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# *Green Leafy Vegetables*

## Spinach Omelette Recipe



### Ingredients

1lb fresh spinach  
1/2 onion (diced small)  
4 large eggs  
salt and pepper  
2 knobs of butter

### Method

1. Wash & blanch spinach in salted boiling water for approx 5 mins. Drain and squeeze dry.
2. Melt 1 knob of butter in frying pan on medium heat and fry the onions till golden, remove and mix with the spinach, season with salt and pepper.
3. Beat eggs in a small bowl. Melt remaining butter on medium heat in the frying pan. Pour in eggs, stir them with a fork as they cook for the first minute.
4. Lower the heat and add the spinach to the omelette, stir twice then leave mix to cook and set. Serve and enjoy.

## Grow Leafy Vegetables

The consumer demand for vegetables is becoming greater everyday. The reason is simple. Vegetable is inexpensive. Vegetable gardening, on the one hand, augments family income; on the other, it helps boost the government's food production campaign.

Start now and turn your backyard into a veritable source of green leafy vegetables.



### ALUGBATI

Alugbati is one of the most popular vegetables in Western Visayas, particularly in the province of Iloilo. It can be grown also in other parts of the country.

The young and tender leaves of alugbati are cooked with other vegetables such or with eggplant, squash, mongo or with meat, dried fish, and shrimps.

*Basella alba* and *Basella rubra* are species of alugbati which were introduced into the country and believed to have come from Tropical Asia. *Basella alba* is the white variety while *Basella rubra* is the red variety.

The vegetable easily adapts to a wide range of soil types but it thrives best in a well-drained clay loam soil. It is grown from an altitude of one meter above sea level to high elevation and can be cultivated throughout the year.

The best time for planting is at the end of the rainy season. Alugbati is propagated through seeds and cuttings 20 to 25cm long. In using cuttings, the leaves are usually removed before planting so as to reduce water loss through transpiration.

## HOW TO PLANT

Plow and harrow the field. Plant three (3) to four (4) cuttings per hill at distance of 20-30cm between hills in furrows spaced at 50 to 75cm apart. If there are more cutting, plants 7 to 10 cuttings per hill with a distance of 40 to 50cm between hills.

Cultivate by hilling up the soil either with a garden hoe or animal drawn plow. Weed by hand regularly.

Irrigate when necessary. Apply compost fertilizer for best results.

## ASPARAGUS

Asparagus is one of the most delicious, wholesome and appetizing vegetables. As a processed product, it is canned and frozen in large quantities.



The varieties grown locally are Mary Washington, Martha Washington, colossal and Palmetto.

It can be grow in nearly all kinds of soil, but deep loose soil is preferred. Asparagus grows best in places with a climate similar to Baguio and its environs.

## HOW TO PLANT

Seeds are sown in drills 15 to 30 inches apart. The rows may be spaced 24 to 36 inches apart in a well-prepared field. Check the growth of weeds by shallow cultivation or by the use of herbicides. Transplant the seedling grown for a year. The depth of planting varies from 6 to 14 inches, depending on the physical characteristics of the soil. Regardless of the depth of the furrows, the crown should not be covered over two (2) to three (3) inches deep at planting time. The distance between rows is four (4) to six (6) feet. The distance between plants should not be less than 18 inches. Cultivate to kill weeds. The first harvest is made at the start of the third season or after the plant has two full growing seasons in the permanent bed.

Pass wooden plow or cultivator between the rows when the plants are 20 to 35cm tall to hill up the plant and to suppress the growth of weeds. Thinning is done along with cultivation, or immediately.

Proper fertilization is necessary for the growth of Saluyut. Ammonium sulphate at the rate of 200 to 300kg per hectare is used as top dressing when the seedlings are two to three weeks old. The fertilizer is applied in the furrows and lightly covered with soil.

In the absence on any commercial fertilizer, barnyard manure or organic, or compost are recommended at the rate of 500 to 750kg per hectare.

Saluyut is affected by jute semi looper, hairy caterpillar and jute mites. Stem rot is the only disease observed in Saluyut.

