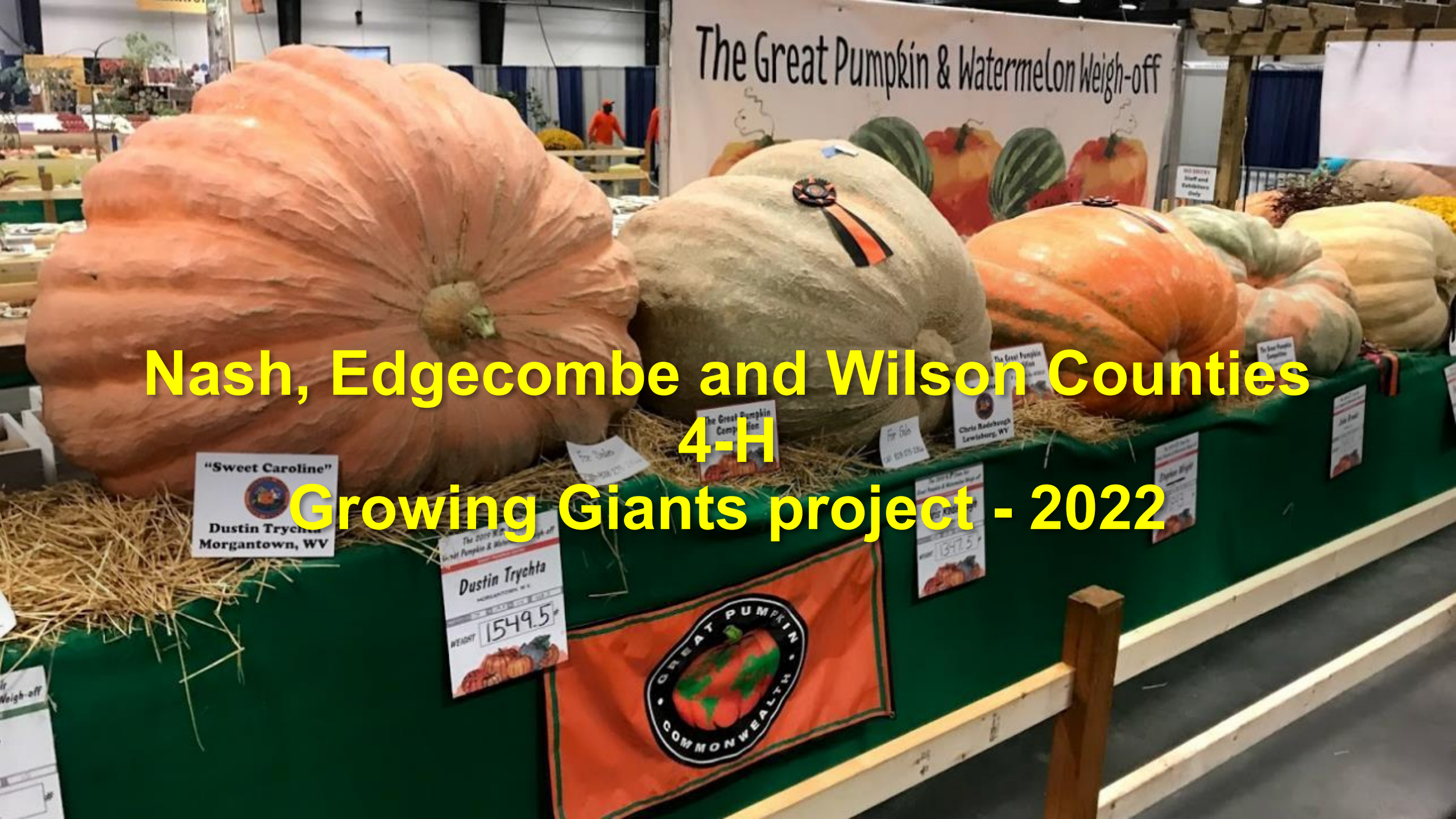


Nash, Edgecombe and Wilson Counties 4-H Growing Giants project - 2022

NCDA&CS Agronomic Division | Phone: (919) 733-2655 | Website: www.ncagr.gov/agronomi/ | Report No. FY22-SL030290

Predictive

Soil Report

Mehlich-3 Extraction

Links to Helpful Information

Client: Tommy Batts
6537 Good News Church Rd
Wilson, NC 27893

Sampled County : Wilson

Client ID: 529091

Advisor: Wilson CES / HOUSE
ACCT
1806 Goldsboro St SW
Wilson, NC 27893

Advisor ID: 402521

Sampled: 03/28/2022 **Received:** 04/01/2022 **Completed:** 04/08/2022 **Farm:**

Sample ID: PumpK

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 - Squash/Pumpkin	0.6	90-120	0	150	0	20	0	0	0	0	Note: 6
2 -	0.0										

Test Results [units - W/V in g/cm^3; CEC and Na in meq/100 cm^3; NO_3-N in mg/dm^3]: **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
0.46	1.21	4.1	67	1.4	5.5	205	31	53	11	19	81	59		365	365	102	0.0			

