

# 4-H Starter Garden

*A Gardening Activity for Youth & Families*



New Hanover County Cooperative Extension Service

March 2020



***Hello Gardeners!***

We are excited to provide you with a "4-H Starter Garden" activity but most of all learning about starting your own garden. You too can learn how to grow your favorite fresh vegetable. Gardens can be grown anywhere just not on farms. Community gardens, gardens in pots, gardens in a window box, or a small plot in your backyard. Let's dig in and get started!

This "4-H Starter Garden" activity is just a sample of the resources that New Hanover County 4-H has to offer. If you would like to know more about this activity, contact J. Scott Enroughty, 4-H Agent at [jsenroug@ncsu.edu](mailto:jsenroug@ncsu.edu)

**Acknowledgements**

***See Them Sprout*** 4-H curriculum created by Marta Lah, Curriculum Development Assistant, 4-H and Robert Ritchie, Purdue University Extension Curriculum Specialist, 4-H and The Garden Curriculum design team.

***Soil Solutions*** 4-H Curriculum created by North Carolina State University 4-H Plant and Soil Sciences.

Farmers Supply, Wilmington, North Carolina for helping with activity materials.

Wyatt Quarles [www.wqseeds.com](http://www.wqseeds.com) for Vegetable Planting Guide



**New Hanover County Schools Disclaimer**

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## Best Way to Start a Garden is to Plan



- Choose a location.
  - Decide how big a garden you can easily care for.
- Draw a plan of the space; it can be rectangular, square, round, or curvy.
- Make a list of the vegetables you want to grow.
- Check that what you want to grow will fit in your space. Make changes, if needed.
- In your plan, draw where you will plant each vegetable. Add planting dates. If you have the space, the best place for a garden is on level ground and in full sun.
- Most vegetables need at least six hours of direct sun every day.
- Make sure this place is well-drained. That means that puddles don't stay around for long. Plants need water, but they don't like to stand in water all the time! Would you?
- Ask an adult helper which way is north. This is useful to know because:
  - Rows that run north to south allow plants to get the most sunlight as the sun travels its east-to-west path.
  - Tall plants (such as corn, pole beans, peas, and tomatoe planted on the north side of a garden won't shade the shorter plants.

Just as sunshine is important for your garden, so is good soil. Soil provides food for plants.

### Growing vegetables is easy and fun

You can garden just about anywhere. You don't need to live in the country or have a big yard to be a gardener. You can have a productive garden right in the middle of the city, too! If you live in a house, you can probably find an area in your yard. Ask an adult helper to be sure you can garden there.

If you live in an urban area and don't have a place to plant a garden in the ground, use a container that you can set on a porch, deck, balcony, or patio. Or have a row of pots indoors on a sunny windowsill. You can grow things in planter boxes, windowsill boxes, pots, wooden barrels, bushel baskets, tubs, or just about anything you can think of. Just make sure your container has a few holes in the bottom so extra water can run out.



# Start Your Garden

## Materials for Your 4-H Starter Garden

- 3 Marigold seeds (*Crackerjack Blend*)
- 3 Tomato seeds (*Marion variety*)
- 1 pack of soil (*Will be used for both peat pots*)
- 2 peat pots: one (1) for tomato and one (1) for Marigold
- Growth Chart
- Wyatt Quarles Vegetable Planting Guide
- Plant Growth Journal Page
- North Carolina Agriculture Map



## Instructions to Starting Your Garden

Place soil in each of peat pots. Make a ¼" hole in soil and place tomato seed in one peat pot and marigold seed in the other peat pot. Cover seed with soil and water. Follow instructions listed on packets for additional instructions.

Tomato

### TOMATO MARION

**INDETERMINATE VINES** NON-GMO HEIRLOOM

*Lycopersicon esculentum*



**HISTORY:** Non-GMO American Heirloom, developed at Charleston, SC in 1960.  
**INFO:** Bright red, globe shaped fruits avg 6-8 oz each. Yields up to 10 lbs per vine.  
**TRAITS:** Highly prolific with resistance to cracking, Fusarium Wilt & grey leaf spot.  
**GROWTH:** Indeterminate vine grows up to 6' tall, requiring support from stake or cage.  
**USES:** Firm & meaty, ideal for pizzas, salads, salsas, sandwiches, baking or canning.  
**NUTRITION:** Tasty source of Folate, Lycopene, Potassium, Vitamins A, B6, C & K.  
**SPRING:** Start indoors 3-4 weeks before or outdoors 4-6 weeks after last frost.

**FROM SEED TO TABLE IN 70 DAYS**    **400MG**    **\$1.99**  
**APPROX. 100 SEEDS**    **EST. YIELD: 250+ LBS**

### Marigold

**MARIGOLD**  
**Crackerjack Blend**



Seedling

If you want a large, majestic marigold, Crackerjack is a superior blend with a mounding form, consistent height, and sturdy flower stalks. 4" blooms in tangerine orange, rich gold, and lemony yellow will brighten up your flower bed, path edges, and large container plantings. They make radiant, long-lasting cut flowers and are so easy to grow from seed. For a dazzling contrast, plant next to blue or dark purple flowers. Fairly drought tolerant. Deer and rabbit resistant.

**When to sow outside:** 1 to 2 weeks after your average last frost date, and when soil temperature is 70°-80°F.  
**When to start inside:** RECOMMENDATION: 4 to 6 weeks before your average last frost date.

**Days to Emerge:** 5 - 16 Days  
**Seed Depth:** 1/2"  
**Seed Spacing:** A group of 3 seeds every 18"  
**Thinning:** When 1" tall, thin to 1 every 18"  
**Date Seed Sown:**

Get out for plants!

