

# 2020/2021 Mid-Atlantic Commercial Vegetable Production Recommendations

## Critical Updates, January 2021

### Chapter B. Soil and Nutrient Management

**Table B-4.**

**Soil Test Categories for Nutrients Extracted by Mehlich 3 and Mehlich 1 – University of Delaware (UD)**

Soil Test Category	UD Fertility Index Value (FIV)	Phosphorus (P)	Potassium (K)	Magnesium (Mg)	Calcium (Ca)
<b>Mehlich 3 Soil Test Value (lb/A)</b>					
<b>Low</b>	<b>0 – 25</b>	0 – 50	0 – 91	0 – 65	0 – 500
<b>Medium</b>	<b>26 – 50</b>	51 – 100	92 – 182	66 – 131	501 – 1000
<b>Optimum (High)</b>	<b>51 – 100</b>	101 – 200	183 – 364	123 – 262	1001 – 2000
<b>Excessive (Very High)</b>	<b>101+</b>	201+	365+	263+	2001+
<b>Mehlich 1 Soil Test Value (lb/A)</b>					
<b>Low</b>	<b>0 – 25</b>	0 – 25	0 – 70	0 – 55	0 – 450
<b>Medium</b>	<b>26 – 50</b>	26 – 50	71 – 140	56 – 110	451 – 900
<b>Optimum (High)</b>	<b>51 – 100</b>	51 – 100	141 – 280	111 – 220	901 – 1800
<b>Excessive (Very High)</b>	<b>101+</b>	101+	281+	221+	1801+

#### Soil Test Category Interpretation – University of Delaware (UD)

Soil Test Category	UD Fertility Index Value (FIV)	Interpretation
<b>Low</b>	<b>0-25</b>	The nutrient concentration in the soil is inadequate for the growth of most plants and will very likely limit plant growth and yield. There is a high probability of a favorable economic response to additions of the nutrient.
<b>Medium</b>	<b>26-50</b>	The nutrient concentration in the soil may be adequate for plant growth, but should be increased into the optimum range to ensure that plant growth and yield are not limited. There is a low to moderate probability of a favorable economic response to additions of the nutrient.
<b>Optimum (High)</b>	<b>51-100</b>	The nutrient concentration in the soil is in the range recommended for the growth of all plants. Since there is a very low probability of a favorable economic response, nutrient additions are rarely recommended.
<b>Excessive (Very High)</b>	<b>101+</b>	The nutrient concentration in the soil is above the range recommended for the growth of all plants. Additions of the nutrient will be unprofitable, may have undesirable effects on plant growth, and hence are not recommended. Erosion and runoff from soils that are excessive in phosphorus (P) can have negative effects on surface water quality.

### Chapter F. Commodity Recommendations

#### Additional Variety Recommendations

**Beans** recommended:

Snap Beans	Variety	Color	Length (inch)	Sieve Size	Use	Days	Heat Tol.	Reported Disease Resistance						
								BCMV	BCTV	Cl	Ua	Psp	Xap	Pss
	Bridger	MDG	5.5	4-5	F,P	52	yes	R	R			I		I

**Celery**

-not recommended: Conga

**Cole Crops** recommended:

Broccoli	Variety	F1	Days	BR	DM	HS	Cold	Heat	S/F
	Abrams	Yes	78					yes	S,F

Cauliflower	Variety	Hybrid	Color	Days	Self Wrapping
	Alcala	Yes	White	79	Yes
	Berneio	Yes	White	69	Yes
	Flamenco	Yes	White	75	Yes

**Leeks**

-recommended: Rally (F1)

-not recommended: Megaton, Runner and Takrima.

**Muskmelons and Mixed Melons**

-recommended: Mixed Melons/Canary - Natal (5 lb; PM 1,2;FW 1,2)

-not recommended: Muskmelons - Strike; Mixed Melons/Canary - Halo

**Onions**

Long Day

-recommended: Legend (hybrid, 120, Storage, LD, Sp, yellow, long, DS, TP, L)

-not recommended: Fortress, Montero, Southport Red Globe, SV4058NV, Vision

Intermediate Day

-recommended: Highlander (Yes, 90, Sweet Spanish, Yellow, short/medium, TP, L)

Great White (yes, 103, Sweet Spanish, white, medium, TP, L)

-not recommended: Cimarron, Mt. Whitney

Overwinter

-corrections: Bridger, storage (medium), method (DS/TP), and size (M-L)

-recommended: T-448 (yes, n/a, storage, yellow, medium, DS, TP, L)

-not recommended: Hi-Keeper, Toughball, T-420

**Peppers**

-not recommended: Paladin or Playmaker

**Pumpkins and Winter Squash**

*Pumpkins, 1-3 pounds*

-recommended: Little Giant\* (PMT)

-not recommended: Rockafellow

*Pumpkins, 10-20 pounds*

-recommended: Hermes\* (PMT), Carbonado Gold\* (PMT)

-not recommended: Bus Stop

*Winter Squash/Acorn Type*

-recommended: Golden (insert in variety table after Table Gold)

Celebration\* (PMT, specialty) (insert in variety table after Autumn Delight\*(PMT))