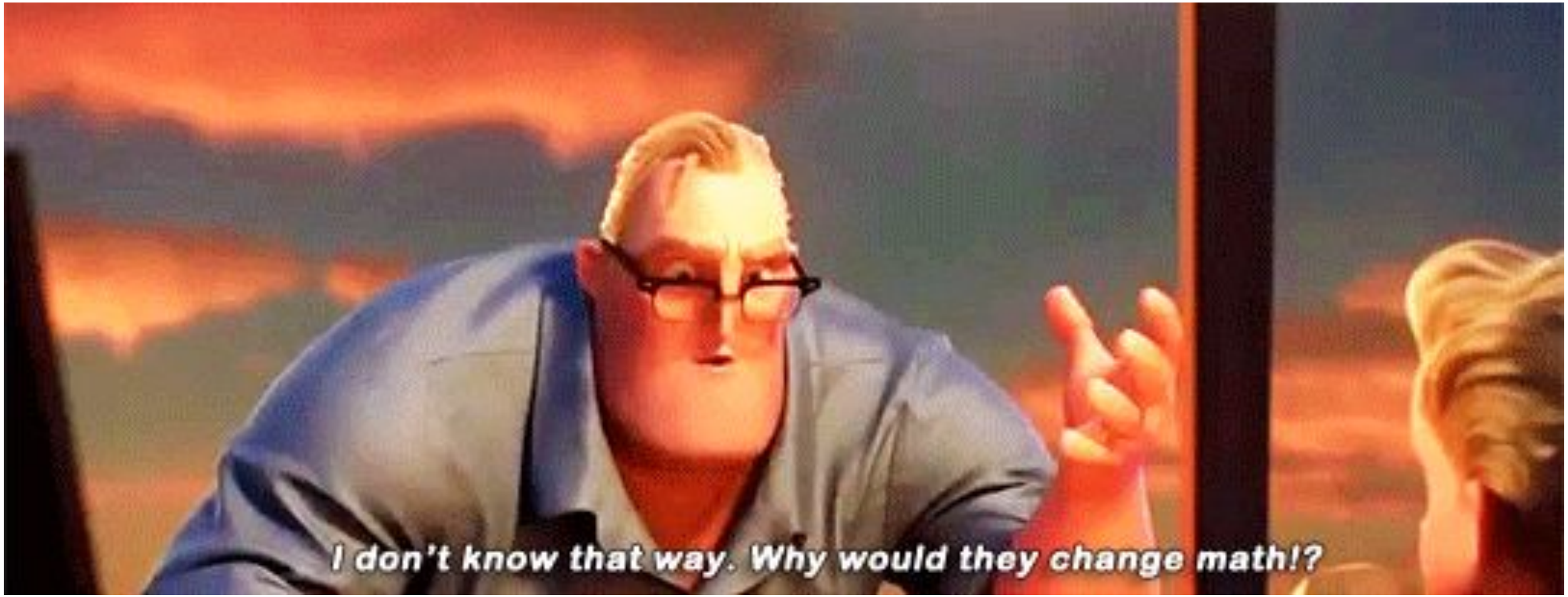
Sample ID: WATER

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 - Cantaloupe/Melons	0.6	60-80	0	150	0	20	0	0	0	1.0	Note: 6
2 -	0.0										

Test Results [units - W/V in g/cm^3; CEC and Na in meq/100 cm^3; NO_3-N in mg/dm^3]: **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
0.46	1.21	4.0	65	1.4	5.5	194	31	50	11	14	83	60		371	371	93	0.0			


I don't know that way. Why would they change math!?

Lime & Fertilizer Calculations

Draw your Pumpkin/Watermelon Patch*:

*Include measurements

How many acres? _____ (Length) x _____ (width) = _____ft^2/ 43,560 = _____ Acres/patch

Lime Calculations

Amount needed from soil report: _____ tons/Acre

_____ tons/Acre x _____ Acres/patch = _____ tons/patch

_____tons/patch x 2,000 lb/ton = _____lb/patch

Fertilizer Calculations:

Fertilizer Composition: ____-____-____ ÷ 100 = ____-____-____ (decimal form)

