopping bleeding and metrorrhagia.**

**The flower branches are like a large spike, red-purple or lavender, and the bracts are broadly lanceolate or triangular-ovate; the fruit is a capsule, oblate.**



A botanical illustration of the Common columbine (Aquilegia vulgaris). The image features a central white circular area containing a detailed line drawing of the plant's root system, stems, and flowers. Surrounding this central area are several large, vibrant green leaves with a distinct three-lobed, palmate shape. The background is a light, textured grey, suggesting a natural or artistic setting.

## Common columbine

a plant of the genus *Aquilegia* with a plant height of 30-60 cm. The basal leaves have long stalks, and the basal leaves and lower stem leaves are compound leaves with two to three branches. The leaflets have 3 lobes, and the edges of the lobes are crenulated. Cymes, with several flowers, usually blue, but also white, red, pink, etc., drooping. The flowering period is from May to July.



## **Callistemon rigidus R. Br.**

The bark is hard and dull brown. The young branches are ribbed and have long silky hairs at first, which soon become hairless. The leaves are leathery and linear. Spike-like inflorescences are born on the branches. Top, green petals, bright red stamens, dark purple anthers, oval; capsule hemispherical; seeds strip-shaped; flowering period from June to August.

After the flowering period every year, pruning and pruning are performed to control the growth height, maintain the beautiful shape of the tree, and promote the germination of more new branches and flowers. In addition to being used as a landscape plant, Melaleuca is also a spice plant, and its small leaves are fragrant and can be used to improve fragrance oil. When used as medicine, the branches and leaves have the effects of dispelling wind, resolving phlegm, and eliminating arsenic. Mainly used to treat colds, coughs, rheumatism, eczema, swelling and pain from bruises, etc.

# Big Plantain

The rhizome is short and thick, with fibrous roots. Basal leaves upright, leaves ovate, the top is rounded and blunt, the edges are wavy or unevenly serrated; the petiole is longer than the blade. The flower stems are upright, 15~70cm high, and the flowers grow very densely. The capsule is oval, with brown or tan seeds. The flowering period is from June to September, and the fruiting period is from July to October.

Born in fields, borders, hills, roadsides, houses, and wastelands. But it is more common in wet areas (such as ponds).

Plantain is a panacea and is often used as an antipyretic and first aid agent. Its young leaves can be eaten after being boiled in water. It is a plant used both as medicine and food.

It is also often used in Sakya's Buddhist medicine, for example when monks are injured while traveling and use it as a first aid medicine. When used to relieve cough, take 10 grams of dried psyllium

For the whole plant, add 300 ml of water and simmer until half of the water remains. Drink it three times a day.








## **Society Garlic Plant**

**Zijiaohua is a perennial herbaceous plant of the genus Zijiaohua in the family Amaryllidaceae. The plant is in the shape of a small bulb; the basal leaves are long and tapered at the apex; the flower stem is upright and has a lavender spherical umbel; the capsule is triangular and contains black seeds; the flowering and fruiting period is almost all year round, with summer and autumn being the peak periods. .**





## **Water Lily**

Water lilies are perennial aquatic herbs; their rhizomes are short and thick. The petals are white, broadly lanceolate, oblong or obovate, and the inner whorl does not turn into stamens. The berries are spherical, 2-2.5 cm in diameter, black. The flowering period is from June to August, and the fruiting period is from August to October. Born in ponds and lakes, it prefers an environment with plenty of sunshine, warmth, moisture and good ventilation. It is a diurnal flowering type, with petals opening in the morning and closing in the afternoon.

Water lilies are mainly propagated by division. Divide the plants from April to mid-May. When dividing the plants, dig out the rhizomes first, select the rhizomes with full new buds, cut them into 8-10cm long root segments, each segment has at least 1 bud, and then plant them. Bury the top buds upwards into the topsoil, and cover the soil to a depth where the plant bud eyes are level with the soil surface. After planting, let it bask in the sun for a while before pouring shallow water into it to help maintain the water temperature. When the temperature rises and new shoots sprout, the water level will be deepened. Place it in a well-ventilated and sunny place for maintenance, with a cultivation water depth of 20-40cm.

## **Sage (Salvia japonica Thunb)**

**The stems are villous or nearly hairless; the leaves are pinnately compound, with pubescence on both sides of the leaves; the flowers are light red, lavender, light blue or white, with villous hairs on the surface; the fruits are small brown nuts with an oval shape. shape, very smooth.**

**The flowering period is from June to September. You can pick its flowers, the nectar at the beginning of the flower receptacle is very sweet**





## Sinojackia

Sinojackia is endangered in the "International Union for Conservation of Nature Red List of Endangered Species" and is also a national second-level key protected wild plant. Because it is endemic to China, it is of scientific significance for studying the phylogeny of the Benzoinaceae family. Sinojackia is native to Nanjing, Jiangning and other places in Jiangsu, China. It is intolerant of shade and relatively drought-tolerant. It likes to grow in deep, fertile, well-drained sandy loam soil. It avoids water accumulation and is relatively cold-resistant.

