

S.E.E.D. Ministry International

Planting guide for vegetables



Given freely by the Grace of God to all who go in His name

BACKGROUND

The SEED Ministry was developed after I had been to Africa on mission my first 4 times. (34 times since then). I was working with a mission group that did building repair and medical clinics. These were all done in population centers. I saw that the needs of the rural people were not being met. When the teams left, they left nothing behind and the people returned to their lives of need and despair.

For the next 2 years I worked in the most rural and poverty stricken areas that I could get transport to, bringing seeds of vegetables and the Word. I spent time teaching how to plant, how to harvest, how to prepare or cook and how to save seeds and to dry some types for the future. At the same time the Word was given and the message that only through Jesus Christ would their life grow and be fruitful was passed to them.

These 2 years were needed by me to prove to myself that this mission was God led not Malcolm Warfield led. Now in my fifth year I have seen the benefits that have taken place. People are being self sufficient. They have established community gardens through the churches. They and the children have less health and eye problems and there is joy.

I have been working with Arise Africa International in Uganda and Kenya. This organization has established over 300 churches throughout the region. Some as small as 2 or 3 people some as large as 100. They have hopes and dreams just as we do but the real need is for food, shelter and the Truth. Many missionaries of many faiths and philosophies pass through, I am convicted that only the Truth shall be taught, and if it is to be done than I shall do it. If you want to know why please read 2 Timothy 4:1-5

If you have any questions please contact me at anytime, if you have true curiosity please come with me on the next trip (I'm trying to go twice a year) But please keep this ministry in your prayers. It goes far beyond the planting of beans or corn; it is all about planting the seed of the love of Jesus Christ in their hearts.

In His service – Malcolm Warfield

SEED Ministry Intl.
291 Transco Rd
Scottsville Va. 24590
malcolmwarfield@centurylink.net
+1 (434) 286 4917 whatsapp
Message me anytime for assistance.

PLANTING GUIDES

If you follow these guides, you will grow MUCH more food, with less time, effort and water. You may even be able to sell the excess to the local markets for money.

Beans: This will include the basic string bean, green or yellow. – Best eaten fresh when 3-4” long and diameter of a pencil.

Sow beans about 2” apart at a depth of 1” -1lb of seed will plant a 100ft row and should yield about 80 lbs of edible beans. Pick beans every 3 days.

Once the beans have germinated replant new rows on average every 3 weeks for continuous supply.

Old foliage may be pulled and fed to livestock and the row replanted.

Lima Beans: Plant limas a little further apart (3”) and 1” deep – may be eaten as a fresh bean or allow plant to dry and lose 90% of leaves, Pull entire plant up by the roots and continue to dry by hanging upside down under cover. When completely dry hull beans from pod and store in dark dry area. To use as dry bean simply soak in water, rinse and cook.

Cow Peas & Black Beans: These are the best choices for dry storage. Plant as fresh bean 2” apart and 1” deep – allow plants to dry in field losing 90% of leaves. Pull entire plant and continue to dry hanging upside down under cover until totally dry. Shell or thresh beans from hull and store in dark dry areas.

NOTE: All bean types should be replanted at 3 week intervals to maintain supply. All dry beans may be eaten or used as seed for future crops

Cabbage: Both heading and Napa types. Works best in somewhat shady areas in Africa, not in direct open hot sunny areas.

Sow 3-4 seeds 12” apart ½” deep - thin to 1 plant in each group Heading cabbage is about 70-85 days to maturity – Napa types about 50 days. Leaves may be pulled at any time. We have found that by pulling outside leaves on a daily basis extends the lifetime and will give more tender cooked cabbage. Yield may be less total but when used with other vegetables makes a vitamin hearty mix. Not a good source of renewable seed but seed is available in larger towns.

Carrots: Plant 2” apart and ¼ - ½” deep. I have found that space is saved when planted in a zig-zag path 3” wide. DO NOT ALLOW SOIL TO FORM A CRUST UNTIL SEEDLINGS EMERGE!!!!!! If crowns show cover loosely with soil to prevent yellowing. Plant in increment of every 3 weeks to ensure supply. Carrots may be harvested as soon as real orange color is seen, harvest period is about 3 weeks before they will start to crack and lose flavor. Use as fresh – poor storage in hot areas

Sweet Corn: 200 seeds for 100’ row 6” apart -1” deep Need to plant at least 4 rows for pollination. Prefers a smooth seed bed and heavier fertilization than other garden crops. Note when plant tassles and record date that ½ the plants show ear silks – crop will be ready about 20-28 days after showing half silk.. May be left to dry for seed. Allow stalk to die than pull – shuck – remove kernels and sun dry on clean cloth suspended for air circulation

Cucumbers: May be direct seeded to soil or in starter cups. Directly seeded plant 4” apart and ½” deep. Average age to bear fruit is 50 days. Grows best if allowed a fence or trellis to climb. Starter cups use 2 seeds per cup and transplant at 4” height . Pick fruits at 4” – 8” in length. Does not store well unless refrigerated below 50 degrees F. Use as fresh raw fruit, may be skinned or not. To save seed use larger fruit [8”] Remove seeds from center, clean free of pulp and allow to air dry on clean cloth

suspended for air circulation.