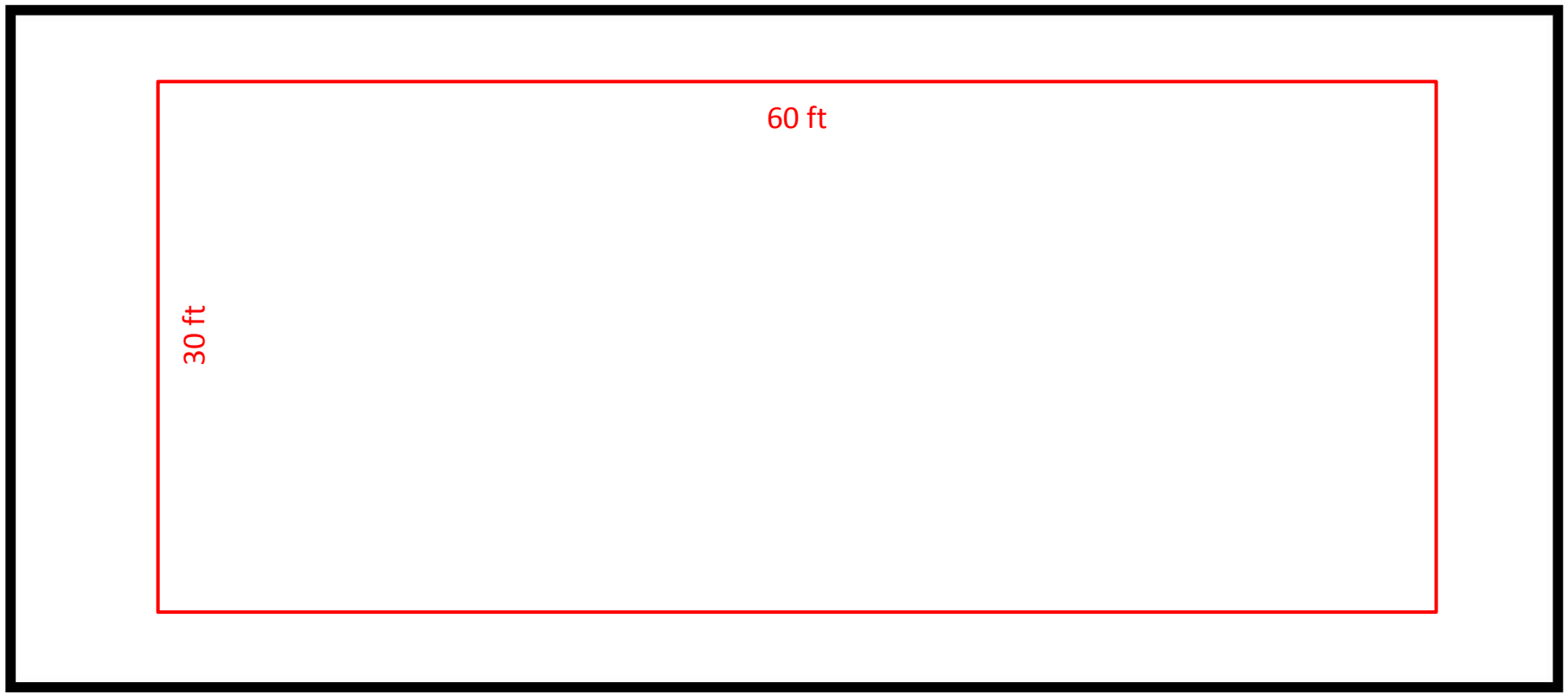
Amount of ____Nutrient needed: _____units of __/Acre

_____ units of __/Acre x _____Acres/patch = _____units of __/patch

_____units of __/patch ÷ _____ Fert Comp (decimal) = _____ lb Fert/patch

Lime & Fertilizer Calculations

Draw your Pumpkin/Watermelon Patch*:



*Include measurements

How many acres? 30 (Length) x 60 (width) = 1800 ft^2/ 43,560 = 0.04 Acres/patch

NCDA&CS Agronomic Division Phone: (919) 733-2655 Website: www.ncagr.gov/agronomi/ Report No. FY22-SL030290

Predictive

Soil Report

Mehlich-3 Extraction

Links to Helpful Information

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Sampled County : Wilson

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Lime History:

Recommendations:

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0.46	1.21	4.0	65	1.4	5.5	194	31	50	11	14	83	60		371	371	93	0.0			

Lime Calculations

Amount needed from soil report: 0.6 tons/Acre

0.6 tons/Acre x 0.04 Acres/patch = 0.025 tons/patch

0.025 tons/patch x 2,000 lb/ton = 49.6 lb/patch

Lime Notes

It would be very beneficial to add lime and then mix into soil with disc/tiller.

This gets the lime into the soil profile where it can start to work.

Macronutrients - Primary

- The **primary nutrients** are
  - **Nitrogen**
  - **Phosphorus**
  - **Potassium**
- These are the nutrients referred in a fertilizer analysis.
  - Example: An 8 - 8 - 24 fertilizer is 8% Nitrogen, 8% Phosphorus, and 24% Potassium

NCDA&CS Agronomic Division | Phone: (919) 733-2655 | Website: www.ncagr.gov/agronomi/ | Report No. FY22-SL030290

Predictive

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Links to Helpful Information

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6537 Good News Church Rd
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0.46	1.21	4.0	65	1.4	5.5	194	31	50	11	14	83	60		371	371	93	0.0			

Fertilizer Calculations:

Fertilizer Composition: 8 - 8 - 24 ÷ 100 = 0.08 - 0.08 - 0.24 (decimal form)

Amount of K Nutrient needed: 150 units of K /Acre

150 units of K /Acre x 0.04 Acres/patch = 6 units of K /patch

6 units of K /patch ÷ 0.24 Fert Comp (decimal) = 25 lb Fert/patch

What this means:
You are spreading 0.014 lb/square foot.
If you double this, you will put out a total amount of 100 units N-100 units P- 300 units K**/Acre**