**OPEN POLLINATED AND UNTREATED**



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# Plant Growth Experiment

## Group Data Collection Sheet:

Name: \_\_\_\_\_

Date: \_\_\_\_\_

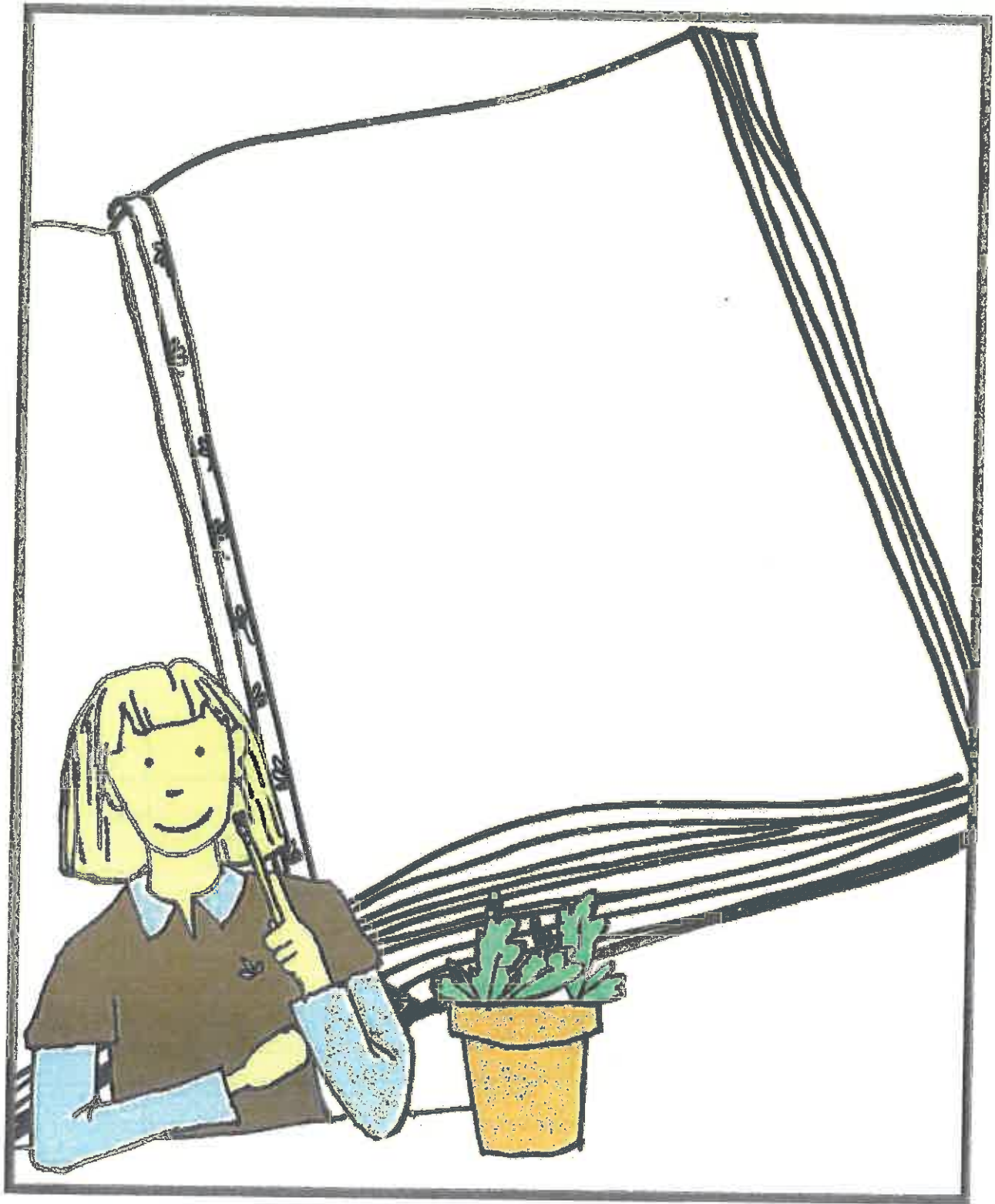
Treatment: How many fertilizer pellets did you use:

| Days | Number Seeds Germinated | Plant Height (cm) | Number of Leaves | Number of Flowers | Number of Seeds |
|------|-------------------------|-------------------|------------------|-------------------|-----------------|
| 1    |                         |                   |                  |                   |                 |
| 2    |                         |                   |                  |                   |                 |
| 3    |                         |                   |                  |                   |                 |
| 4    |                         |                   |                  |                   |                 |
| 5    |                         |                   |                  |                   |                 |
| 6    |                         |                   |                  |                   |                 |
| 7    |                         |                   |                  |                   |                 |
| 8    |                         |                   |                  |                   |                 |
| 9    |                         |                   |                  |                   |                 |
| 10   |                         |                   |                  |                   |                 |
| 11   |                         |                   |                  |                   |                 |
| 12   |                         |                   |                  |                   |                 |
| 13   |                         |                   |                  |                   |                 |
| 14   |                         |                   |                  |                   |                 |
| 15   |                         |                   |                  |                   |                 |
| 16   |                         |                   |                  |                   |                 |
| 17   |                         |                   |                  |                   |                 |
| 18   |                         |                   |                  |                   |                 |
| 19   |                         |                   |                  |                   |                 |
| 20   |                         |                   |                  |                   |                 |
| 21   |                         |                   |                  |                   |                 |
| 22   |                         |                   |                  |                   |                 |
| 23   |                         |                   |                  |                   |                 |
| 24   |                         |                   |                  |                   |                 |
| 25   |                         |                   |                  |                   |                 |
| 26   |                         |                   |                  |                   |                 |
| 27   |                         |                   |                  |                   |                 |
| 28   |                         |                   |                  |                   |                 |