## SPINACH



Spinach is a nutritious vegetable. It is rich vitamins A and B and contains very high amount of calcium and potassium. It is eaten as salad or in combination with other vegetables.

The local Baguio variety is considered of superior quality because of its broad and tender leaves.

It grows in sandy loam soil with medium fertility and good drainage. It is planted during the rainy season.

## HOW TO PLANT

Prepare the land thoroughly.

Spinach can be directly broadcast or drilled. For drill planting, spaces from 25 to 30cm between rows and 10 to 15 cm between hills should be maintained. Clean by shallow cultivation. Hand weed and thin when necessary. Spinach is harvested by hand when the leaves are tender or when the plants are from 15 to 20cm high. Apply compost or organic fertilizer for best results.

## SALUYUT

Saluyut is not as popular as other vegetables, thus, its cultivation is limited. It is pan-tropic in distribution. It grows mostly in a clearing, on rice paddy banks and in open, low wet places near settlements.



In the Philippines, the tops are eaten as vegetable particularly by the Ilocanos. It is either cooked with bamboo shoots and fish or meat, or with other vegetables. It is an excellent source of iron, calcium and phosphorous.

The leaves are also used for medicine purposes. It is very effective for headaches.

The fruits are used by the sino-Annamites as laxative and cure for inflammations and abscesses. The oil from the seeds is used to treat skin diseases.

Saluyut grows under a wide range of soil types both poor and rich, although soil with plenty of organic matter is ideal. Avoid sandy and porous soils under laid with stones and boulders.

It is usually planted in the beginning of the rainy season and during the months of May and June. In places where there is a uniform distribution of rainfall, like Southern Mindanao, it is planted anytime of the year.

### HOW TO PLANT

Prepare the land thoroughly

Drill the seed uniformly four to five inches apart in the furrows at the rate of 5 to 6kg per hectare. For big scale planting and in open spaces, seeds are judiciously broadcast and lightly covered with soil by passing a wooden harrow intended for the purpose.

## CABBAGE



Cabbage is considered an important part of a well-balanced diet. It is usually eaten fresh or combined with other foods.

It contains protein, carbohydrates, vitamin and different minerals which are essential body requirements. The varieties of cabbage are Succession, All Head Early, Charleston, Make Field, Exhuizen Glory, Copenhagen Market, Marion Market, Golden Arce and Early Plant Dutch. Lately, two outstanding Japanese hybrids, KY and KK have been successfully grown under lowland conditions in the country.

Cabbage grows at sea level up to 1,900 meter above sea level. It is ideally grown in well-drained clay loam or sandy loam with plenty of organic matter.

It is commonly grown at the end of the rainy season or from September to March.

### HOW TO PLANT

Sow the seeds in seed boxes or in seed beds 10cm deep, 45cm wide and 60cm long. The developing seedlings are fertilized with ammonium sulphate.

Plow and harrow the fields twice before transplanting to reduce the soil into fine filth. Make one meter wide plots and remove weeds. Scatter well-decayed organic matter and pulverized the soil while mixing it with the former.

Transplant only vigorous seedlings which are three (3) to four (4) weeks old and four (4) inches high. Separate them 45cm apart (square) in plots. Water and provide shade. Transplant during cloudy days or late in the afternoon in order that the seedlings will not wilt.

Cultivate and water the plants alternately before heading stage. Weeding should be done when the seedlings are about six (6) to eight (8) inches tall.

Use 250 to 300kg of ammonium sulphate or 110 to 135kg of urea per hectare to attain size. For best results, apply organic or compost fertilizer.

Spray the plants with insecticides and copper fungicides at 10 to 14 days interval to prevent the occurrence of pests and diseases.

Crop rotation, use of well-drained soil, good management practices and avoiding heavy seedlings in the seed bed help prevent the occurrence of plant diseases.

## CAULIFLOWER

Cauliflower, considered as the aristocrat of the cabbage family, is exacting and delicate in its climatic requirements. It is grown in the country for its white tender head formed by the shortened and thickened parts of the flower called the curds. These curds are made into salad, either alone or in combination with other vegetables, and in the preparation of pickles.