Fertilizer Placement

- Broadcast (spread over entire area)
  - Easiest
  - “feeding” weeds

- Sidedress (put right by the plant)
  - Plant gets all the food
  - Can cause fertilizer burn (salt injury)

Pests and their Management

Weeds

Start Clean

- Mechanical
  - Till area where plants will go
- Chemical
  - Roundup
  - Be careful with residual herbicides as some can injure plants

Stay Clean

- Mechanical
  - Hand weeding
- Chemical
  - selective herbicides for grasses
  - not many options for broadleaf weeds

Insect management

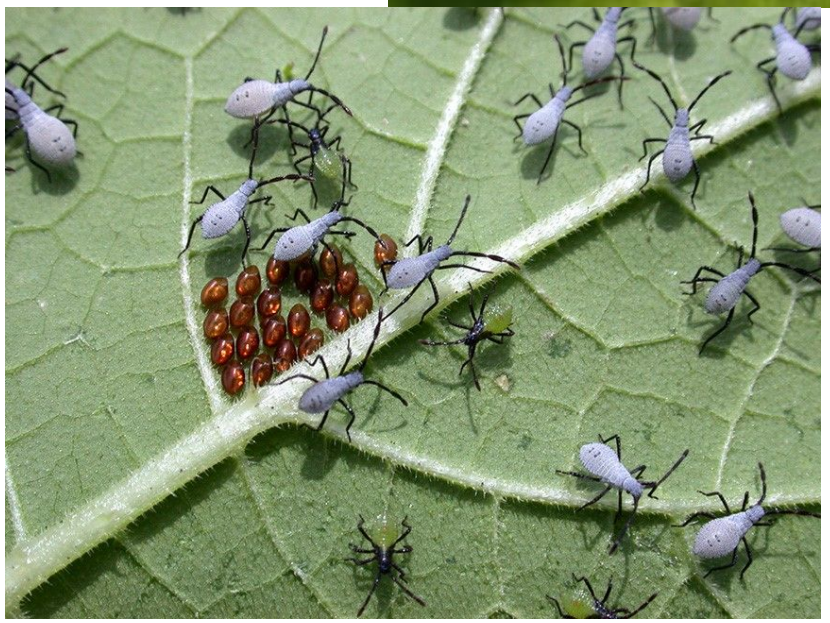
- Shortly after planting, you will want to get a pesticide application down
- Pumpkins are very prone
  - cucumber beetles
  - Squash bugs
  - Squash vine borer

Cucumber Beetle

- Adults do most of the damage
- Striped and Spotted
- Damage appears tan and splotchy
- Can be vectors of a few mosaic viruses, which can impede pumpkin/melon growth
- Control Options
  - Pyrethroid (3)- Brigade, Baythroid, etc.
  - Neo-Nic (4A)-Admire

Squash Bug

- Same family as stink bugs
- Brown, wings fold to make an X on the back
- Lays cluster of brown eggs on underside of leaves
- Eat using a straw, does not chew
- Can vector diseases
- Control Options
  - Pyrethroid (3)- Brigade, Baythroid, etc.
  - Neo-Nic (4A)-Admire



Squash Vine Borer

- Caterpillar and moth
- Usually see these more in home gardens as opposed to commercial plantings
- Control Options
  - manually remove adults
  - pyrethroid (Group 3 insecticides;Brigade, Baythroid,etc); spinosad
  - apply these at dusk, when no bees are out

Mosaic Virus and Bacterial Wilt

https://www.almanac.com/sites/default/files/styles/landscape/public/images/mosaic-virus-on-squash.JPG?itok=7360I0pL

https://extension.umn.edu/sites/extension.umn.edu/files/Pumpking_field_bactierial_wilt.jpg

Treatment recommendations

- Follow all label instructions!
- Contact vs systemic
- For best results, a weekly application may be necessary to keep insects under control.
  - After 1st bloom, make insecticide applications at dusk
- It is important to rotate key ingredient pesticides to prevent pest resistance.
- Be advised, Spinosad only works on squash vine borer

Giant pumpkin timeline

- A rough timeline for growing a giant pumpkin is as follow
- Day 0-50
  - Germination to full vegetative stage
- Day 50-150
  - Pollination to harvest
  - The pumpkin itself can grow 100 days after pollination

Seed starting

- Plan to start seeds late April for early May planting
- Carefully file the edges of the seed and soak overnight in water
- Add 10% hydrogen peroxide