# Plant Growth Journal

Name: \_\_\_\_\_





Parts Of A Plant  
And Things That  
Help It Grow



sunlight

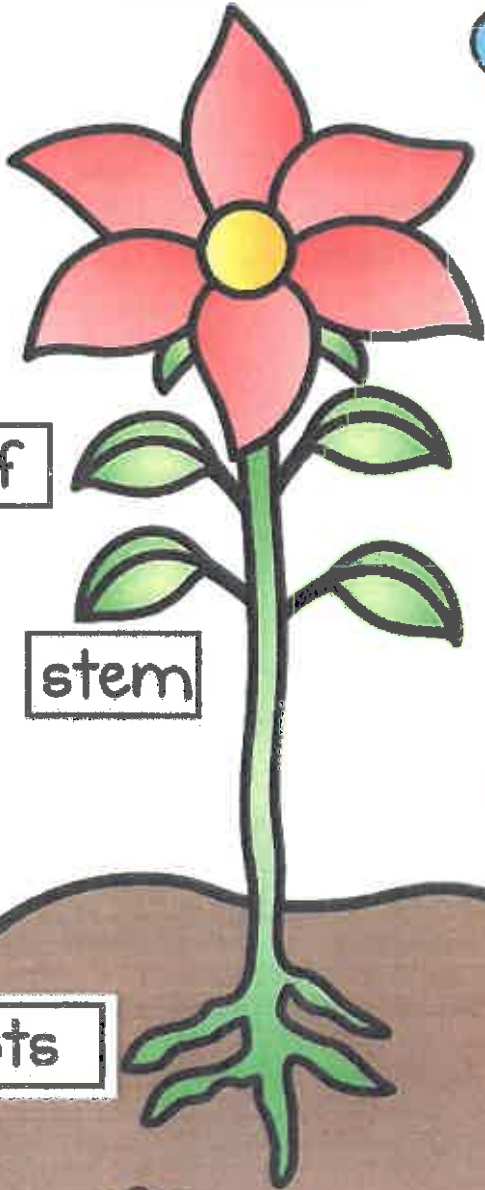
flower



water



air



leaf

stem



soil

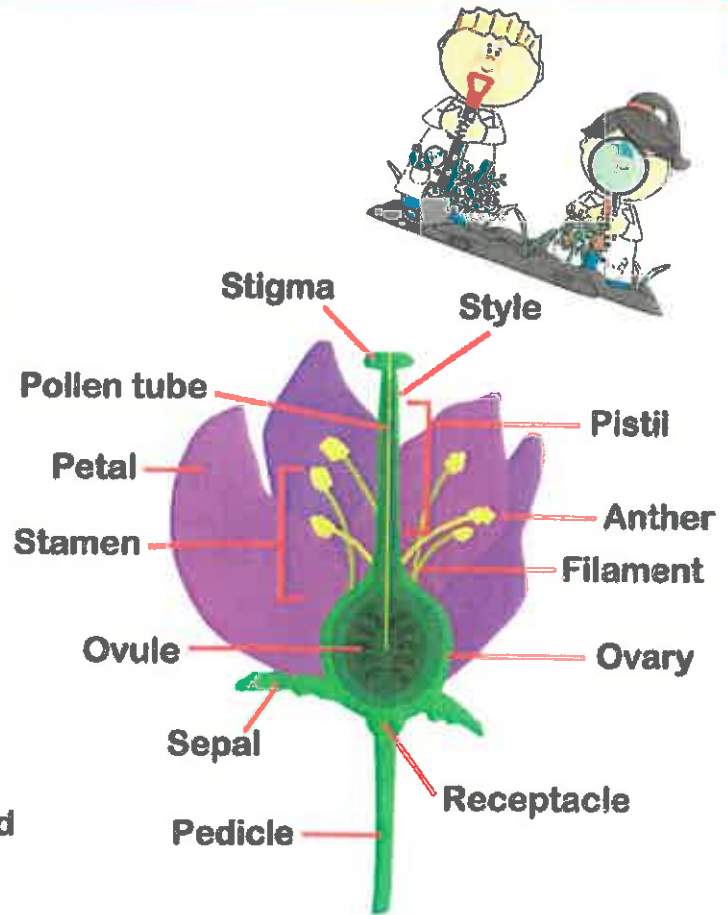
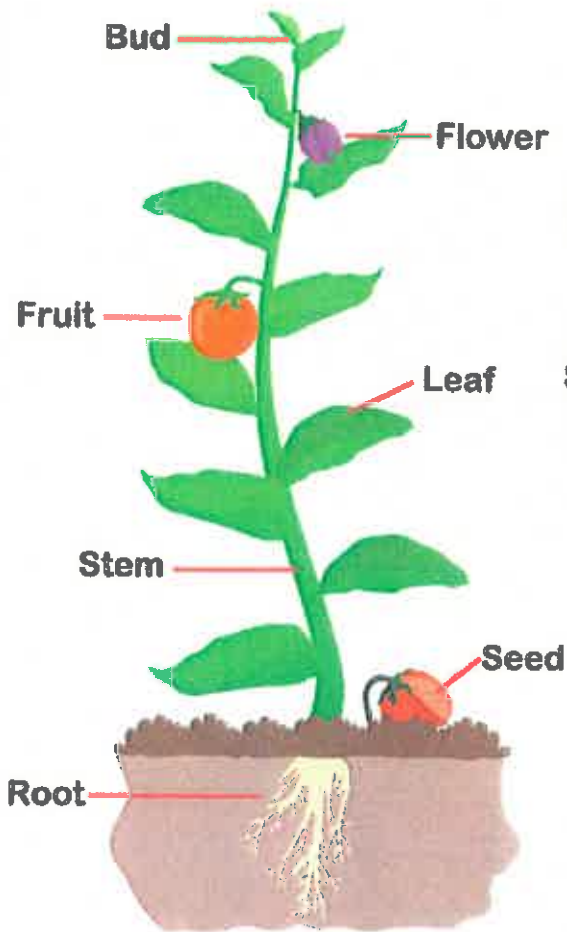


