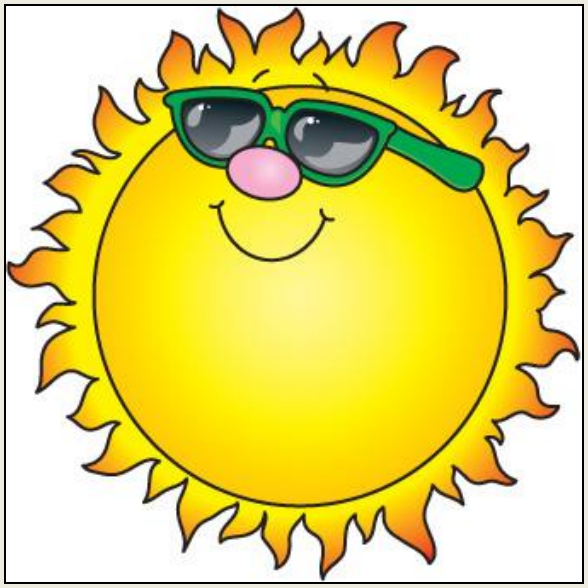
Welcome

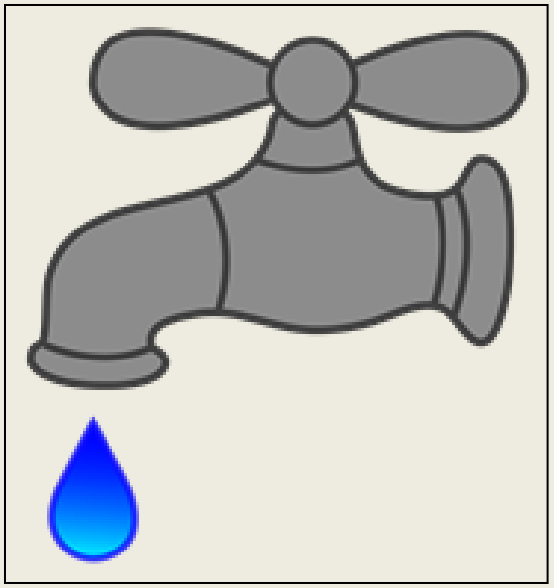
Fall Vegetable Garden

A Successful Garden

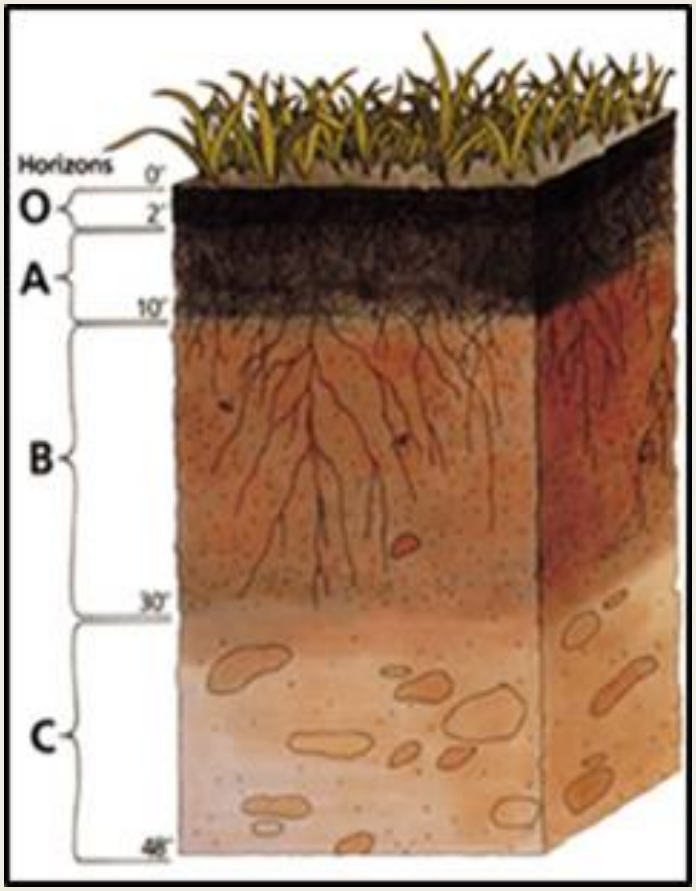
Good Siting

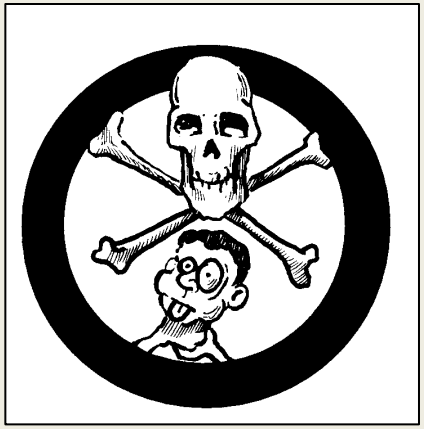
- Sunlight – at least 6 hrs.
- Good water source





Good Soil



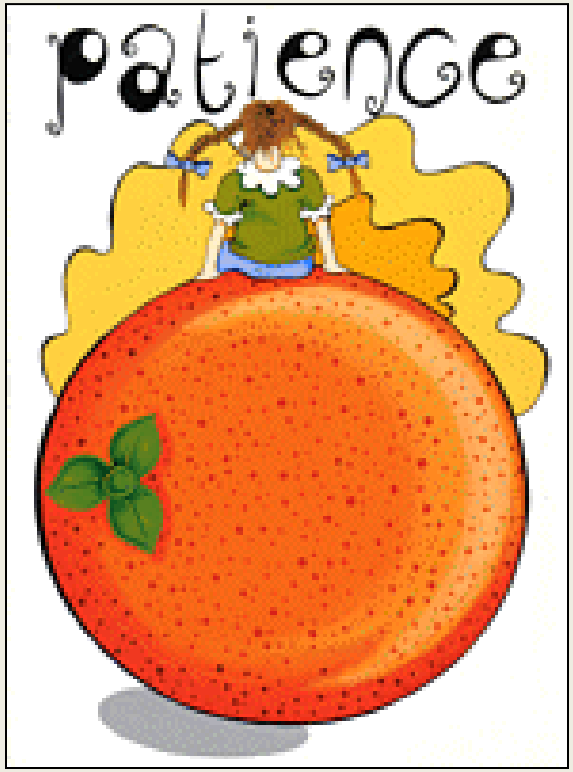


Good Tools

Good, Strong Back

Good bit of…

PATIENCE & LUCK



Good Soil

Good soils are “typically” soils that:

- Are fertile
- Have good drainage
- Are loose, and not compacted
- Have moderate to high in organic matter
- Have a pH range that is slightly acidic
- Retain some moisture

What can we do to improve our soil?