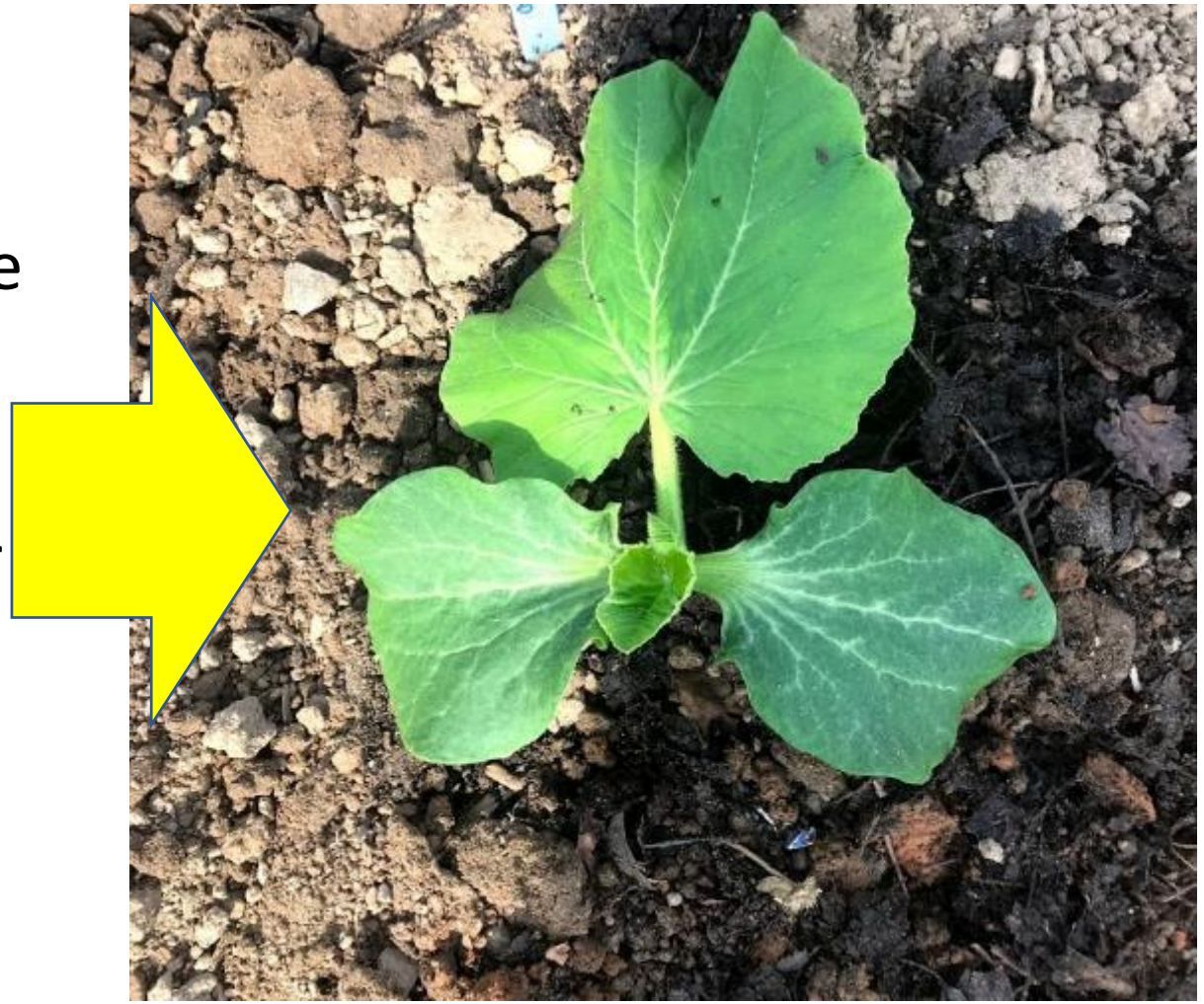
Germination

- After soaking, plant seed in a sterile potting mix
- Container size should be 4” or so at least
- Keep soil moist
- Best to germinate at 85-90 degrees
- Seeds will germinate in 3-5 days
- Plant will quickly fill the container