roots



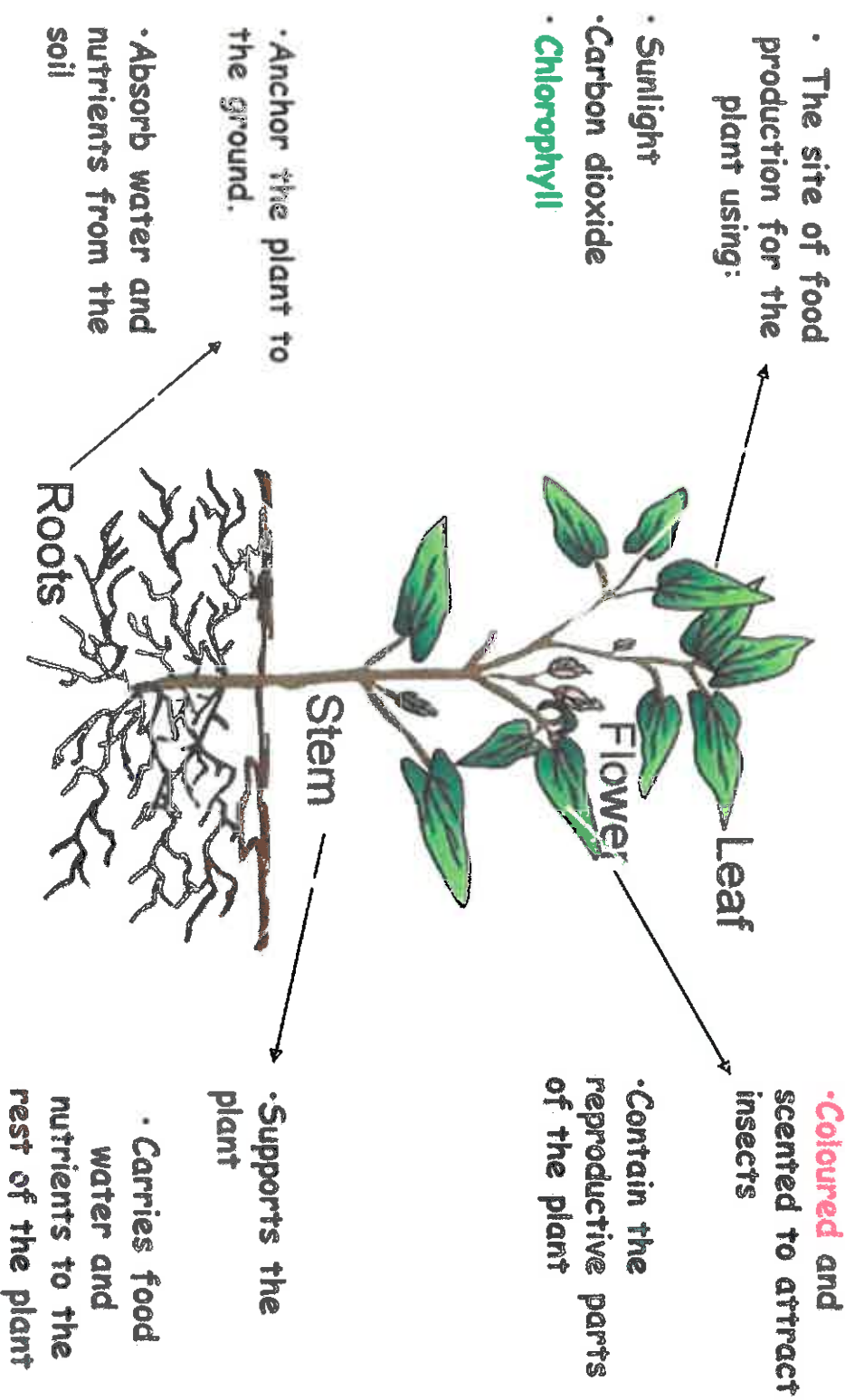


# Parts of plant and flower





# Parts of a Plant

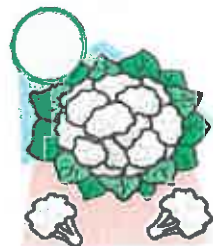
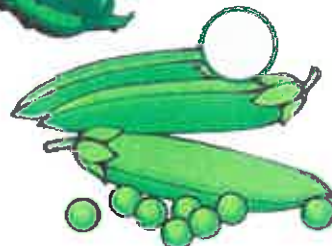
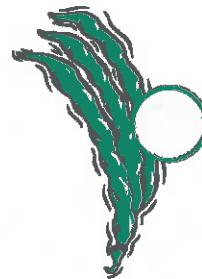
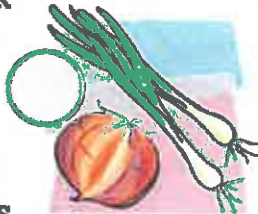
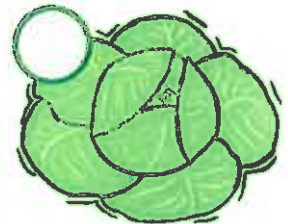
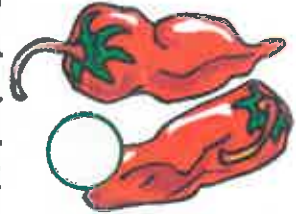