Compost!

- Helps improve fertility
- Helps improve drainage, while improving moisture retention
- Helps loosen compacted soil
- Adds a tremendous amount of organic matter to the soil
- Helps “sweeten” the soil – improves pH
- Helps to create habitat for beneficials
- Helps in better root development – hence better plant development
- Helps reduce waste
- Easy to do – just let it rot

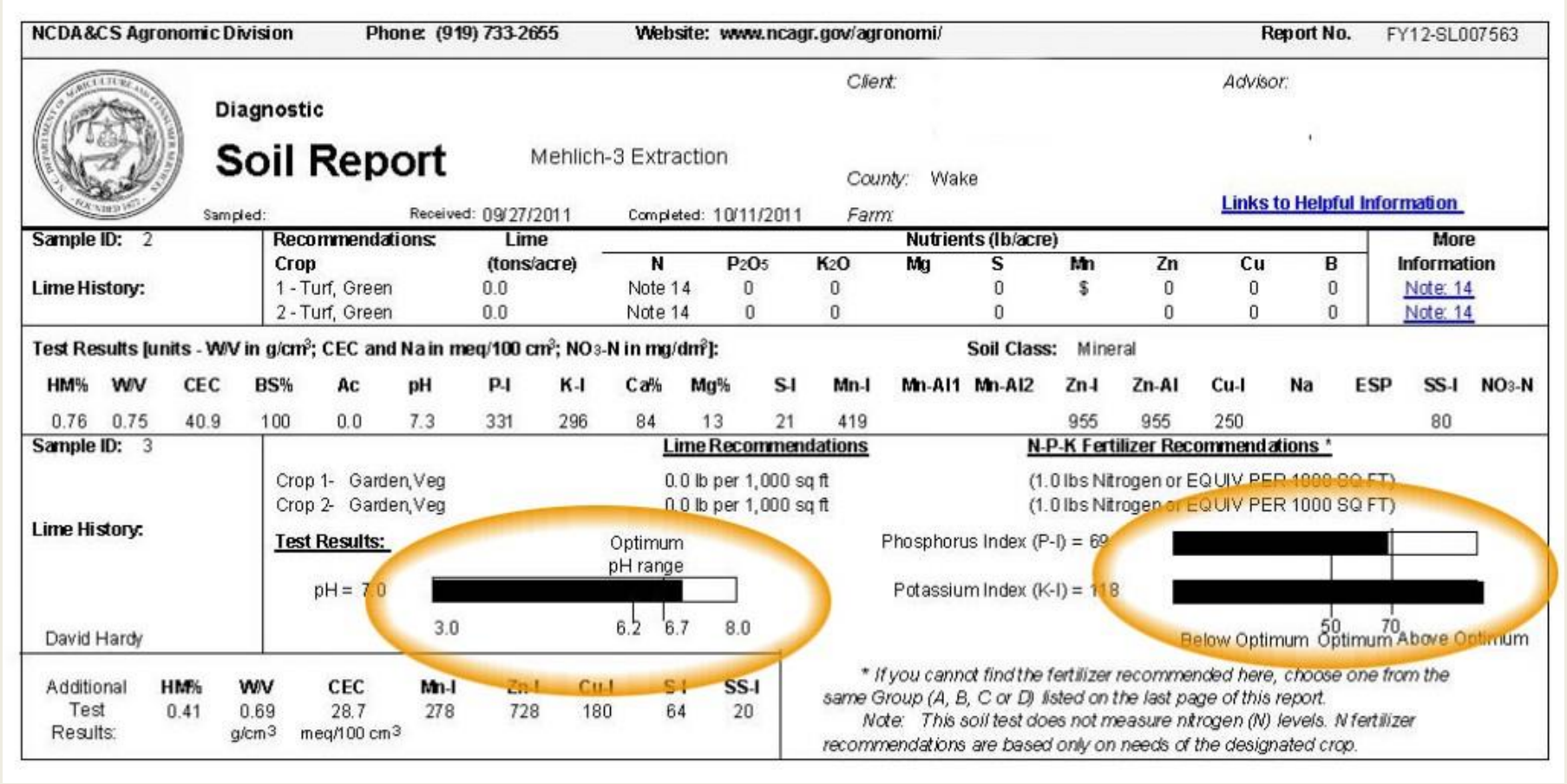
So, let’s get started

Taking a soil sample

In your garden space:

- Take samples (with a trough or a core tool) to a depth of 6-8” deep
- Take multiple samples in the area
- Collect them in a bucket
- Mix the soil thoroughly
- Remove any debris
- Place soil into soil sample box
- Label the box and fill out an information sheet
- Bring sample by Cooperative Extension or mail directly to NCDA&CS labs in Raleigh

Reading a Soil Report



NCDA&CS Agronomic Division Phone: (919) 733-2655 Website: www.ncagr.gov/agronomi/ Report No. FY12-SL007563

Diagnostic

Soil Report

Mehlich-3 Extraction

Client: Advisor:

County: Wake

Farm:

Links to Helpful Information

Sampled: Received: 09/27/2011 Completed: 10/11/2011

Sample ID: 2

Lime History:

Recommendations: Crop	Lime (tons/acre)	Nutrients (lb/acre) N	P_2O_5	K_2O	Mg	S	Mn	Zn	Cu	B	More Information
1 - Turf, Green	0.0	Note 14	0	0		0	$	0	0	0	Note: 14
2 - Turf, Green	0.0	Note 14	0	0		0		0	0	0	Note: 14

Test Results [units - W/V in g/cm³; CEC and Na in meq/100 cm³; NO_3-N in mg/dm³]: Soil Class: Mineral

HM%	W/V	CEC	BS%	Ac	pH	P-I	K-I	Ca%	Mg%	S-I	Mn-I	Mn-AI1	Mn-AI2	Zn-I	Zn-AI	Cu-I	Na	ESP	SS-I	NO_3-N
0.76	0.75	40.9	100	0.0	7.3	331	296	84	13	21	419			955	955	250			80	

Sample ID: 3

Lime History:

David Hardy

Lime Recommendations

Crop 1- Garden,Veg 0.0 lb per 1,000 sq ft

Crop 2- Garden,Veg 0.0 lb per 1,000 sq ft

Test Results:

pH = 7.0

Optimum pH range

3.0 6.2 6.7 8.0

N-P-K Fertilizer Recommendations *

(1.0 lbs Nitrogen or EQUIV PER 1000 SQ FT)

(1.0 lbs Nitrogen or EQUIV PER 1000 SQ FT)

Phosphorus Index (P-I) = 69

Potassium Index (K-I) = 118

50 70

Below Optimum Optimum Above Optimum

Additional Test Results:	HM%	W/V	CEC	Mn-I	Zn-I	Cu-I	S-I	SS-I
	0.41	0.69 g/cm³	28.7 meq/100 cm³	278	728	180	64	20

** If you cannot find the fertilizer recommended here, choose one from the same Group (A, B, C or D) listed on the last page of this report.*

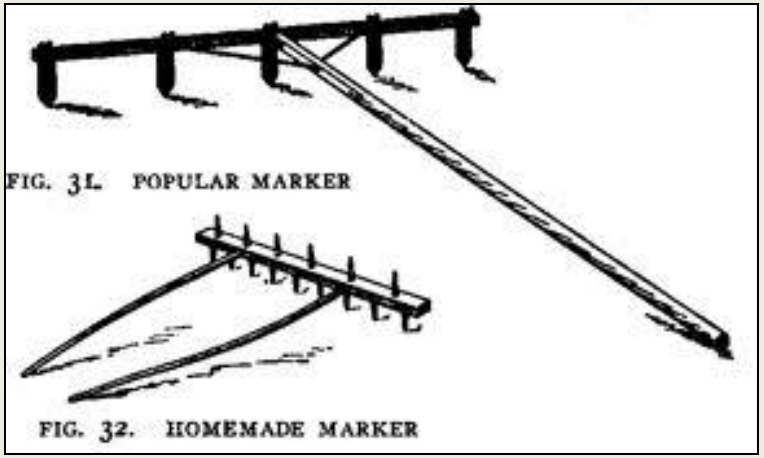
Note: This soil test does not measure nitrogen (N) levels. N fertilizer recommendations are based only on needs of the designated crop.

Soil Preparation

A little different setup

Fertilization

Planting



Irrigation

Drip (trickle) irrigation waters crops efficiently.
Credit: Nova Scotia Agriculture and Fisheries

Protection

Experiment

Vegetable Selection

Cruciferous Vegetables

Cruciferous Vegetables

- Cabbage
- Collards
- Radish
- Turnips
- Rutabagas
- Kale
- Mustard
- Broccoli
- Chinese cabbage

Cabbage

Cabbage

- Fall Planting – Seed directly into the soil from July 15 – Sept 15. If planting with transplants, you can still plant young plants up to mid/late November.
- Rotation – 3 years
- Spacing – Single row: 9-12” in row, 36 – 44” apart; Double Row: 12-14” in row
- Soils – Well-drained, sandy loam with high organic matter. Ideal pH – 6.0 -6.4.
- Plants/Seed (Certified) – Using certified plants and seed will reduce the chance for disease, and will result in more uniform stands.
- Bolting – Typically, bolting is not a major concern in the fall, except during periods of late, unseasonably warm weather.
- Overwintering – Overwintering is possible in Bladen County. ‘Bravo’, ‘Green Cup’, ‘Rio Verde’ and ‘Conquest’ are the best varieties for overwintering.
- Fertilization – According to Soil Report. If no soil report was performed, apply 10 lbs. of 10-10-10 (per 1,000 square feet) and incorporate into the soil. Another 8 – 10 lbs of 10-10-10 (per 1,000 square feet) can be banded along the rows. Sidedress with ½ lb of nitrogen (N) at 2-3 weeks (on transplants) and 4-5 weeks (on direct seeded), and then again 3 weeks later. Young cabbage have high N requirements.
- Weed Management – Cabbage has a shallow root system, and soil disturbance of greater than 2” could damage root system. Preemergent herbicides are recommended.
- Insect and Disease Management – Scout regularly. Insect problems tend to be more of a problem in the fall, than in the spring. Most caterpillar activity can be controlled with Dipel. Other insects, like flea beetles and aphids, can be controlled with, either, a contact or a systemic insecticide. Should you notice anything more, contact Cooperative Extension.
- Harvest – Harvest when head is well-formed and firm. Enjoy.