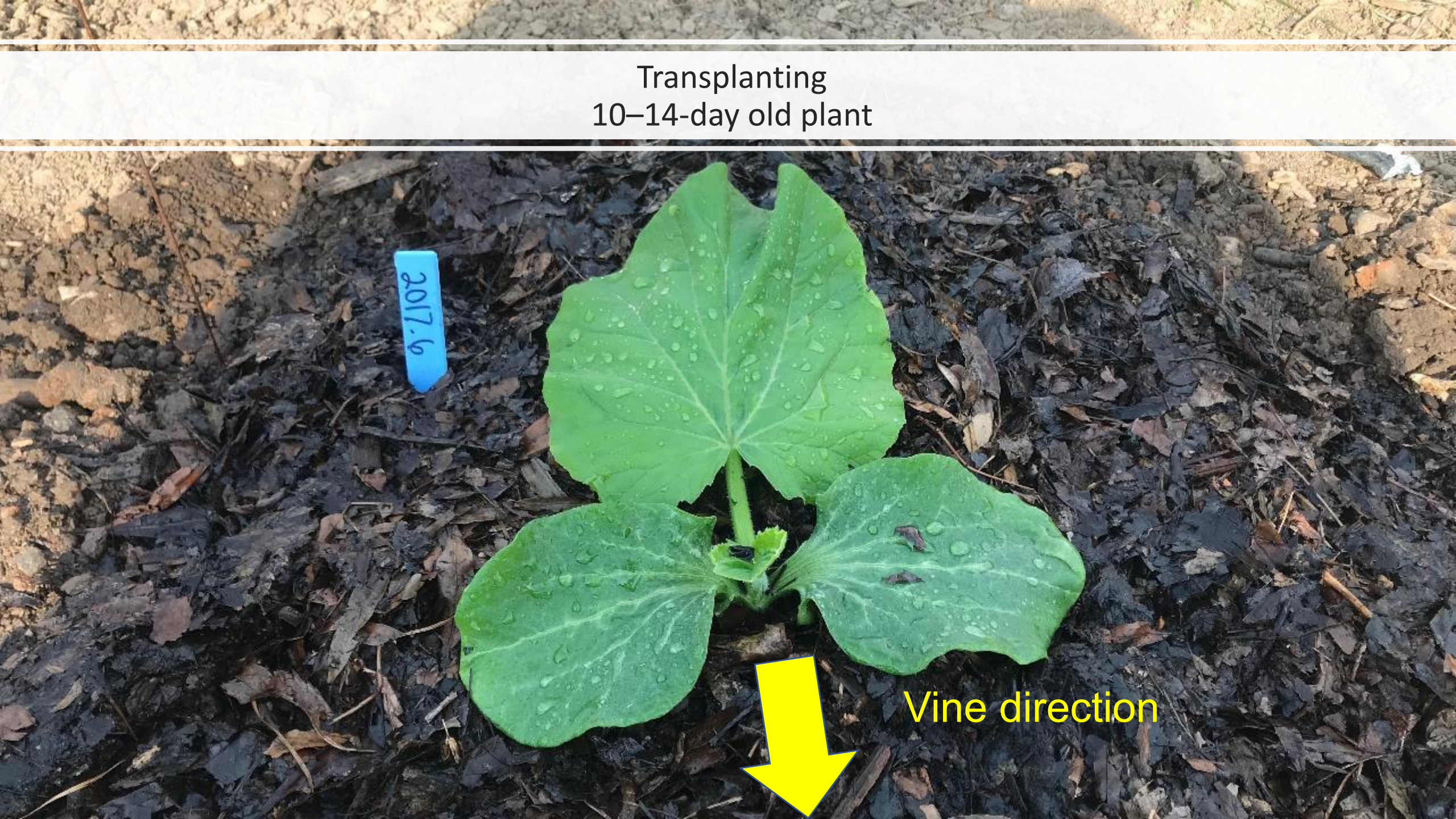
4005

Transplanting

- Transplant pumpkin at this seedling stage
- Add any desired amendments to the planting hole
- Plant seedling up to the cotyledons
- Secure plant in the event of wind or sudden frost warnings



Transplanting
10–14-day old plant



Vegetative stage

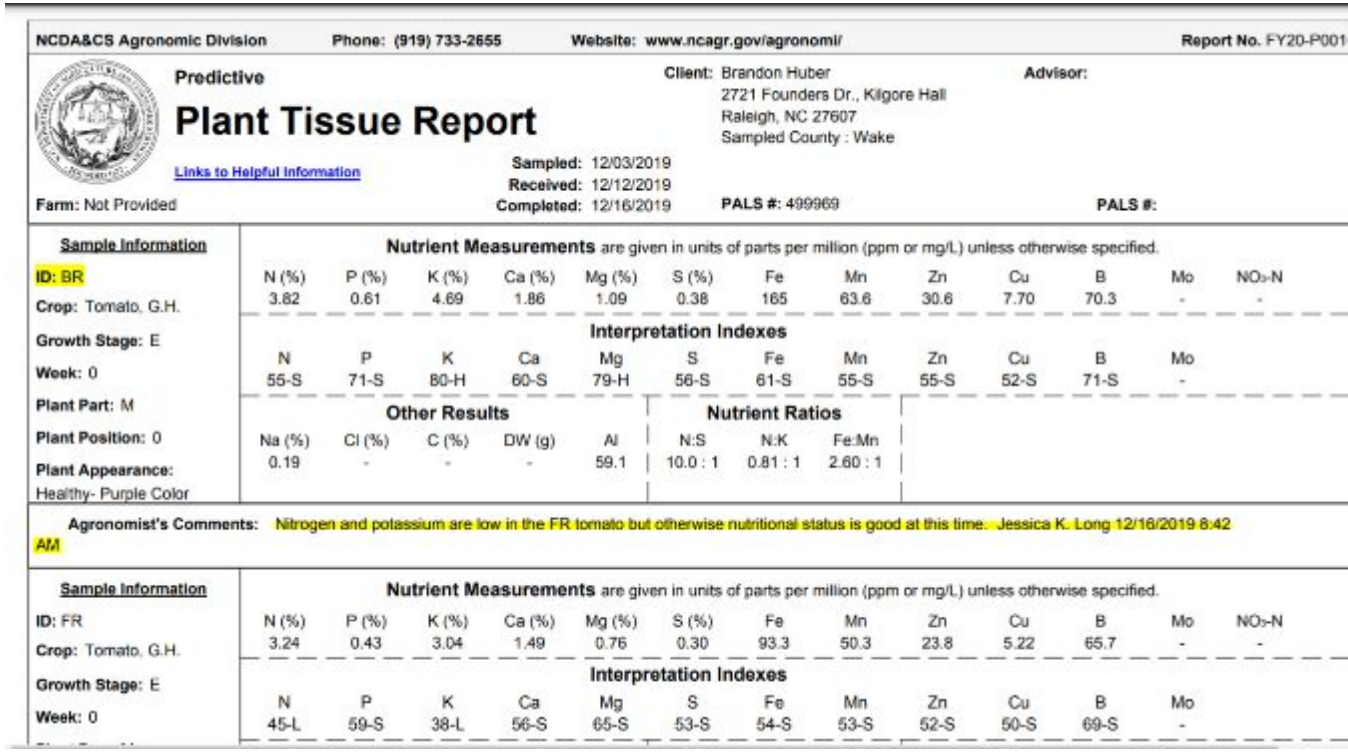
- Continue to monitor growth and plant appearance
- Regular watering
- Fertilizer weekly