Eggplant: May be direct seeded at 1' intervals ¼" deep but best started in cups, 2 seeds per cup ¼" deep and transplant at 4" – 6" height and spaced at 18" intervals.. Seeds will not germinate below 70 degrees F. Yields fruit at 65-70 days. Harvest by cutting fruit from plant at desired size. Save seeds similar to cucumber use larger fruit remove seeds, clean free of any pulp and allow to air dry. Fruit may be cooked in many methods, steamed, fried, or mixed in with other vegetables. Peeling fruit before cooking reduces bitterness. Not good eaten raw.

Leafy Greens: This includes lettuce, spinach, collards and kale. Lettuce and spinach should be directly sown. Raised beds are more successful. Sow seed at ½' intervals ¼" deep. Spinach and leaf type lettuce ready in 30 days. To harvest cut leaves do not pull. Leaves will regrow, Replant, at 15 – 20 day intervals. Head type lettuce space at 6" intervals, ready in 50 days, cut entire head. Lettuce is used as fresh only not cooked. Spinach may be eaten fresh, steamed or cooked with other vegetables.

Collards and Kale: Directly sow seeds at 6" intervals ¼" deep or in starter cups with 2 seeds per cup, transplant at 4"-6" at 18" spacing. Ready in 50 – 60 days may cut individual leaves or as whole head. Best eaten as a cooked vegetable steamed, boiled or with other vegetables. To collect seed from any of these, allow plant to bolt (grow to flower) cut top after flower starts to brown, allow to dry as whole flower than separate seed by manually crushing.

Melons: Watermelon, cantaloupe, honeydew and muskmelon. Plant in slight mound, 3-5 seeds per mound ½" – 1" deep Mound should be 1'-18" diameter and 2' apart. Very sprawling vine. Fruit ready in 70-80 days. Best if as fruit matures melons are slightly rotated every 3-4 days to prevent any rot from contact on moist ground. Harvest when fruit separates from vine with gentle pull. All melons are eaten fresh not cooked. May keep for up to 3 -5 days without refrigeration but best eaten immediately. Save seeds by removing from center cavity, clean free of pulp and air dry on clean cloth.

Okra: Best sown directly at 2" intervals ½" deep. Fruit ready in 50 days. Clip or cut fruit from stem at 3"-4" in size for best taste. Gets tough at larger size. Must be cut daily as plants are very prolific. Fruit may be steamed, boiled or added to other vegetables. Okra will thicken a stew or pot boil. To save seed allow plant to grow until it dies and turns brown – and very dry. Remove fruit and manually crush to remove seed.

Onion: May be planted as seed or small bulb called a "set". As a seed, direct sow 2" apart and ¼" – ½" deep. Full size onions ready at 80 – 100 days. Harvest when skin is formed and tops begin to lay over. Allow onion to sun dry 1 week before removing tops for storage. Onions may be used at any stage. Young green onions may be used from bulb to first 4" of green tops. Planting from "sets" plant 4" apart and ½"-1" deep depending on size. Harvest and use same as seeded onion. To save seed allow to mature and form flower on top of stem. Stem will lay over from weight, allow to start to brown then cut flower allow to fully air dry, manually crush to remove skin from seed, store in cool dry place.

Pepper: Sweet or Hot(spicy): Both may be planted directly or started in cups. Direct seeding plant seed 12" apart and ¼" deep. Fruit ready in 45-60 days. May be used raw or cooked. Green peppers will turn red if left on plant and become sweeter. Do not let red pepper to become soft. Harvest all peppers when firm. Peppers are best harvested early morning when firm as the sun will soften the sides and shorten storage time when harvested late.

Hot peppers have the same planting and growth pattern as sweet. Hot peppers will dry very well. Harvest at Green, yellow or red phase. Rule of thumb is more color more heat. To dry may lay on clean cloth in sunlight not touching or string by threading through stem and hanging to air dry. May be saved and used for up to a year.

Hot peppers may be used as an insecticide and to prevent small pests from your garden. To use this way take 4-6 mature hot peppers, cut top off to expose seed cavity and boil in 3 liters of water for 15 minutes. Allow to cool, strain water to remove pulp and seeds. Apply water to plants with sprayer. Lacking a

sprayer use a small leafy branch from tree or plant, dip into pepper water and shake over garden plants wetting all leaves.

To save seeds for green or sweet peppers remove seeds from center cavity and allow to air dry on clean cloth.

To save seeds from hot peppers allow pepper to completely dry, than manually crush and remove seeds. As with all dry seeds store in cool dark place.