Collards

Collards

- Fall Planting – Seed directly into the soil about August 15. If planting with transplants, do so up to mid September (for a late October to December harvest).
- Spacing – For young half-size plants, spacing is 10-15” in row. For full grown plants, spacing is 15-18” in row. Rows are (typically) spaced at 36-42”, but on multi-row beds (where 2-4 rows are on a single bed) the spacing is 38-60”.
- Soils – Variety - Well-drained loam with high organic matter. Ideal pH – 6.0 -6.5.
- Plants/Seed (Certified) – Using certified plants and seed will reduce the chance for disease, and will result in more uniform stands.
- Bolting – Typically, bolting is not a major concern in the fall, except during periods of late, unseasonably warm weather.
- Overwintering – Overwintering is possible in Bladen County.
- Fertilization – According to Soil Report. If no soil report was performed, apply 12- 14 lbs. of 10-10-10 (per 1,000 square feet) and incorporate into the soil. Sidedress with 1/3 to ½ lb of nitrogen (N) at 3-5 weeks (after seed come up or transplanting), and then again 2-3 weeks later.
- Weed Management – Collards (like others in this family) have a shallow root system, and soil disturbance of greater than 2” could damage root system. Preemergent herbicides are recommended.
- Insect and Disease Management – Scout regularly. Insect problems tend to be more of a problem in the fall, than in the spring. Most caterpillar activity can be controlled with Dipel. Other insects can be controlled with, either a contact or systemic insecticide. Should you notice anything more, contact Cooperative Extension.
- Harvest – Collards can be harvested like mustard (when very young). Typically, it is harvested from the half-mature stage until the mature stage (when the head can reach a couple of feet in diameter). Enjoy.

Radish

Radish

- Fall Planting – Seed directly into the soil from August into late October and early November. Make multiple plantings during this period.
- Spacing – Seed are sown 1-2” apart (in row), with the spacing between rows approximately 9” apart (for larger varieties 2-4” (in row) spacing is good. Wide bed planting is ideal for radishes.
- Soils –Well-drained, sandy loam with high organic matter is preferred. Ideal pH – 6.0 -6.5.
- Plants/Seed (Certified) – Using certified seed will reduce the chance for disease, and will result in more uniform stands.
- Bolting – Typically, bolting is not a major concern in the fall, except during periods of late, unseasonably warm weather.
- Fertilization – According to Soil Report. If no soil report was performed, apply 10 lbs. of 10-10-10 (per 1,000 square feet) and incorporate into the soil. An additional application of potassium (1 ½ lbs of muriate of potash) would be beneficial (incorporate into the soil prior to planting).
- Weed Management – Radishes tend not to have problems with this like other members of the family, because they grow so fast, and they are (typically) planted in wide beds (reduced competition); but if this could be an issue, treat like others members in the same family. Preemergent herbicides are recommended.
- Insect and Disease Management – Not a major problem, due to their quick growth; but still scout. Insect problems tend to be more of a problem in the fall, than in the spring. Most caterpillar activity can be controlled with Dipel. Other insects can be controlled with, either a contact or systemic insecticide. Should you notice anything more, contact Cooperative Extension.
- Harvest –Harvested when roots are ¾ - 1 ¼ “ in diameter. Larger varieties harvest at larger sizes. Harvest quickly to avoid the root becoming pithy and pungent. Enjoy.

Turnips & Rutabagas

Turnips & Rutabagas

- Fall Planting – Seed directly into the soil from August into mid/ late September. Rutabagas must be planted 2 ½ to 3 months prior to a heavy frost.
- Spacing – Seed are sown 4” apart (in row), with the spacing between rows 12-15”. Wide bed planting is ideal. Beds can be 3-5’ wide.
- Soils –Moderately deep, well-drained loam with high organic matter is preferred. Ideal pH – 6.0 -6.5.
- Plants/Seed (Certified) – Using certified seed will reduce the chance for disease, and will result in more uniform stands.
- Bolting – Can occur during periods of unseasonable weather, late in their development.
- Overwintering – Turnips can overwinter in Bladen County.
- Fertilization – According to Soil Report. If no soil report was performed, apply 10 lbs. of 10-10-10 (per 1,000 square feet) and incorporate into the soil. An additional application of potassium (1 ½ lbs of muriate of potash) would be beneficial (incorporate into the soil prior to planting).
- Weed Management – Turnips and Rutabagas (like others in this family) have a shallow root system, and soil disturbance of greater than 2” could damage root system. They are (typically) planted in wide beds (reduced competition). Preemergent herbicides are recommended.
- Insect and Disease Management – Scout regularly. Insect problems tend to be more of a problem in the fall, than in the spring. Most caterpillar activity can be controlled with Dipel. Other insects can be controlled with, either a contact or systemic insecticide. Should you notice anything more, contact Cooperative Extension.
- Harvest – Turnips are harvested for both their root and their greens. Rutabagas are (typically) harvested more for its root. Harvested turnips when roots are 2-3“ in diameter; Rutabagas 4-5”. Harvest before seedhead formation to keep the root from becoming pithy. Enjoy.

Kale

Kale

- Fall Planting – Seed directly into the soil from late August until late September. If planting with transplants, do so up to late October.
- Spacing –Spacing is 12-15” in row. Rows are (typically) spaced at 36-42”, but on multi-row beds (where 2-4 rows are on a single bed) the spacing is 38-60”.
- Soils – Variety - Well-drained, sandy loam with high organic matter. Ideal pH – 6.0 -6.8.
- Plants/Seed (Certified) – Using certified plants and seed will reduce the chance for disease, and will result in more uniform stands.
- Bolting – Typically, bolting is not a major concern in the fall.
- Overwintering – Overwintering is possible in Bladen County.
- Fertilization – According to Soil Report. If no soil report was performed, apply 12- 14 lbs. of 10-10-10 (per 1,000 square feet) and incorporate into the soil. Sidedress with 1/3 to ½ lb of nitrogen (N) at 3-5 weeks (after seed come up or transplanting), and then again 2-3 weeks later.
- Weed Management – Kale (like others in this family) have a shallow root system, and soil disturbance of greater than 2” could damage root system. Preemergent herbicides are recommended.
- Insect and Disease Management – Scout regularly. Insect problems tend to be more of a problem in the fall, than in the spring. Most caterpillar activity can be controlled with Dipel. Other insects can be controlled with, either a contact or systemic insecticide. Should you notice anything more, contact Cooperative Extension.
- Harvest – Kale can be harvested collards. It is harvested from the half-mature stage until the mature stage (when the head can reach a foot, or more, in diameter). Enjoy.