More on watering

- Best to water daily when sunny and dry
- Important to water thoroughly and evenly across the plant
- Avoid overhead watering in the late afternoon to prevent disease issues
- Overhead sprinklers can help cool plant in the south
- Avoid excess water near the stump

Tissue sample

- Tissue testing can provide insight on your plant's current nutrient status
- Many growers check routinely to ensure levels are adequate
- This can be especially helpful if you suspect a nutrient deficiency or toxicity
- NCDA does leaf tissue testing



NCDA&CS Agronomic Division Phone: (919) 733-2655 Website: www.ncagr.gov/agronomi/ Report No. FY20-P001

Predictive

Plant Tissue Report

Links to Helpful Information

Client: Brandon Huber
2721 Founders Dr., Kilgore Hall
Raleigh, NC 27607
Sampled County : Wake

Advisor:

Sampled: 12/03/2019
Received: 12/12/2019
Completed: 12/16/2019

Farm: Not Provided

PALS #: 499969

PALS #:

Sample Information

ID: BR
Crop: Tomato, G.H.
Growth Stage: E
Week: 0
Plant Part: M
Plant Position: 0
Plant Appearance: Healthy- Purple Color

Nutrient Measurements are given in units of parts per million (ppm or mg/L) unless otherwise specified.

N (%)	P (%)	K (%)	Ca (%)	Mg (%)	S (%)	Fe	Mn	Zn	Cu	B	Mo	NO_3-N
3.82	0.61	4.69	1.86	1.09	0.38	165	63.6	30.6	7.70	70.3	-	-

Interpretation Indexes

N	P	K	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo
55-S	71-S	80-H	60-S	79-H	56-S	61-S	55-S	55-S	52-S	71-S	-

Other Results

Na (%)	Cl (%)	C (%)	DW (g)	Al
0.19	-	-	-	59.1

Nutrient Ratios

N:S	N:K	Fe:Mn
10.0 : 1	0.81 : 1	2.60 : 1

Agronomist's Comments: Nitrogen and potassium are low in the FR tomato but otherwise nutritional status is good at this time. Jessica K. Long 12/16/2019 8:42 AM

Sample Information

ID: FR
Crop: Tomato, G.H.
Growth Stage: E
Week: 0

Nutrient Measurements are given in units of parts per million (ppm or mg/L) unless otherwise specified.

N (%)	P (%)	K (%)	Ca (%)	Mg (%)	S (%)	Fe	Mn	Zn	Cu	B	Mo	NO_3-N
3.24	0.43	3.04	1.49	0.76	0.30	93.3	50.3	23.8	5.22	65.7	-	-

Interpretation Indexes

N	P	K	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo
45-L	59-S	38-L	56-S	65-S	53-S	54-S	53-S	52-S	50-S	69-S	-