Potatoes (Irish): Must use cuttings from mature existing potato. Cut sections 1"-1 ½" with at least one eye (sprout). Plant seed pieces 2' apart and 2"-3" deep, when plants are 6"-8" tall begin mounding soil about 4" high on each plant. Continue mounding as plants grow until mound is 12"-14" high. This prevents potatoes from being exposed and "greening".

New or small potatoes may be harvested 7 - 8 weeks from planting, main crop potatoes should be left until plant foliage dies back. Leave in ground for an additional 2 weeks to form "skin". Dig potato, brush off all soil, allow to sun dry before storing, store in cool, dark area. If potato begins to sprout during storage, use these sprouts to plant new crop.

Pumpkin: Plant seed directly into soil. Planting space seed 1 1/2' apart and 1" deep vines tend to sprawl. Harvest is about 100 days. Pumpkins do very well when planted in directly with sweet corn, the vines help to shade the ground conserving water and avoiding the pumpkin from sun-scald. If used in this way plant 1 pumpkin every 6th seed in corn row.

To harvest cut stem close to vine. May store whole fruit under cover with good air movement. Pumpkin should be cooked for use, may be baked, steamed, stewed or fried. Seeds may be saved by drying or may be used roasted as a food source.

Squash: (Summer) This includes zucchini, yellow and patty pan. Summer squash should be planted in mounds 1 1/2' apart and 1' around plant 3-5 seeds per mound. Summer squash will mature in 45 – 60 days from planting. Cut squash from stem when ready for use. Smaller is sweeter. May be eaten as raw slices but best used cooked in any form. To save seed allow some fruit to become large, remove seeds from center cavity, clean of all pulp and allow to air dry on clean cloth. Store in cool dark area.

Squash: (Winter) This includes acorn, dumpling, hubbard and butternut. Plant and care same as summer squash but allow to mature on vine until skin will only dent (not puncture) under pressure from fingernail. Cut stem 2"-3" from vine. Allow to cure in sun for 5-7 days after cutting for skin to harden. Rotate daily. Store in dark area with good air movement, do not leave setting on soil, must be raised. May be kept up to 3 months before use. Seed saving by the same method as summer squash. Cook same as summer squash but may want to peel skin before cooking.

Tomato: Best started in starter cups. Plant 2 seeds per cup ¼" to ½" deep. Allow plants to grow to 6" – 8" tall before transplant. When planting in garden, remove bottom leaves and bury stem 3"-5" in soil. Stem will send out root shoots and strengthen plant. Best if given support with stake or fence cage. Do not over fertilize with manure, this will cause leggy plants and soft fruit. Needs additional lime or calcium to prevent soft fruit and blossom end rot. Fruit will mature in 65-80 days dependent on type. Pick fruit as needed. Soft fruit for immediate use, pick firmer fruit for transport or later use. Save seed by removing from fruit wipe dry and free of pulp and air dry on clean cloth with good air circulation. Store in dark, dry and cool area.

In tropical and sub-tropical areas replant any of these vegetables every three weeks for a consistent supply.

GENERAL PANTING ADVICE

1. Rotate planting areas every year. Do not continue planting the same crop in the same place every year.
2. Chicken, goat and cow dung may be used as fertilizer in all garden areas. Do not apply dung directly to plants. Best method is to work dung into soil before planting.
3. Water is needed for all vegetables. Starter cups work the best as they can be grouped in a small area and water use can be controlled and plants monitored using less water.
4. Test soil moisture content by using the first finger of your hand. Press finger $\frac{1}{4}$ " to $\frac{1}{2}$ " into soil. If soil sticks to your finger it is sufficiently damp. If no soil sticks to your finger soil is too dry.
5. Almost all garden plants do the best in soils with a ph value of 6-7ph if you are able to test. If you have moss on your soil that shows a low ph value and lime or calcium is needed.
6. If plants grow fast and are leggy with little fruit this shows to much nitrogen or dung in garden area. You may work into soil to a greater depth or allow that area to age to allow dung to break down.
7. This is meant only to be an overview or guide and copies should be left with any village, compound or community where gardens have been started.
8. Many times donated seeds will be a year or two out of date. They should still be viable and use as directed. Package dating is for U.S. sales monitoring some seeds are good for up to 5 years if kept dry and in sealed package
9. Gardens work well if you can set up rows to run north / south this allows you to plant low growing crops on the east with taller growing crops to the west end. This has a terracing effect, Also the taller crops will provide some shade from afternoon sun. This reduces sunscald on fruit and plants and conserves water.
10. Plants are best watered early morning. Evening watering may cause mold and/or fungus to start. Plants should not be watered in the heat or the day as this may burn leaves and also evaporates more quickly.
11. Most important while you are on your knees in your garden always give thanks to God for the seed, the soil, the water and your life.
12. Pray over every seed and plant and He who gives us all will increase your bounty over and over.

May the Lord bless all who use and receive this guide and may the seed of Christ live in their hearts.

- Malcom Warfield