Mustard

Mustard

- Fall Planting – Seed directly into the soil from mid August into early October.
- Spacing – Seed are sown 1-4” apart (in row), with the spacing between rows approximately 12-30” apart. Wide bed planting is ideal for mustard.
- Soils –Well-drained, sandy loam with high organic matter is preferred. Ideal pH – 6.0 -6.5.
- Plants/Seed (Certified) – Using certified seed will reduce the chance for disease, and will result in more uniform stands.
- Bolting – Typically, bolting is not a major concern in the fall, except during periods of late, unseasonably warm weather.
- Fertilization – According to Soil Report. If no soil report was performed, apply 20 lbs. of 10-10-10 (per 1,000 square feet) and incorporate into the soil. An additional application of nitrogen (2 lbs of 10-10-10 per 1,000 square feet) is necessary, 3-5 times after seeding (for continuous growth).
- Weed Management – Mustard tends to not have any major weed issue due to its thick planting; but if this could be an issue, treat like others members in the same family. Preemergent herbicides are recommended.
- Insect and Disease Management – Insect problems tend to be more of a problem in the fall, than in the spring. Most caterpillar activity can be controlled with Dipel. Other insects can be controlled with, either a contact or systemic insecticide. Should aphids become well established, they will be difficult to control. Regular scouting is necessary. Should you notice anything more, contact Cooperative Extension.
- Harvest – Harvested when leaves become mature 3”+. Individual leaves typically removed, while leaving the remainder of the plant (for continuous harvest). Remove and discard any damaged or yellow leaves. Enjoy.

Broccoli

Broccoli

- Fall Planting – Seed directly into the soil from August – Sept 15. If planting with transplants, you can still plant young plants up to mid/late September.
- Spacing – (Typically) double row. In row spacing 4-6”. (In bed) row spacing 9-12”. Spacing between rows 36 – 44” apart
- Soils – Well-drained, sandy loam with high organic matter. Ideal pH – 6.0 -6.4.
- Plants/Seed (Certified) – Using certified plants and seed will reduce the chance for disease, and will result in more uniform stands.
- Bolting – Typically, bolting is not a major concern in the fall, except during periods of late, unseasonably warm weather.
- Fertilization – According to Soil Report. If no soil report was performed, apply 20-25 lbs. of 10-10-10 (per 1,000 square feet) and incorporate into the soil. Another 7 lbs of 10-10-10 (per 1,000 square feet) can be banded along the rows, after 3 &5 weeks. Sidedress with 2 lb of Calcium Nitrate,when heads are the size of a quarter. This will reduce large stem diameter and reduce rots. Young plants have high N requirements.
- Weed Management – Broccoli has a shallow root system, and soil disturbance of greater than 2” could damage root system. Preemergent herbicides are recommended.
- Insect and Disease Management – Scout regularly. Insect problems tend to be more of a problem in the fall, than in the spring. Most caterpillar activity can be controlled with Dipel. Other insects, like flea beetles and aphids, can be controlled with, either, a contact or a systemic insecticide. A control program should start early. Should you notice anything more, contact Cooperative Extension.
- Harvest – Harvest when head is well-formed. Continue harvesting until the first hard freeze. Enjoy.

Chinese Cabbage

Chinese Cabbage

- Fall Planting – Seed directly into the soil from mid to late August. If planting with transplants, you can still plant young plants up to late September.
- Spacing – Single row: 12” in row, 36 – 44” apart; Double Row: 15” in row
- Soils – Well-drained, sandy loam with high organic matter. Ideal pH – 6.0 -6.4.
- Plants/Seed (Certified) – Using certified plants and seed will reduce the chance for disease, and will result in more uniform stands.
- Bolting – Typically, bolting is not a major concern in the fall, except during periods of late, unseasonably warm weather.
- Fertilization – According to Soil Report. If no soil report was performed, apply 10 lbs. of 10-10-10 (per 1,000 square feet) and incorporate into the soil. Another 8 – 10 lbs of 10-10-10 (per 1,000 square feet) can be banded along the rows. Sidedress with ½ lb of nitrogen (N) at 2-3 weeks (on transplants) and 4-5 weeks (on direct seeded), and then again 3 weeks later. Young chinese cabbage have high N requirements.
- Weed Management – Chinese cabbage has a shallow root system, and soil disturbance of greater than 2” could damage root system. Preemergent herbicides are recommended.
- Insect and Disease Management – Scout regularly. Insect problems tend to be more of a problem in the fall, than in the spring. Most caterpillar activity can be controlled with Dipel. Other insects, like flea beetles and aphids, can be controlled with, either, a contact or a systemic insecticide. Should you notice anything more, contact Cooperative Extension.
- Harvest – Harvest when head is well-formed, at approximately 80 days from seed. Enjoy.

Some Lesser Known/Planted Crucifers

- Cauliflower
- Cress
- Horseradish
- Brussels sprouts
- Kohlrabi
- Broccoli Romanesco
- Canola & Rapeseed
- Arugula
- Maca
- Rapini
- Chinese Broccoli

Apiaceae Family

- Carrots

- Celery
- Parsnip
- Celeriac
- Various Herbs

Carrots

Carrots

- Fall Planting – Seed directly into the soil from mid June to late September
- Spacing – Seeded in a 2” band and thinned to 1-2” spacing. Multiple rows per bed. Bed (typically 48” wide). Spacing of beds 6’ on center.
- Soils – Well-drained, sandy loam with high organic matter. Ideal pH – 6.0 -6.5.
- Plants/Seed (Certified) – Using certified plants and seed will reduce the chance for disease, and will result in more uniform stands.
- Bolting – Typically, bolting is not a major concern in the fall.
- Overwintering – Carrots will overwinter in southeastern NC.
- Fertilization – According to Soil Report. If no soil report was performed, apply 10 lbs. of 10-10-10 (per 1,000 square feet) and incorporate into the soil. 2-3 applications of ½ lb N per 1,000 sf, will be needed for continuous growth.
- Weed Management – Carrots have a shallow root system, and soil disturbance of greater than 2” could damage root system. Preemergent and postemergent herbicides are recommended.
- Insect and Disease Management – Scout regularly. Insect problems tend to be more of a problem in the fall, than in the spring; and more problematic within the first couple of weeks of plant emergence. Insect problems can be controlled with, either, a contact or a systemic insecticide. Should you notice anything more, contact Cooperative Extension.
- Harvest – Harvest when shoulder of root is 1 ½ or more. Enjoy.