The locally grown varieties of cauliflower include the Snowball grown in Baguio and along its mountain trails where suitable conditions are found. Early Patna and Early market are cultivated both in the highland and in the lowlands.

### HOW TO PLANT

Soak seeds in water overnight to induce quick germination. Sow in seedbeds. When the seedlings have attained a height of about 15cm transplant to plots each measuring about a meter wide. Set the seedlings 25cm apart in rows spaced about 40cm. Mulching is recommended for faster growth. Cultivate with shallow spikes to kill the weeds and to loosen the soil.

Two important species of pechay are the heading type and the non-heading type. The first one is represented by the Wong Bok variety and the second one by the Indian, Japanese Yellow Leaf, and Native Green Leaf.

The native Green leaf, often called Chinese pechay, is preferred by nutritionists because it is rich in food nutrients.

Although pechay grows in any kind of soil, rich sandy soil is preferred. The planting season is from September to December when the climate turns from mild to cold and is favourable to the plant.

### HOW TO PLANT

Sow the seeds in wooden seed boxes, flower pots or pans and pots. Water the seedlings twice a day. Spray registered insecticide to protect the developing seedlings against pests. If overcrowding, prick some of the seedling and transfer to some other seed plots.

Divide the land into plots one meter wide and of convenient length. Leave a path of about 30cm between the plots. Cultivate the soil to a tilt.

Transplant when the seedlings have formed one or two pairs of true leaves at 20cm apart during cloudy days. Water the plants daily until harvest.

Cultivate the plants whenever the soil appears compacted or when the plots become weedy to promote aeration and to kill the weeds that would compete with the plants in the absorption of food nutrients.

Apply six to ten petroleum cupfuls of barnyard manure per square meter to accelerate the growth of the plants.

Use 5g ammonium sulphate per plant or 200 to 300kg of ammonium sulphate per hectare in case of field gardening.

Harvest the plants as soon as they are big enough to market. Cut off with a sharp knife or pull together with the roots and wash.

## HOW TO PLANT

Mustard seeds are sown in wooden seed boxes, flower pots or in plots. Provide a partial shade to protect the germinating seeds. Water the seedlings twice a day. Spray recommended pesticides to protect the developing seedlings against pests. Prick some of the seedlings and transfer to other seed boxes or seed plots in case of overcrowding.

Divide the prepared land into plots of one meter wide and of convenient length, providing a working path of about 30cm wide.

Transplant the seedlings at a distance of about 20cm each way when they have formed one or two pairs of true leaves. Water the plants daily until harvest.

Harvesting is done during cloudy days, late in the afternoon, or when there is a light shower.

Cultivate whenever the soil appears compacted. Or when the plots become weedy to promote aeration and to kill the weeds that compete with the plants for nutrients. Practice crop rotation, and use of disease-free planting materials.

Use 5g ammonium sulphate per plant five days after transplanting and 10g 15 days after.

They are harvested as soon as the plants are big enough to market.

Aphids are the primary pests of mustard, including cutworms and mustard worms. Damping-off is the primary disease of mustard.

Practice crop rotation and cleanliness. For the control of these pests, consult the nearest Bureau of Plant Industry office.

## PECHAY

Pechay is one of the most common leafy vegetables in the market. It is commonly eaten fresh, alone or in combination with other foods. It contains calcium, phosphorus, iron, potassium, ascorbic acid, protein and carbohydrates.



Irrigate to keep the soil cool and moist. The use of compost or organic fertilizer is recommended. To harvest, cut with a sharp knife at the base.

## KANGKONG

Kangkong is one of the vegetables rich in protein, calcium, phosphorus, iron and carbohydrates. It is an aquatic plant grown in swamps, rivers, rice fields and lakes.

The tops or young shoots of Kangkong are boiled with fish or meat as in “sinigang”. The tops without the leaves are prepared as adobo or pickles.



The varieties of kangkong are the aquatic, local upland and imported dry land.

The aquatic strain creeps and reaches to about 10cm in length with pale green stem, broad and dull pointed leaves with lighter colour. The local upland variety has brown stem with pale green, narrow and pointed leaves.