-not recommended: Table Queen

*Winter Squash/Spaghetti Squash*

-not recommended: Tivoli

*Winter Squash/Processing*

-recommended: Atlas\*, Genesis\* and other Butternut Types

**Tomatoes** recommended:

	Variety	Color	Season	Culture	Use	Disease Resistance	Plant Habit
Tomatoes	Bella Rosa	Red	Mid	Field	DM, LW, S	V,F,Asc,Gls,Tswv	D
	Red Snapper	Red	Mid, Late	Field	DM, LW, S	V,F,Asc,Gls,Tswv,Tylc	D
	STM 2255	Red	Early	Field	DM, LW, S	V,F,Asc,Gls,Tswv,Tylc	D
	SV 7101	Red	Late	Field	DM, LW, S	V,F,Asc,Gls,Tswv	D

**Watermelons** recommended:

	Variety	Season	Disease Resistance	Size (lb)	Shape	Flesh Color	Rind Description
Seedless Watermelon	Cracker Jack	Mid	Fon1 IR	15-19	oblong	Red	Medium green with dark green stripes
	Guardman	Mid	Co1, Fon	14-19	oblong	Red	Medium green with dark green stripes
	Shoreline	Late		16-18	oblong	Red	Medium green with dark mottled stripes

## Chapter F. Weed Control

**Universal Changes**

-Gramoxone SL 3 formulation; rates will be lower than Gramoxone SL 2. Refer to label for rates.

**Crop Specific Changes**

**Beans (Snap and Lima)**

13	Command 3ME	4 to 6 fl oz/A	clomazone	0.094 to 0.14 lb/A	45	12
<p>-Lima beans only. Special Local Needs Label 24(c) has been approved for the use of Command in DE, MD, NJ, and VA (expires 4/29/2025 in DE; 12/31/2025 in MD; 12/31/2024 in VA; 12/31/2022 in NJ).</p> <p>-Apply to suppress annual grasses and certain broadleaf weeds including common lambsquarters, velvetleaf, spurred anoda, and jimsonweed. Use the lower rate on coarse-textured soils low in organic matter and higher rates on fine-textured soils and on soils with high organic matter. Some temporary crop injury (partial whitening of leaf or stem tissue) may be apparent after crop emergence; beans recover from minor early injury without affecting yield or earliness.</p> <p>-Observe all precautions. Maximum number of applications per season: 1.</p>						

**Cole Crops**

-Select Max rate range is from 9 to 16 fl oz/A (0.068 to 0.12 lb ai/A) rather than 12 to 16 fl oz as currently listed.

**Muskmelons and Mixed Melons**

-Select Max rate range is from 9 to 16 fl oz/A (0.068 to 0.12 lb ai/A) rather than 12 to 16 fl oz as currently listed.

**Peppers**

-Reflex: 24c in NJ for transplanted peppers (bell, chile, cooking, and sweet). Labeled for pre-transplant application in bareground and under plastic mulch. Refer to label for use instructions.

**Potatoes**

- Select Max rate range is from 9 to 16 fl oz/A (0.068 to 0.12 lb ai/A) rather than 12 to 16 fl oz as currently listed.

3	Sonalan HFP 3EC	1.3 to 2.67	ethalfuralin	0.49 to 1.0 lb/A	--	24
<p>-Supplemental labeling expires September 1, 2023.</p> <p>-Apply after planting but before potato emergence.</p> <p>-Use lower rates on coarse-textured soils and higher rates on medium- and fine-textured soil.</p> <p>-Must be incorporated for maximum effectiveness. Rainfall or irrigation (0.5 to 1 inch) is sufficient for incorporation. If rainfall or irrigation does not occur within 2 days of application, mechanical incorporation in the to 2 to 3 inches of soil is recommended.</p> <p>-Ensure incorporation equipment does not damage seed pieces or elongating sprouts.</p> <p>-Sonalan controls certain broadleaf weeds and annual grasses. Does not control yellow nutsedge, and only provides suppression of eastern black nightshade. Maximum application is 2.67 pt/A/season.</p>						

### **Pumpkins and Winter Squash**

- Reflex 24c label for Pumpkin now includes NJ, refer to label for use instructions.
- Select Max rate range is from 9 to 16 fl oz/A (0.068 to 0.12 lb ai/A) rather than 12 to 16 fl oz as currently listed.

### **Strawberries**

- Select Max rate range is from 9 to 16 fl oz/A (0.068 to 0.12 lb ai/A) rather than 12 to 16 fl oz as currently listed.

**Summer Squash** Reflex 24c label includes NJ; refer to label for use instructions.

### **Sweet Corn**

- Under entries for Impact and Laudis, precaution regarding mesotrione preemergence should be amended to state: Local experience has not seen issues with postemergence application if mesotrione (*e.g.*, Callisto, Lumax, Lexar, Acuron) was used preemergence; however not all sweet corn hybrids have been tested.