Amaryllidaceae Family

Onions

Onions

- Types – Short Day, Intermediate Day, and Long Day
- Fall Planting – Seed directly into the soil from September 10 – October 15 (about ½ - ¾ “ deep). If planting with transplants, you can still plant them into February – planting 1 – 1 ½ “ deep (for transplants). Transplants grown yourself tend to be better quality, than onions grown from commercial sets.
- Spacing – For medium bulbs: space bulbs 2-3” apart; for large bulbs: space bulbs 3-6” apart. Row spacing: 4-6” apart. Best grown on wide beds with multiple rows.
- Soils – Well-drained loam with high organic matter. Ideal pH – 6.0 -6.5.
- Plants/Seed (Certified) – Using certified plants and seed will reduce the chance for disease, and will result in more uniform stands.
- Bolting – Typically, bolting is not a major concern in the fall.
- Overwintering – Overwintering is possible in Eastern NC. Proven varieties are Early Grano F; Texas Grano F; Texas Grano 502 F; Granex 33 F, TS; Texas Grano 1015y .
- Fertilization – According to Soil Report. If no soil report was performed, apply 10 lbs. of 10-10-20 (per 1,000 square feet) and incorporate into the soil (7-10 days before planting. Sidedress with 3/4 lb of nitrogen (N) when plants are about 1/3 grown. Additional applications of N should be made every 3-4 weeks after that. Watch heavy amount of N late in season; this will cause large necks which are difficult to cure.
- Weed Management –Onions need shallow cultivation in order to keep the soil from crusting, weeding of small weeds should accomplish this. Several herbicides are labeled and recommended for weed control.
- Insect and Disease Management – Scout regularly. Insect problems tend to be more of a problem in the fall, than in the spring. Insects can be controlled with, either, a contact, or a systemic insecticide. Should you notice anything more, contact Cooperative Extension.
- Harvest (late spring/early summer) – About a month before harvest, began to remove some of the soil from the upper 1/3 of the onion bulb. This will help in curing the bulb. When the necks begin to collapse, harvest the bulbs; allowing them to cure before storing. Enjoy.

Leeks


Leeks (*Allium ampeloprasum*, Porrum Group)
Jack Scheper
© 2005 Floridata.com

Leeks

- Fall Planting – Seed directly into the soil from early September – early November (about ½ - ¾ " deep). If planting with transplants, you can still plant them into early January – planting 1 – 1 ½ " deep (for transplants). Transplants grown from seed tend to be of exceptional quality, and much cheaper than sets.
- Spacing – Direct seeding: spacing 3-4" apart. Transplants: 4-6" apart. Row spacing: 14-18" apart. Best grown on wide beds with double rows.
- Soils – Well-drained loam with high organic matter. Ideal pH – 6.0 -6.5.
- Plants/Seed (Certified) – Using certified plants and seed will reduce the chance for disease, and will result in more uniform stands.
- Bolting – Typically, bolting is not a major concern in the fall.
- Overwintering – Overwintering is possible in Eastern NC. One of the more cold hardy Allium, there is.
- Fertilization – According to Soil Report. If no soil report was performed, apply 10 lbs. of 10-10-20 (per 1,000 square feet) and incorporate into the soil (7-10 days before planting. Sidedress with 3/4 lb of nitrogen (N) when plants are about 1/3 grown. Additional applications of N should be made every 3-4 weeks after that.
- Weed Management – Leeks need shallow cultivation in order to keep the soil from crusting, weeding of small weeds should accomplish this. Several herbicides are labeled and recommended for weed control.
- Insect and Disease Management – Scout regularly. Insect problems tend to be more of a problem in the fall, than in the spring. Insects can be controlled with, either, a contact, or a systemic insecticide. Should you notice anything more, contact Cooperative Extension.
- Harvest (late spring/early summer) Throughout the growing season, began to pull some of the soil up on the stalk. This will help in blanching the stem. When the neck begins to reach a substantial diameter (normally 1" or greater), start harvesting. You can harvest them prior to that and use them as a substitute for green onions (scallions). Enjoy.

Garlic

Garlic

- Types – Soft Neck and Hard Neck
- Fall Planting – Seed directly into the soil from September 10 – October 15 (about ½ - ¾ " deep). If planting transplants or cloves, you can plant them into November– planting 1–2" deep with the points up. Planting cloves is the traditional way of cultivating garlic.
- Spacing –spacing of 2-6" apart (in row); Row spacing: 4-6" apart. Typically grown in a 4"x4" pattern, on wide beds with multiple rows.
- Soils – Well-drained loam with high organic matter. Ideal pH – 6.2 -6.8.
- Plants/Seed (Certified) – Using certified cloves and seed will reduce the chance for disease, and will result in more uniform stands.
- Bolting – Bolting is an issue with Hard Necks; tends not to be an issue with Soft Necks.
- Overwintering – Overwintering is possible in Eastern NC. Recommended varieties are many of the Italian Soft Neck varieties and the New York White Neck (Soft Neck). Elephant garlic is also recommended, but Elephant garlic is actually a type of leek, not garlic.
- Fertilization – According to Soil Report. If no soil report was performed, apply 10-12 lbs. of 10-10-20 (per 1,000 square feet) and incorporate into the soil (7-10 days before planting). Additional applications of N (1/2 lb per 1,000 sf should be made in early March and early May.
- Weed Management –Onions need shallow cultivation in order to keep the soil from crusting, weeding of small weeds should accomplish this. Several herbicides are labeled and recommended for weed control.
- Insect and Disease Management – Scout regularly. Insect problems tend to be more of a problem in the fall, than in the spring. Insects can be controlled with, either, a contact, or a systemic insecticide. Should you notice anything more, contact Cooperative Extension.
- Harvest (late spring/early summer) – Garlic is ready when the tops begin to discolor and dry out. Elephant garlic should be harvested when the tops are about 30% yellow; any later and the bulb will split. After harvesting, be sure to cure the garlic thoroughly (for storage). Some folks braid the tops of the garlic together, to cure. Enjoy.