It grows under any existing climate in the Philippines. However, the best soils for Kangkong are the swampy places, around lakes and river banks and backyard where water is available. It grows luxuriantly at sea level.

Kangkong can be planted all year round either in the form of seeds, vine cuttings, shoots or root stocks.

## HOW TO PLANT

Plant Kangkong 30cm apart around fishponds, or artificial lakes, one to three rows until some vines are allowed to creep on the surface of the water to serve as partial shade. It also serves as partial feed for fish.

Prepare the paddy in the same way as that of planting rice. After the weeds decayed, plant the 25cm long kangkong shoots or stem vines at a distance of 30 to 50cm each.

Shallow cultivation is done at the early growth of development. Weeding is a necessity in the upland culture of Kangkong.

Irrigation is needed to reach the maximum growth.

Dry land kangkong tops or shoots are ready for harvest when they are about one and a half months old. However, if soils are furrowed and fertile, Kangkong can be harvested three weeks after planting.

Only hoppers and certain worms could damage the leaves of Kangkong. It is resistant to infection brought by any disease.

## **KATURAY**

Katuray is a tall and slender tree that bears long, slender hanging pods about one foot long, white or wine-red flowers approximately 5 to 7cm. They are widely distributed in the country and are usually found in backyards, along roads and in lot boundaries.

The young leaves and pods may be cooked and eaten while flowers and flower buds are commonly cooked and used for medicinal purposes.

There are two distinct types of katuray: one bearing white flowers and the other bearing wine or rose-red flowers. Katuray flowers contain water, ash, protein and fat. Katuray thrives in both dry, moist areas. It grows in low altitudes and propagated through seeds and cuttings.

Germinate the seeds in plots and boxes. Transplant the seedling when they are about 75 to 100cm high. If propagated by cuttings, select straight branches with a base diameter of at least 3cm or more. Plant the cuttings



The leaves as poultice are useful in reducing glandular swelling. Decoction of the roots is considered to revive delirious patients. It is also used for cleaning sores and ulcers. The bark is used as rubefacient applied to the bites of snakes to prevent the poison from spreading. The bean oil from the seeds is said to be used for salads and culinary purposes and it is also a good illuminant.

## **HOW TO PLANT**

Malunggay can be grown in any kind of soil provided that it is well-drained. For best results, however, loam and clay loam soils containing a fairly good amount of humus are the best.

Malunggay cuttings are planted during rainy season. Commercially, matured cuttings are preferred for they sprout earlier and grow faster.

In preparing the cuttings, desired branches are cut one meter or more in length. These are planted directly into the field taking into consideration that the older portion is buried in the ground at a depth of not more than one foot.

In some places in the North where it is planted not only as vegetables but also for fencing purposes, cutting are planted at a distance of one meter. But an ideal distance should be five meter each way to give room for the expansion of the top.



## **MUSTARD**

Mustard is one of the most common leafy vegetables in the market. It is rich in calcium, iron, phosphorous and vitamins.

There are two mustard, the Tagalog and the Chinese. The first is smaller but more pungent than the second.

It grows in any kind of well-drained soil but, if available, rich sandy loam soil is preferable. The plants are usually planted from September to December when the climate turns from mild to cool.

## HOW TO PLANT

Sow the seeds in seed boxes or seedbeds. The developing seedlings are fertilized with ammonium sulphate. These seedlings are ready for transplanting 20 to 30 days after sowing.

Plow and harrow the field until the soil is reduced to a very fine tilt. The land is divided into plots one meter wide and at any desired length. Provide a working path of about 40cm between plots.

Apply six to ten petroleum cupfuls of mixed compost for every ten plots. Transplant the seedlings when two pairs of true leaves have developed at days or late afternoon. Water immediately after transplanting and everyday thereafter for the plant's rapid continuous growth.

Weed with bare hands or use a garden hoe.

Lettuce can be harvested in 60 to 70 days from planting. Lettuce grown for home use can be harvested when plants are big enough for use.

Aphids are the primary pests of lettuce.

The most common diseases of lettuce are Bottom Rot, gray Mold Rot, Brown Blight and Downy Mildew. Practice crop rotation and cleanliness. For the control of these pests, consult the nearest Bureau of Plant Industry office.