Rapid growth begins

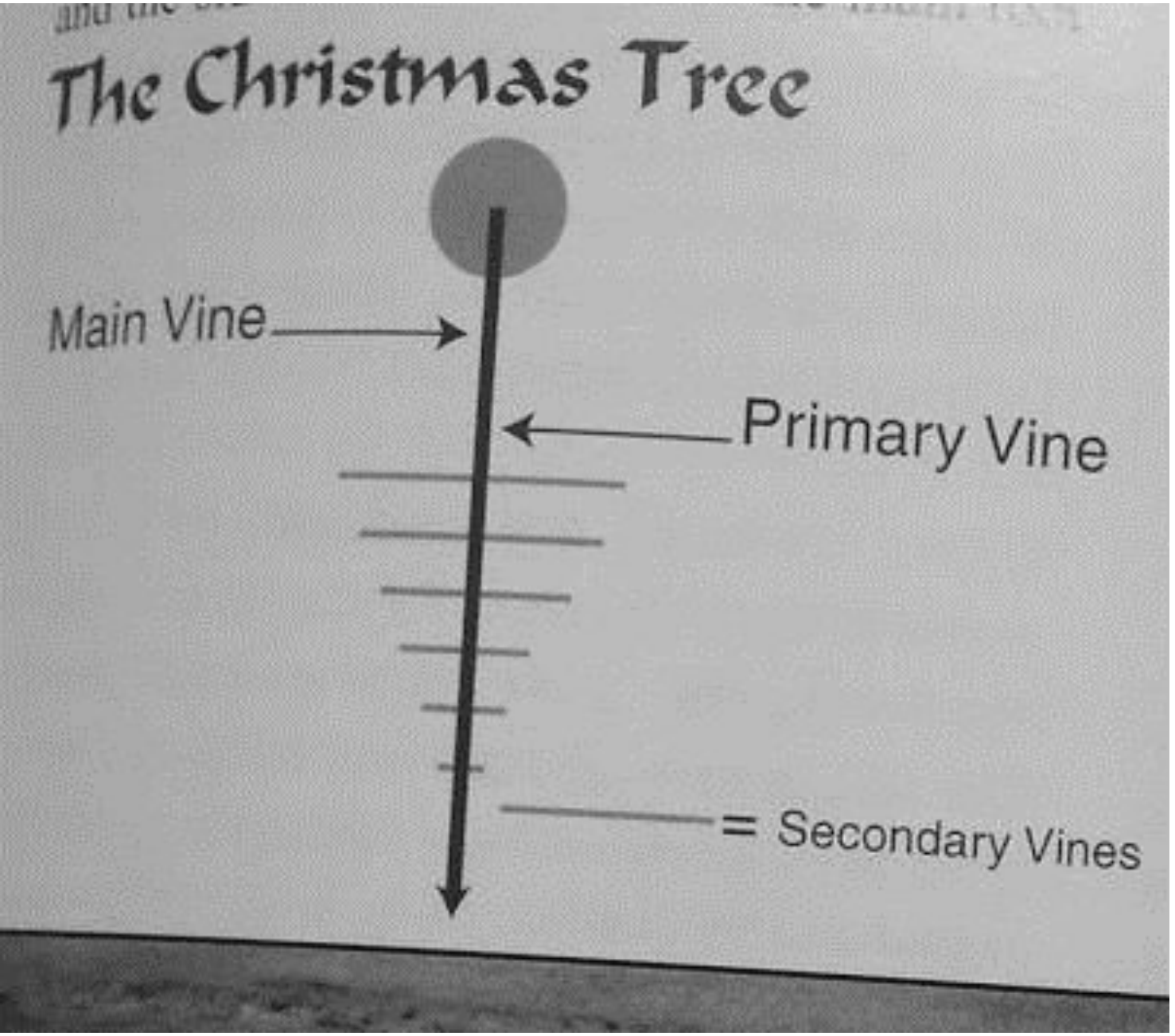
- Stake plant as the vining begins to prevent being blown around in the wind.
- Allow vine to make contact with the soil to encourage rooting at the node.

Vine burying

- Manage weeds around the vine
- Soil or compost around for rooting in of the vine
- Avoid excessive compaction near the plant root base
- Continue monitoring plant health

Vine training

- Typical giant pumpkin pattern is trained in a “Christmas tree” shape
- This plant is ready for pollination once the main vine reaches 10-12’ long
- Once established plant will grow 12” of vine growth per day!
- Important to build a big plant as it will support the growth of the giant pumpkin the rest of the season


The Christmas Tree
Main Vine
Primary Vine
= Secondary Vines

Prepare for Pollination

- Begin to train your vine to make room for a giant pumpkin fruit
- Many growers use an “S” curve to allow sufficient room for growth
- If not managed properly, giant pumpkin can break disconnect itself from the vine

Pollination

Pollination basics

- Most flowers on a pumpkin plant will be male flowers especially early in the season
- Once visible female flower shows it will be about 10 days until pollination day

Pollination basics

- Bees will pollinate the plant for you, however most growers try to control the pollination
- If growing one plant, plant should self pollinate by bees if no other pumpkins are nearby
- If controlling pollination cover flower bud, the night before

Missouri botanical garden

- Pumpkin flowers are usually open only in the morning 8 AM-12 PM.
- Pollination time window is short
- It is best to shade newly pollinated flower from here onward
- Target pollination for around July 1-August

Selection

- Avoid keeping any pollination that looks weird
- There will be a couple opportunities to pollinate a “keeper”
- It is good to pollinate a couple “backup” fruit
- Best to pollinate fruit on the main vine

Monitor early growth

- Growth is slow until day 10 after pollination
- Day 10 shown here
- Fruit growth will rapidly increase at this stage
- If you have a backup fruit or two now is the time to monitor daily growth and select the “best one”

- Fertilize and water in moderation to avoid excessive growth of the fruit leading to splits
- Sometimes sudden heavy rainfalls are inevitable and can lead to splits
- Monitor weather and water accordingly

Setting up fruit

- It is best to do early as possible before fruit swells before day 10
- Protect fruit from moisture and contact with soil and pathogens
- Provides a smooth surface for expansion
- Foam board, wood sheets, mill fabric is usually standard
- Sand added on top
- Avoid moving vine during morning hours
- Rotation is not an option once heavy

Setting up fruit

- In addition to bottom protection
- Fruit should be shaded by a cover
- Old bed sheets work well
- Avoid dark colors that absorb heat
- This will also provide some animal protection