Shallots

Shallots

- Fall Planting – Seed directly into the soil from September 10 – October 15 (about ½“ deep). If planting with transplants or bulbs, you can still plant them into November – planting 1“ deep (for transplants). Commercial bulbs are the typical means of planting shallots.
- Spacing - Space bulbs 3-4” apart. Row spacing: 18-24” apart. Planted as double rows on a wide bed.
- Soils – Well-drained loam with high organic matter. Ideal pH – 6.0 -6.5.
- Plants/Seed (Certified) – Using certified bulbs and seed will reduce the chance for disease, and will result in more uniform stands.
- Bolting – Typically, bolting is not a major concern in the fall.
- Overwintering – Overwintering is possible in Eastern NC.
- Fertilization – According to Soil Report. If no soil report was performed, apply 10 lbs. of 10-10-20 (per 1,000 square feet) and incorporate into the soil (7-10 days before planting. Additional applications of N (1/2 lb per 1,000 sf) should be made in early March and again in mid April.
- Weed Management – Shallots need shallow cultivation in order to keep the soil from crusting, weeding of small weeds should accomplish this. Several herbicides are labeled and recommended for weed control.
- Insect and Disease Management – Scout regularly. Insect problems tend to be more of a problem in the fall, than in the spring. Insects can be controlled with, either, a contact, or a systemic insecticide. Should you notice anything more, contact Cooperative Extension.
- Harvest – Shallots like many other alliums are daylight sensitive. For our area, late Spring is the target period for harvest. After harvesting, allow them to cure before storing. Enjoy.

Curcurbit Family

Cucumber

Cucumbers

- Types – Slicing and pickling
- Fall Planting – Seed directly into the soil from early August – early September (about 1“ deep).
- Spacing – In-row spacing: 10-12” apart. Row spacing: 30-48” apart.
- Soils – Well-drained loam with high organic matter. Ideal pH – 6.0 -6.5.
- Plants/Seed (Certified) – Using certified seed will reduce the chance for disease, and will result in more uniform stands.
- Overwintering – Overwintering is not possible in Eastern NC, except in heated greenhouses.
- Fertilization – According to Soil Report. If no soil report was performed, apply 15 lbs. of 10-10-10 (per 1,000 square feet) and incorporate into the soil (7-10 days before planting). Sidedress with 1/2 lb of nitrogen (N) when plants are ready to tip over and run
- Weed Management –Cucumbers need shallow cultivation in order to keep the soil from crusting, shallow hoeing will be beneficial for, both, weed control and de-crusting. Several herbicides are labeled and recommended for weed control.
- Insect and Disease Management – Scout, Scout, Scout. Insect problems (on cucumbers) tend to be more of a problem in the fall, than in the spring. Insects can be controlled with, either, a contact, or a systemic insecticide. Spraying prior to flowering, with a contact insecticide, should help tremendously on insect control. Should you notice anything more, contact Cooperative Extension.
- Harvest – Every couple of days, after the first fruits are harvested. Fruits should be tender, but fully grown. Harvest until frost. Enjoy.

Summer Squash

Summer Squash

- Types – Straightneck, Crookneck, Scallop, Zucchini
- Fall Planting – Seed directly into the soil from early August – early September (about 1 1/2“ deep).
- Spacing – In-row spacing: 24” apart. Row spacing: 36-48” apart.
- Soils – Well-drained loam with high organic matter. Ideal pH – 6.0 -6.5.
- Plants/Seed (Certified) – Using certified seed will reduce the chance for disease, and will result in more uniform stands.
- Overwintering – Overwintering is not possible in Eastern NC, except in heated greenhouses.
- Fertilization – According to Soil Report. If no soil report was performed, apply 8 lbs. of 10-10-10 (per 1,000 square feet) and incorporate into the soil (7-10 days before planting). Sidedress with an additional 8 lbs. of 10-10-10 (per 1,000 sf) at the time of planting and again after 4 weeks.
- Weed Management – Squash need shallow cultivation in order to keep the soil from crusting, shallow hoeing will be beneficial for, both, weed control and de-crusting. Pigweed and lambsquarter can be troublesome, herbicides are available, but removal by hand is very effective. Squash can be sensitive to many herbicides.
- Insect and Disease Management – Scout, Scout, Scout. Insect problems (on squash) tend to be more of a problem in the fall, than in the spring. Insects can be controlled with, either, a contact, or a systemic insecticide. Spraying prior to flowering, with a contact insecticide, should help tremendously on insect control. Should you notice anything more, contact Cooperative Extension.
- Harvest – Every couple of days, after the first fruits are harvested. During peak harvest time, they will need to be checked every day. Fruit should be tender and glossy in appearance. Harvest until frost. Enjoy.