Young branches are densely covered with star-like pubescence; leaves are papery, obovate or elliptical, with hard serrated edges; raceme cymes are born at the top of lateral branches, sparsely covered with star-like pubescence; fruits are oval, reddish brown. It has light brown lenticels and a conical beak at the top; the seeds are oblong and linear, chestnut brown; the flowering period is from March to April; the fruiting period is from July to September. It is named because its fruit resembles a weighing hammer.



**Growing  
Your Own  
Food**

# Tomato

Before planting, use bamboo sticks or fences to create a shelf for tomatoes to climb. Tomato seedlings can usually be bought from the market and transplanted with soil. If planting on the balcony, you can choose dwarf potted species that will not grow too tall, such as Sunrise Bumblebee.

During the growth of tomato seedlings, maintain soil nutrients (organic fertilizers and food waste) and ensure sufficient sunlight. Tomatoes are drought-tolerant, and standing water can easily cause root rot. When watering, do not water on the fluffy leaves. After two months, the tomatoes will crawl all over the shelf, and green tomatoes will grow one after another. You don't have to worry about it the rest of the time, just wait for the tomatoes to ripen naturally. After three months, most of the tomatoes will be ripe, and the yield will be pleasing.

## Seedling



# Potato

Potatoes are propagated from tubers, and the fruits can be easily harvested

in the vegetable garden

or in large pots on the

balcony. Stock up on

sprouted potatoes or wait for them to

sprout. Cut the potatoes into pieces, dry

them, and plant them against the soil. Spray

some water and wait for them to germinate. The

piece that has not sprouted may have rotted in

the soil, so you can dig it out.

After germination, it can be transferred to larger pots or farmland. Transplant it into nutrient soil or soil with fertilizer to a depth of about two centimeters. Spray it with clean water again and let it grow on its own. After forty days, the branches and leaves will be luxuriant.

You can trim the branches and leaves to supply nutrients to the potatoes and add some organic fertilizer. You can cover it with compacted soil because potatoes that grow outside the soil contain solanine and will turn green and cannot be eaten. After eighty days, the potatoes are ready for harvest.



# Rice

The rice in the farm is prepared before planting at the end of May: at this time, the rice fields are already overgrown with weeds, and the soil needs to be plowed with a deep cultivator. This will bury the weeds in the soil and turn them into nutrients.

The soil in rice fields is very compact because it has not been cultivated for a long time. It is best to do it after rain, and it may need to be turned two or three times.

Rice fields will be transplanted every year before the Dragon Boat Festival and harvested after the National Day. The harvested rice fields will remain fallow until transplanting the next year. During the fallow period, various wild grasses will grow in the rice fields. We can observe the true state of the fields and learn about the common field wildflowers and wild vegetables in East China.



# Peanut

Peanuts can be harvested in the vegetable garden or in pots on the balcony.

Find some plump peanuts and peel them open for seeds. Soak the peanuts in water for three hours and then control the water. Wrap the seeds in a damp towel, spray water in a dark place and keep them slightly moist. If the seeds successfully germinate after twelve hours, they can be transplanted.

Bury the germinated seeds in nutrient soil or sand to a depth of about one centimeter. Spray water to keep the soil moist.

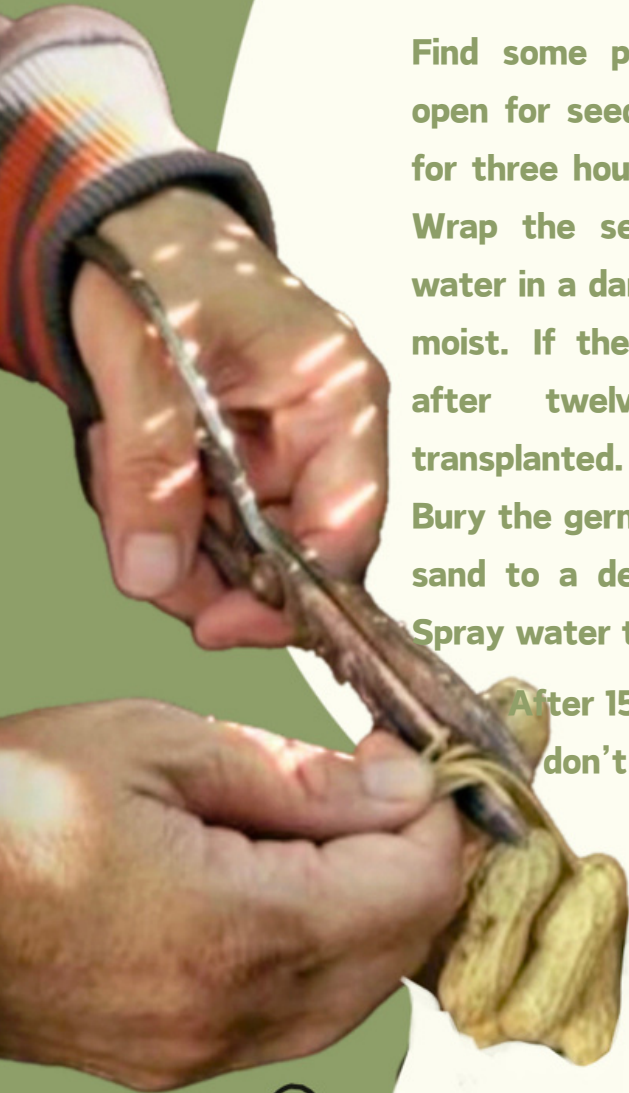
After 15 days, young seedlings grow. If they don't survive, you can replenish seeds.