# VEGETABLES VOCABULARY WORDSEARCH PUZZLE

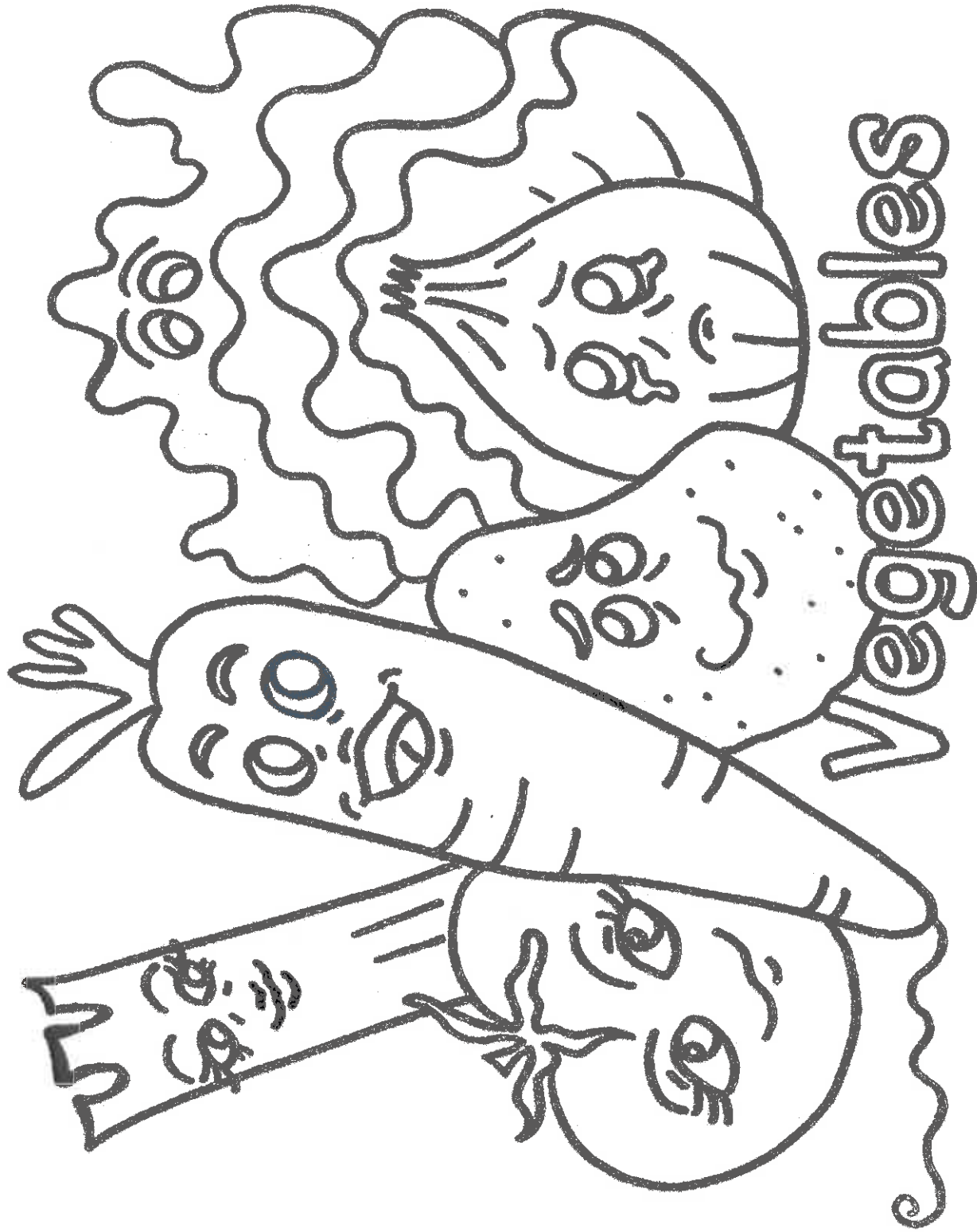
FIND AND CIRCLE THE WORDS IN THE WORDSEARCH PUZZLE AND NUMBER THE PICTURES



K A A S Y Z O I N D C L R O K  
 M W F N E C N G I O A E E G Y  
 U O P A E G I W K T U T B A H  
 Y Q C E T O O W P O L T M R S  
 I S E B O O N Z M M I U U L I  
 X J L N S T R C U A F C C I D  
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 U E H C A N I P S P Z R A I K  
 T W I Y S B R O C C O L I M F



- 1) ARTICHOKE
- 2) ASPARAGUS
- 3) BROCCOLI
- 4) CABBAGE
- 5) CARROT
- 6) CAULIFLOWER
- 7) CELERY
- 8) CUCUMBER
- 9) EGGPLANT
- 10) GARLIC
- 11) GREENBEANS
- 12) LETTUCE
- 13) ONION
- 14) PEAS
- 15) PEPPER
- 16) POTATO
- 17) PUMPKIN
- 18) RADISH
- 19) SPINACH
- 20) TOMATO



Vegetables



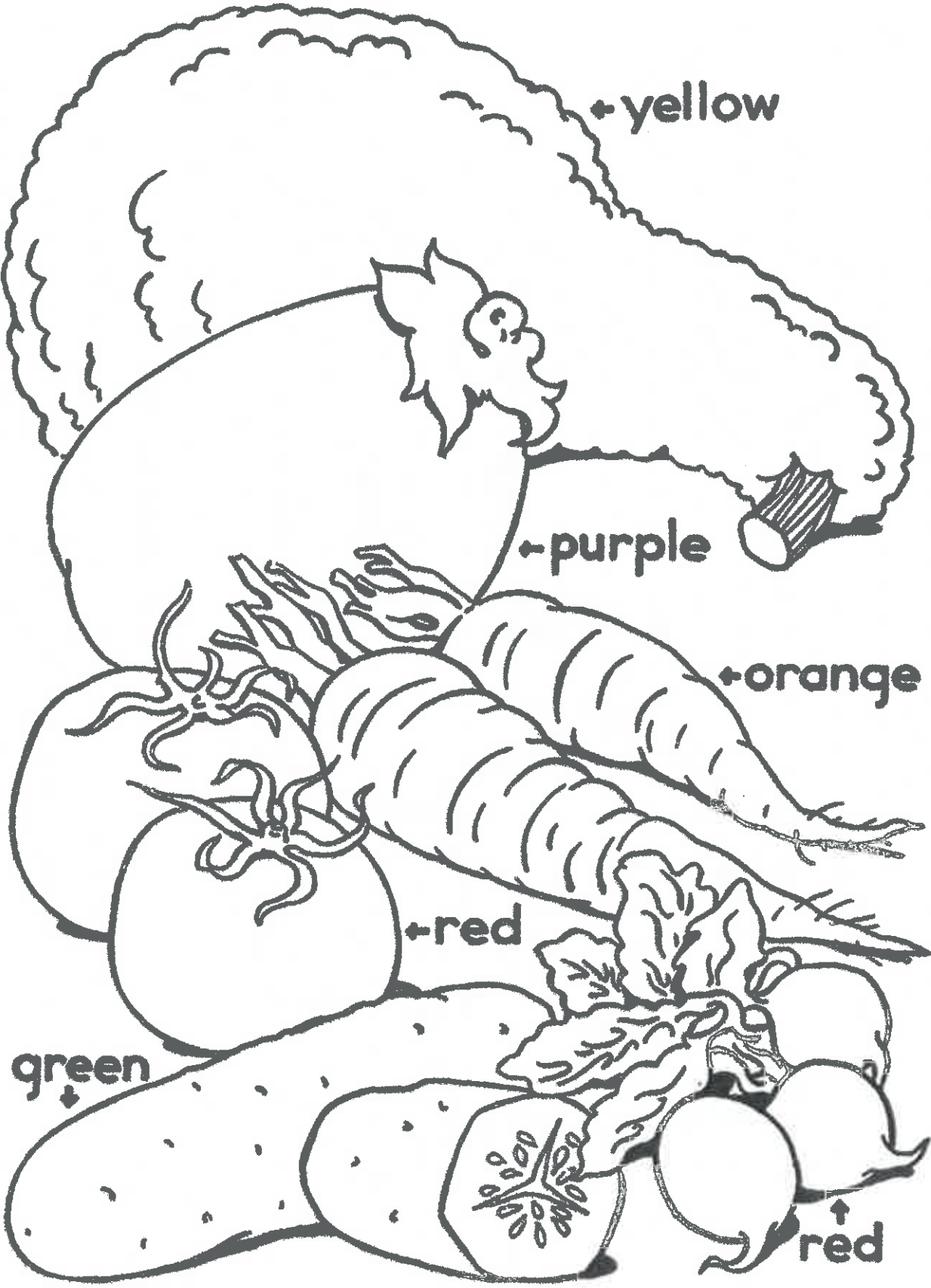
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yellow