Winter Squash

Winter Squash

- Types – Butternut, Acorn, Spaghetti, Compact vine
- Fall Planting – Seed directly into the soil from early August – early September (about 1“ deep).
- Spacing – In-row spacing: 24-36” apart. Row spacing: 36-60” apart.
- Soils – Well-drained loam with high organic matter. Ideal pH – 6.0 -6.5.
- Plants/Seed (Certified) – Using certified seed will reduce the chance for disease, and will result in more uniform stands.
- Overwintering – Overwintering is not possible in Eastern NC, except in heated greenhouses.
- Fertilization – According to Soil Report. If no soil report was performed, apply 10 lbs. of 10-10-10 (per 1,000 square feet) and incorporate into the soil (7-10 days before planting). Sidedress after 3 & 6 weeks with 1 pint of 13-0-44 per 100 ft of row.
- Weed Management – Squash need shallow cultivation in order to keep the soil from crusting, shallow hoeing will be beneficial for, both, weed control and de-crusting – but be careful not to go too deep. Pre-emergent herbicide is recommended. Choose only what is labeled for your particular type of Winter Squash, some can be sensitive to many herbicides.
- Insect and Disease Management – Scout, Scout, Scout. Insect problems (on squash) tend to be more of a problem in the fall, than in the spring. Insects can be controlled with, either, a contact, or a systemic insecticide. Spraying prior to flowering, with a contact insecticide, should help tremendously on insect control. Should you notice anything more, contact Cooperative Extension.
- Harvest – Harvest only after the shell has completely hardened. For storage, try not to break off the stem (can be a point of rot, later). Harvest before frost. Enjoy.

Asteraceae Family

- Lettuce
- Chicory
- Endive
- Jerusalem Artichoke
- Globe Artichoke

Lettuce

- Types – Leaf and Head
- Fall Planting – For leaf varieties: seed directly into the soil (1/4”) from mid August to mid September. From transplants: plant until late September. Seeding is recommended for leaf varieties. For head varieties: seed directly into the soil (1/4”) from early to late August . From transplants: plant until mid September. Transplants are recommended for head varieties.
- Spacing – Leaf (in-row): 6-8”; row spacing: 12” apart. Head (in row): 12”; row spacing 12” apart. Lettuce should be planted on wide beds in double rows.
- Soils – Well-drained, sandy loam with high organic matter. Ideal pH – 6.0 -6.7.
- Plants/Seed (Certified) – Using certified plants and seed will reduce the chance for disease, and will result in more uniform stands.
- Bolting – Typically, bolting is not a major concern in the fall, except during periods of late, unseasonably warm weather.
- Fertilization – According to Soil Report. If no soil report was performed, apply 10 lbs. of 10-10-10 (per 1,000 square feet) and incorporate into the soil. Another 8 – 10 lbs of 10-10-10 (per 1,000 square feet) can be banded along the rows. Sidedress with 2 lb of 10-10-10 at 3-4 weeks (on direct seeded and transplanted plants), and then again 3 weeks later (if needed).
- Weed Management – Lettuce is best grown on ground fabric (keeps sand out of the plant). When grown otherwise, light cultivation with a hoe is beneficial for de-crusting and small weed removal. Pre-emergent herbicides are recommended.
- Insect and Disease Management – Scout regularly. Insect problems tend to be more of a problem in the fall, than in the spring. Most caterpillar activity can be controlled with Dipel. Other insects can be controlled with, either, a contact or a systemic insecticide. Should you notice anything more, contact Cooperative Extension.
- Harvest – (for head varieties) Harvest when head is well-formed and firm, at approximately 80 days from seed and 70 days from transplants. Harvest every couple of days. (for leaf varieties) Harvest like greens, by cutting mature leaves and leaving plant (for continuous harvest), or allow plant to mature and harvest whole plant. Enjoy.

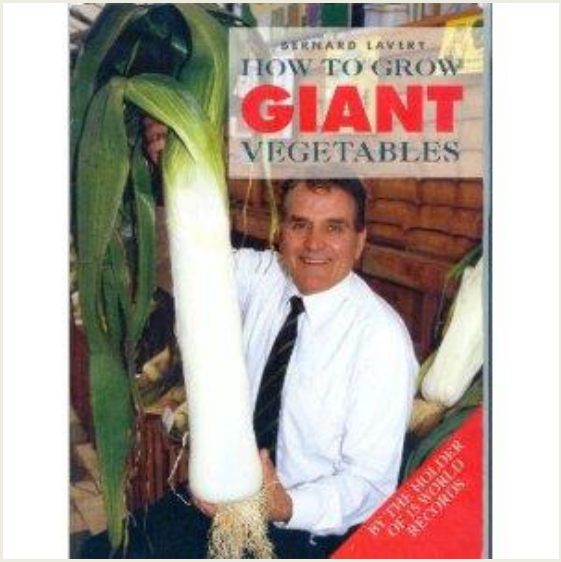
Chenopodiaceae Family

- Spinach
- Beets
- Swiss Chard

Spinach

- Fall Planting – Seed directly into the soil (1/2”) from mid August until late October.
- Spacing – in-row spacing: 6 ”; row spacing: 12” apart. Spinach should be planted on wide beds in multiple rows.
- Soils – Well-drained, sandy loam with high organic matter. Ideal pH – 6.4 -6.8.
- Plants/Seed (Certified) – Using certified seed will reduce the chance for disease, and will result in more uniform stands.
- Bolting – Typically, bolting is not a major concern in the fall.
- Overwintering – Spinach will overwinter in Bladen County. One of the hardiest leaf crops.
- Fertilization – According to Soil Report. If no soil report was performed, apply 20 lbs. of 10-10-10 (per 1,000 square feet) and incorporate into the soil (7-10 days prior to planting). Sidedress with 2 lb of 10-10-10 at 3-4 weeks (on direct seeded and transplanted plants), and then again 3 weeks later (if needed). Boron may be needed in some situations.
- Weed Management –With Spinach, light cultivation with a hoe is beneficial for de-crusting and small weed removal. Pre-emergent herbicides are recommended.
- Insect and Disease Management – Scout regularly. Insect problems tend to be more of a problem in the fall, than in the spring. Insects can be controlled with, either, a contact or a systemic insecticide. Should you notice anything more, contact Cooperative Extension.
- Harvest – (for head varieties) Harvest when mature and before leaves begin to yellow. Harvest every couple of days. Harvest by cutting the entire plant below the crown. Enjoy.

What we could all hope for…



Questions