## MALUNGGAY

Malunggay is one of the most common vegetable trees throughout the Philippines, especially in settled areas with low and medium altitudes.

The young leaves, flowers and fruits are widely used as vegetable and are very rich in calcium, iron and phosphorus. They can be used for salad or cooked with other vegetables or with either meat or fish.



immediately in the field to avoid drying. The best time to plant is usually or just before the rainy season.

## HOW TO PLANT

Prepare the land thoroughly. Dig holes after preparing the land at the prescribed distance of planting.

Normally, the rate of seedling for katuray is approximately 400g to a hectare. At this rate, the distance is 5cm between rows and 5cm between plants. For seedling, the holes must be at least 45cm deep and 30cm in diameter. For cuttings, the holes are deeper.

Apply simple ring weeding at least 3 to 4 times a year. Irrigation is necessary only when the plants are newly planted. Once the trees are established to grow by themselves.

If spaces are available, other plants like upland rice, legumes and others may be intercropped.

Apply organic fertilizer such as compost and farm manure, if available, in the hills prior to planting. A moderate application of complete fertilizer is also recommended.

### **Katuray is affected by the following insect pests:**

1. *Maruca testativalis*, Geyer
2. *Euproctisnscantillan* (Walker), a Ymantriid
3. *Prodenia litura* *Faricus*, a cutworm

For the control of these pests, consult the nearest Bureau of Plant Industry office.

## KULITIS

*Amaranthus* sp., popularly known as "kulitis", or "uray na babae", is used in the country as a substitute for the



true spinach. Spinach oleracea Linn. Kulitis is commonly known as Philippine spinach.

The local spinach is an annual leafy weed-vegetable, dispersed or propagated by seeds. It grows erect with several branches when full grown. The leaves are large and ovate. The flowers are borne at the terminal buds and leaf axils.

Kulitis is rich in vitamins A and C, potash and phosphorous. They are prepared as salads, either green or blanched, or blended with other vegetables.

#### **The varieties of Kulitis recommended for cultivation are:**

- **Native** – This variety is spiny but soft, especially when still young, the leaves are medium-size with green upper surface and stem are reddish.
- **Tiger Leaf** – The leaves are variegated. They are large, soft and tender. This variety is spineless.
- **Baguio spinach or Green Leaf** – The leaves are green, broad and almost oval in shape.

The young plants and leaves are succulent and tender. The plants are spineless and are claimed to be of superior quality.

The crop can be grown throughout the year in all parts of the country provided there is enough moisture in the soil. It is tolerant to high temperature. It can be grown in any type of soil. But for commercial production, a well-drained sandy loam to clay loam soil type, fairly rich in organic matter is preferred.

#### **HOW TO PLANT**

Prepare the land thoroughly.

In home gardens, slightly elevated plots are made. The seeds are broadcast, drilled or raised in seed boxes.

In drill planting, the distance between rows is about 15 to 20cm. Thinning and transplanting of seedlings are done when plants reach the height of about 5 to 8cm at a distance of about 10cm during cloudy days.

Water the plants after transplanting to encourage the early recovery of the plants and prevents and prevent mortality.

Cultivate lightly to kill weeds and also to allow green succulent and tender plants to develop.

Apply fertilizer after the plants have recovered from the effects of transplanting. Use 300 to 400 kg of ammonium sulphate, or 150 to 200 kg of Urea. Otherwise, the use of compost or organic fertilizer is recommended.

In direct seedling use one-half of the required amount of fertilizer at seedling stage and add the other half after seven to ten days.

After harvesting the first crop, cultivate and fertilize the field. Allow only one (1) to two (2) shoots of the plant to grow. Ratooning is done repeatedly as long as the produce marketable shoots.

## **LETTUCE**



Lettuce is the most important salad crop grown in most homes and school gardens throughout the country.

Its leaves are eaten raw as an ingredient of salad. It is also used as decoration for other food preparations.

This vegetable is planted anytime of the year provided there is an abundant supply of water. It thrives best, however, from September to February when the climate is relatively cool.