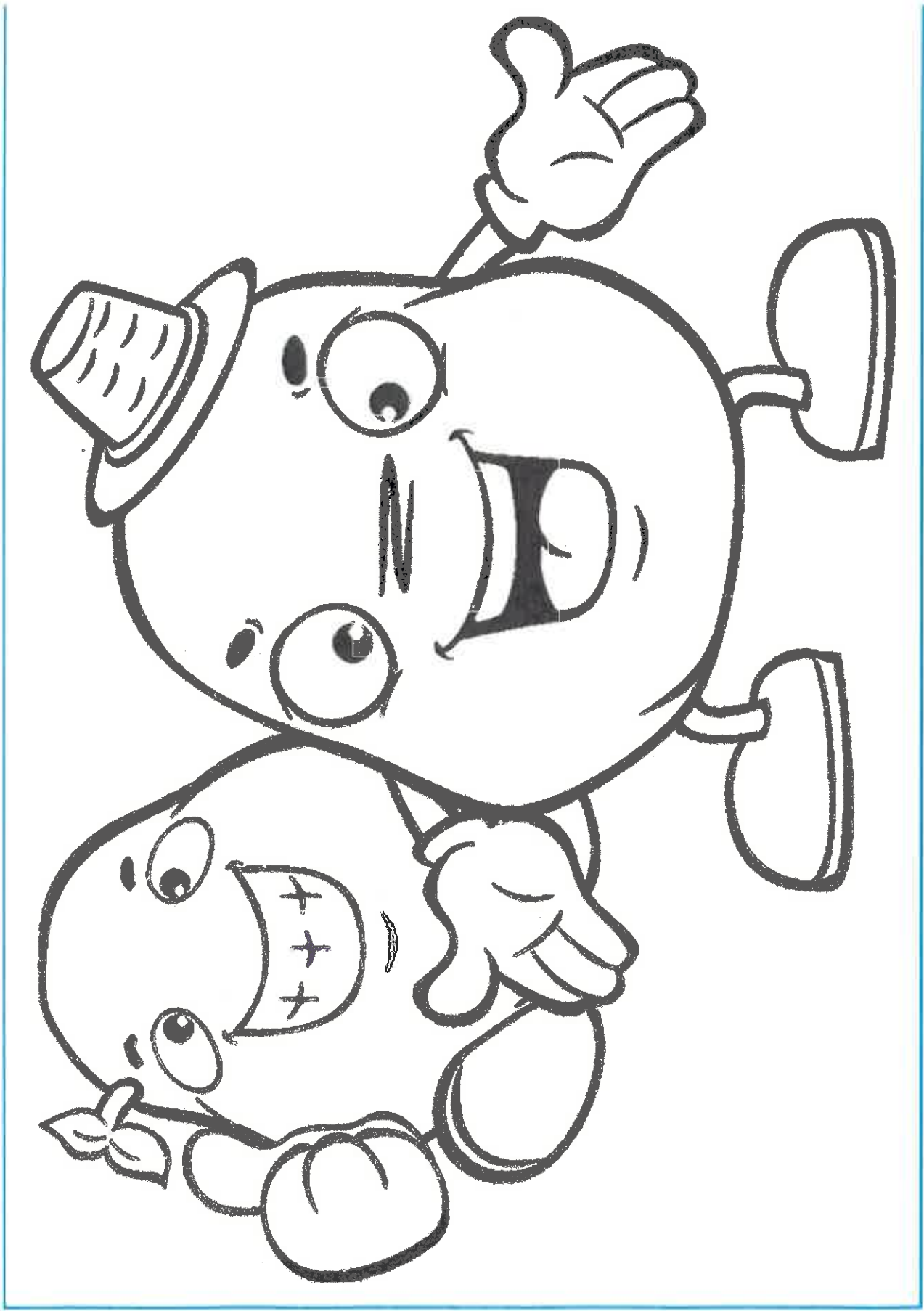
purple

orange

red

green

red





# Vegetable Planting Guide

Wyatt-Quarles Seed Company  
PO Box 739  
Garner NC 27529  
919-772-4243

| VEGETABLE<br>SEED OR PLANT | AMOUNT FOR<br>100 FT. ROW | RECOMMENDED VARIETIES  | PLANTING TIMES<br>FOR<br>N. C. PIEDMONT* | DEPTH<br>TO PLANT<br>(INCHES) | DISTANCE<br>BETWEEN<br>PLANTS | DISTANCE<br>BETWEEN<br>ROWS | BEST<br>SOIL PH | DAYS TO<br>MATURITY |
|----------------------------|---------------------------|--|--|-------------------------------|-------------------------------|-----------------------------|-----------------|---------------------|
| ASPARAGUS (roots)          | 65 roots                  | Jersey Knight  | Nov. 15 - Apr. 15                        | 2 - 6                         | 18 in.                        | 3 ft.                       | 6.0 - 7.0       | 2 years             |
| BEANS, Bush Snap           | 1 pound                   | Tenderette, Contender, Blue Lake Bush                            | Apr. 15 - July 15                        | 1 - 2                         | 4-6 in.                       | 18 - 30 in.                 | 6.0 - 6.5       | 50 - 55             |
| BEANS, Pole Snap           | ½ pound                   | Kentucky Wonder, Blue Lake                                       | Apr. 15 - July 1                         | 1 - 2                         | 6 in.                         | 3 - 4 ft.                   | 6.0 - 6.5       | 65 - 70             |
| BEANS, Bush Lima           | ½ pound                   | Early Thorngreen, Eastland, Fordhook 242, Henderson Bush         | May 1 - July 1                           | 1 - 2                         | 6 in.                         | 24 - 30 in.                 | 5.5 - 6.5       | 65 - 80             |
| BEANS, Pole Lima           | ½ pound                   | Carolina Sieva   | May 1 - June 15                          | 1 - 2                         | 6 in.                         | 30 - 36 in.                 | 5.5 - 6.5       | 75 - 95             |
| BEET                       | 1 oz.                     | Detroit Dark Red   | Feb. 15 - Apr. 1;<br>Aug. 1 - Sept. 1    | ½ - 1                         | 2 in.                         | 12 - 18 in.                 | 6.0 - 6.5       | 55 - 60             |
| BROCCOLI (plants)          | 65 plants                 | Italian Green Sprouting, Premium Crop                            | Feb. 15 - Mar. 15;<br>July 15 - Aug. 15  | 1 - 2                         | 18 in.                        | 24 - 30 in.                 | 6.0 - 6.5       | 70 - 80             |
| BROCCOLI (seeds)           | ½ oz.                     | Italian Green Sprouting, Salad, Premium Crop                     | Dec. 1 - Mar. 15;<br>July 1 - Sept. 1    | ½                             | 18 in.                        | 24 - 30 in.                 | 6.0 - 6.5       | 80 - 85             |
| BRUSSEL SPROUTS            | ½ oz.                     | Long Island Improved   | July 15 - Aug. 1                         | ½                             | 14 - 18 in.                   | 24 - 30 in.                 | 6.0 - 7.0       | 90 - 100            |
| CABBAGE (plants)           | 100 plants                | Early Jersey Wakefield, Stonehead Hybrid, All Seasons            | Feb. 1 - April 1;<br>Aug. 1 - Sept. 1    | 2 - 4                         | 12 in.                        | 24 - 30 in.                 | 6.0 - 6.5       | 63 - 75             |