<b>Herbicide</b>	<b>Timing</b>		<b>Premix Herbicides</b>	<b>Timing</b>
Prowl 3.3 E / Prowl H20	up to 24 inches or V8*		Bicep	up to 12 inches
Atrazine	before corn is 12 inches		Harness Xtra	not allowed
Dual II Magnum	up to 40 inches		Keystone NXT	not allowed
Harness 7E	before corn is 12 inches		Acuron	not allowed
Surpass NXT	not allowed		Acuron Flexi	not allowed
Outlook	before corn is 12 inches		Lexar	not allowed
Zidua	up to V4 stage		Lumax	not allowed
Anthem Flex / Anthem Max	through the V4 stage			
Callisto	up to 30 inches or 8 leaves*			

\*Use whichever criteria is more restrictive

Add:

<b>Sinate 2.48</b>	0.1 lb topramezone	27	21 fl oz	0.0164 lb topramezone	0.75 fl oz Impact 2.8SC
	2.47 lb glufosinate	10		0.4 lb glufosinate	21.9 fl oz Liberty 2.34L

- For use only with LibertyLink sweet corn hybrids. Application up to V6 stage
- Do not apply within 50 days of harvesting
- Only one application per year is allowed

### **Sweet Potatoes**

- Maximum rate of Valor SX rate is 3 oz/A
- Add Valor EZ at a use rate of 3 fl oz
- Select Max rate range is from 9 to 16 fl oz/A (0.068 to 0.12 lb ai/A) rather than 12 to 16 fl oz as currently listed.

### **Tomatoes**

- Reflex 24c now includes NJ, refer to label for use instructions.
- Select Max rate range is from 9 to 16 fl oz/A (0.068 to 0.12 lb ai/A) rather than 12 to 16 fl oz as currently listed.

### **Watermelons**

- Reflex 24c now includes NJ, refer to label for use instructions.
- Select Max rate range is from 9 to 16 fl oz/A (0.068 to 0.12 lb ai/A) rather than 12 to 16 fl oz as currently listed.

## Chapter F. Insect Control

1. **Proclaim (emamectin benzoate, MOA group 6)** is labeled for Lepidopteran pests of all cucurbits including cucumber, summer squash, winter squash, and watermelon at a rate of 3.0 to 4.8 oz/A.
2. **Agri-Mek SC** (abamectin, MOA group 6) is labeled for spider mite and leafminer pests of legume vegetables at a rate of 1.7 to 3.5 fl oz/A.
3. FMC is reformulating **chlorantraniliprole** into a new product called **Vantacor**. Its concentration is greater than **Coragen**, but use rates are lower. It is labeled for onions, sweet corn, legumes, potatoes, root and tuber vegetables, and edamame.
4. **Senstar (pyriproxyfen + spirotetramat)** is labeled for aphid, thrips, and whitefly control in brassicas, carrot, fruiting vegetables, leafy vegetables, legume vegetables, onions, and tuberous and corm vegetables.
5. **Sivanto HL** is now being marketed by Bayer. It is twice as concentrated as **Sivanto Prime**. It does not contain the same level of adjuvants as Sivanto Prime.
6. **Zeal SC** is now labeled for sweet corn for two spotted spider mite control at a rate of 2.0 to 6.0 fl oz/A.
7. Corteva is no longer manufacturing **chlorpyrifos (Lorsban)**.
8. **Elevest (bifenthrin + chlorantraniliprole)** is now labeled for various crops, including sweet corn, succulent and dried legumes, root, tuber, and corm vegetables, and potato.

## Chapter F. Disease Control

### Strawberries

#### New disease

**Neopestalotiopsis** was found on strawberry plug plants distributed to several states in the Mid-Atlantic region in 2020, resulting in some infected plantings. Foliar symptoms consist of tan leaf lesions that progress rapidly under moist conditions, and collapsed plants if the fungus invades the crown area. Fruit lesions start out tan but develop black sporulation in the center and could be mistaken for anthracnose fruit rot. Infected fruit may be seen in 2021 along with a progression of foliar and crown symptoms. See paragraph regarding Thiram SC 2(ee) recommendation.

#### Thiram SC 2(ee) recommendation for Neopestalotiopsis

Thiram is partially effective against *Neopestalotiopsis* on strawberries, and a 2(ee) label has been issued for use on this disease. The use rate is 2.5 qt/A, applications are allowed every 7 to 10 days with a maximum of 12 applications per year (limit of 5 applications per year in areas west of the Mississippi River). The PHI and REI are both 24 hours. Multiple applications will be needed. Thiram is effective on gray mold and has some efficacy on anthracnose. Other materials applied for anthracnose fruit rot such as Switch and Miravis Prime have shown some efficacy against *Neopestalotiopsis* according to trials in FL.

#### Miravis Prime for common diseases

Miravis Prime (active ingredients pydiflumetofen and fludioxinil, groups 7 and 12, respectively) is labeled for use on strawberries for gray mold, powdery mildew, and anthracnose. Resistance development is always a concern for single-site products including this one, so only two applications may be made per year at the maximum rate and each application must be alternated with products from other fungicide groups. The use rate is 9.1 to 13.4 fl oz/A for gray mold and powdery mildew, and 11.4 to 13.4 fl oz/A for anthracnose, with a PHI of 0 days, and an REI of 12 hours.