Weeds should be removed regularly and water should be poured in.

After four months, when the branches and leaves wither and turn yellow, it does not mean that they are dead but that the peanuts are ripe. You can harvest at this time.



## Germinating





# Eggplant

You can consider buying eggplant seedlings for cultivation. Because the area for spreading seeds is not enough, using seedlings will make it easier to get started and succeed. This plant can only be grown once a year, with spring sowing around March, and is the main vegetable in the summer.

Transplant the young seedlings into soil or sand with the seedlings and soil and press them tightly. Pour water in a circle around the young seedlings, being careful not to water too much and cause the leaves to droop.

After forty-five days, the eggplant seedlings have grown vigorously and have lush branches and leaves. During this period, remember to water but avoid stagnant water and clean up weeds to maintain nutrients for the seedlings. Organic fertilizer, fruit peels, and eggshells are all good fertilizer choices at this time.

After sixty days, the eggplant will bloom beautiful purple flowers. It needs to be grown in a sunny place, in the garden or on the balcony. After four months, the eggplant will mature and the yield will be relatively high.





# Composting

## Steps to Create a Compost Pile

- 1. Choose a Location:** Find a level, well-drained area in your yard to place your compost bin or create a compost pile.
- 1. Layer Green and Brown Materials:** Begin with a layer of brown materials at the bottom of the compost bin or pile. Add a layer of green materials on top of it. Continue layering with alternating materials. This balance ensures proper aeration and decomposition.
- 2. Add Water:** After adding each layer, lightly moisten it. The compost pile should have the moisture of a wrung-out sponge.
- 3. Aerate the Pile:** Every 2-4 weeks, turn the compost pile with a shovel or pitchfork to introduce oxygen and promote even decomposition. This also helps prevent bad odors.
- 4. Maintain the Compost:** Continue adding green and brown materials as they become available. Avoid adding diseased or pest-infested plant material, meat, dairy, or oily foods. The smaller the materials, the faster they'll break down, so chop or shred larger items.
- 5. Monitor Temperature:** A healthy compost pile will heat up as it decomposes. Use a compost thermometer to check the internal temperature; it should be between 54-71°C. If it's too cold, add more green materials; if it's too hot, add more brown materials.
- 6. Harvest the Compost:** Depending on various factors like size, materials, and maintenance, your compost can be ready in 2-12 months. The compost should be dark, crumbly, and earthy-smelling. You can sift it to remove any large, uncomposted items.



## Composting Material

- **Compost Bin or Pile:** You can choose between various types, such as enclosed bins, open piles, or tumblers. The choice depends on your available space and aesthetics.
- **Green and Brown Materials:** Composting requires a balance of green (nitrogen-rich) and brown (carbon-rich) materials. Collect them in separate containers. Here are examples of each:
  - **Green Materials:** Grass clippings, fruit and vegetable scraps, coffee grounds, tea bags, and fresh leaves.
  - **Brown Materials:** Dried leaves, straw, sawdust, cardboard, newspaper, and small branches or twigs.
- **Water:** You'll need to keep the compost pile moist but not waterlogged. A watering can or hose will work for this.
- **Shovel or Pitchfork:** You'll need a tool for turning and aerating the pile.



# Nature Steward

Contact Us At :

+86 15850345107

sarahlij23@gmail.com

China, Shanghai, Yangpu District, Wujiaochang, No.

268 Daxue Road, Postcode: 200437

Designer Team: Yijie Li, Yilin Xu, Zhu Mao, Liu Liu ,

Yun Xi, Xinyu Wang, Kexuan Cao, Jiang Zhu,

Mingxin Li, Tanqi Xuan, Yicun Liu