| CABBAGE (seeds)            | ½ oz.                     | Early Jersey Wakefield, Stonehead Hybrid, All Seasons            | Dec. 1 - Mar. 15;<br>July 1 - Sept. 1    | ½                             | 12 in.                        | 24 - 30 in.                 | 6.0 - 6.5       | 90 - 120            |
| CANTALOUPE                 | ½ oz.                     | Edisto 47, Burpee Hybrid, Hales Jumbo                            | Apr. 20 - June 10                        | ½ - 1                         | 2 ft.                         | 4 - 6 ft.                   | 6.0 - 6.5       | 85 - 90             |
| CARROT                     | ½ oz.                     | Danvers Half Long, Emperor                                       | Feb. 1 - Mar. 1;<br>July 15 - Aug. 15    | ½                             | 2 in.                         | 14 - 24 in.                 | 6.0 - 6.5       | 75 - 80             |
| CAULIFLOWER (plants)       | 65 plants                 | Snowball   | Mar. 1 - Mar. 15;<br>July 1 - Aug. 15    | 1 - 2                         | 18 in.                        | 30 - 36 in.                 | 5.8 - 6.5       | 55 - 65             |
| CAULIFLOWER (seeds)        | ½ oz.                     | Snowball   | Feb. 1 - Mar. 1;<br>June 1 - July 1      | ½                             | 18 in.                        | 30 - 36 in.                 | 5.8 - 6.5       | 85 - 95             |
| COLLARDS                   | ½ oz.                     | Vates, Morris Improved Heading, Georgia                          | July 15 - Aug. 15                        | ½                             | 18 in.                        | 24 - 30 in.                 | 6.0 - 6.5       | 90 - 120            |
| CORN, Sweet                | 4 oz.                     | Silver Queen (white), Kandy Korn (yellow), Golden Queen (yellow) | Apr. 15 - June 1                         | 1 - 2                         | 12 in.                        | 30 - 36 in.                 | 5.5 - 6.5       | 85 - 90             |
| CHINESE CABBAGE            | ½ oz.                     | Michihii   | Aug. 15 - Sept. 1                        | ½                             | 12 in.                        | 18 - 24 in.                 | 6.0 - 7.0       | 75 - 85             |
| CUCUMBER, Slicing          | ½ oz.                     | Ashley, Poinsett 76, Hybrid Sweet-Slice                          | Apr. 20 - May 15                         | 1                             | 12 in.                        | 4 - 6 ft.                   | 6.0 - 6.5       | 60 - 65             |
| CUCUMBER, Pickling         | ½ oz.                     | Early Green Cluster, National Pickling                           | Apr. 20 - May 15                         | 1                             | 12 in.                        | 4 - 6 ft.                   | 6.0 - 6.5       | 56 - 60             |
| EGGPLANT                   | 65 plants                 | Black Beauty   | May 1 - June 30                          | ½                             | 18 in.                        | 3 ft.                       | 6.0 - 7.0       | 80 - 85             |
| ENDIVE                     | 1 oz.                     | Green Curled   | Feb. 1 - Mar. 15;<br>Aug. 15 - Sept. 15  | ½                             | 12 in.                        | 12 - 24 in.                 | 6.0 - 7.0       | 80 - 90             |
| KALE                       | ½ oz.                     | Dwarf Curled Scotch, Early Siberian                              | Feb. 15 - Apr. 1;<br>Aug. 15 - Sept. 15  | ½                             | 2 in.                         | 18 - 24 in.                 | 6.0 - 7.0       | 50 - 60             |

| VEGETABLE<br>SEED OR PLANT | AMOUNT FOR<br>100 FT. ROW | RECOMMENDED VARIETIES  | PLANTING TIMES<br>FOR<br>N. C. PIEDMONT* | DEPTH<br>TO PLANT<br>(INCHES) | DISTANCE<br>BETWEEN<br>PLANTS | DISTANCE<br>BETWEEN<br>ROWS | BEST<br>SOIL pH | DAYS TO<br>MATURITY |
|----------------------------|---------------------------|--|--|-------------------------------|-------------------------------|-----------------------------|-----------------|---------------------|
| KOHLRABI                   | ½ oz.                     | White Vienna   | Feb. 15 - Apr. 15;<br>Aug. 1 - Sept. 15  | ½                             | 4 in.                         | 18 - 24 in.                 | 6.0 - 7.0       | 55 - 60             |
| LEEK                       | 1 oz.                     | Large Flag   | Sept. 1 - Sept. 30                       | ½                             | 4 in.                         | 12 - 18 in.                 | 6.0 - 7.0       | 120 - 150           |
| LETTUCE, Leaf              | ½ oz.                     | Saled Bowl, Buttercrunch, Black Seeded Simpson                                     | Feb. 15 - Apr. 1;<br>Aug. 15 - Sept. 15  | ½ - ¾                         | 4 in.                         | 12 - 18 in.                 | 6.0 - 6.7       | 45 - 50             |
| LETTUCE, Head              | ½ oz.                     | Great Lakes, Iceberg   | Feb. 15 - Mar. 15                        | ½ - ¾                         | 12 in.                        | 18 - 24 in.                 | 6.0 - 6.7       | 75 - 85             |
| MUSTARD                    | ½ oz.                     | Southern Giant Curled, Tendergreen, Florida Brocdeleaf, Old Fashion                | Feb. 1 - Apr. 1;<br>Aug. 1 - Sept. 15    | ½                             | 2 in.                         | 12 - 18 in.                 | 6.0 - 7.0       | 30 - 40             |
| OKRA                       | 2 oz.                     | Clemson Spineless, Perkins Long Pod  | May 1 - June 1                           | 1                             | 12 in.                        | 28 - 36 in.                 | 5.5 - 6.5       | 50 - 60             |
| ONION (sets)               | 1 quart                   | Silver Skin, Yellow Danvers  | Feb. 1 - Mar. 15;<br>Sept. 1 - Oct. 15   | 1 - 2                         | 4 in.                         | 12 - 24 in.                 | 6.0 - 6.5       | 60 - 80             |
| PEAS, Garden               | 1 pound                   | Super Sugar Snap (edible pod), Early Alaska, Wando, Laxton's Progress, Green Arrow | Feb. 1 - Mar. 1                          | 2                             | 2 - 3 in.                     | 18 - 30 in.                 | 6.0 - 6.5       | 65 - 70             |
| PEAS, Field (cowpeas)      | ½ pound                   | Dixielee, Mississipp; Silver, Queen Anne, Browneye Six Week, Pinkeye Purple Hill   | Apr. 15 - July 1                         | 1 - 2                         | 4 in.                         | 36 - 42 in.                 | 5.5 - 6.5       | 55 - 65             |
| PEPPER, Sweet              | 65 plants                 | California Wonder, Banana, Keystone GL   | May 1 - May 30                           | ½                             | 16 in.                        | 3 ft.                       | 6.0 - 6.5       | 75 - 80             |
| PEPPER, Hot                | 65 plants                 | Long Red Cayenne, Jalapeno M   | May 1 - May 30                           | ½                             | 18 in.                        | 3 ft.                       | 6.0 - 6.5       | 75 - 80             |
| POTATO, Irish              | 120 plants                | Kennebec, Pontiac  | Mar. 1 - May 15                          | 4 - 6                         | 10 in.                        | 36 - 42 in.                 | 4.8 - 5.4       | 100 - 120           |
| POTATO, Sweet              | 100 plants                | Puerto Rico, Centennial Jewel  | May 15 - June 15                         | 3 - 6                         | 12 in.                        | 36 - 42 in.                 | 5.4 - 6.0       | 105 - 135           |
| PUMPKIN                    | ½ oz.                     | Mammoth Gold, Sugar or Pie, Big Max  | June 15 - July 15                        | 1 - 2                         | 4 ft.                         | 6 - 10 ft.                  | 6.0 - 6.5       | 115 - 120           |
| RADISH                     | 1 oz.                     | Early Scarlet Globe, Cherry Belle, White Egg                                       | Feb. 1 - Apr. 15;<br>Aug. 1 - Sept. 15   | ½                             | 1 in.                         | 6 - 12 in.                  | 6.0 - 7.0       | 20 - 25             |
| RUTABAGA                   | ½ oz.                     | American Purple Top  | Feb. 1 - Apr. 1;<br>Aug. 1 - Aug. 15     | ½                             | 4 in.                         | 18 - 24 in.                 | 6.0 - 7.0       | 90                  |
| SPINACH,                   | 1 oz.                     | Dark Green Bloomsdale, Hybrid 7  | Feb. 1 - Mar. 15;<br>Aug. 1 - Sept. 1    | ½                             | 4 in.                         | 12 - 14 in.                 | 5.6 - 6.0       | 45 - 50             |
| SPINACH, New Zealand       | 1 oz.                     | New Zealand  | Mar. 15 - Apr. 30                        | 1                             | 12 in.                        | 24 in.                      | 6.0 - 6.5       | 65 - 60             |
| SQUASH, Summer             | ½ oz.                     | Early Summer Crookneck, Goldbar, Zucchini, Early Prolific Straightneck             | Apr. 15 - May 15                         | 1                             | 2 ft.                         | 3 - 5 ft.                   | 5.5 - 6.5       | 50 - 60             |
| SQUASH, Winter             | ½ oz.                     | Waltham Butternut  | Apr. 15 - May 15                         | 1                             | 4 ft.                         | 8 - 10 ft.                  | 6.0 - 6.5       | 85 - 95             |
| TOMATO                     | 50 plants                 | Homestead, Marion, Better Boy, Big Beef  | Apr. 10 - July 15                        | ½ - ¾                         | 2 ft.                         | 3 - 5 ft.                   | 6.0 - 6.5       | 75 - 85             |
| TURNIP                     | ½ oz.                     | Purple Top White Globe, Seven Top (greens only), Just Right Hybrid                 | Feb. 1 - Apr. 15;<br>Aug. 1 - Sept. 15   | ½                             | 2 in.                         | 15 - 18 in.                 | 6.0 - 7.0       | 55 - 60             |
| WATERMELON                 | 1 oz.                     | Congo, Charleston Gray #133, Crimson Sweet, Jubilee                                | Apr. 15 - June 1                         | 1                             | 3 ft.                         | 5 - 8 ft.                   | 5.8 - 6.2       | 90 - 100            |

\*In Mountain area, delay spring planting date 2-3 weeks; plant 2-3 weeks earlier in Fall. In the lower Coastal Plain, plant 2-3 weeks earlier in Spring and delay Fall planting 2-3 weeks. In Virginia, delay spring planting date 2-3 weeks; plant 2-3 weeks earlier in Fall. In South Carolina, plant 2-3 weeks earlier in Spring and delay Fall planting 2-3 weeks.