



This is a section from the

2024/2025

Mid-Atlantic Commercial Vegetable Production Recommendations

The recommendations are **NOT** for home gardener use.

The **full manual**, containing recommendations specific to New Jersey, can be found on the Rutgers NJAES website in the Publications section at: <https://njaes.rutgers.edu/pubs/publication.php?pid=e001>.

This manual will be revised biennially. **In January 2025, a Critical Update** with important updates to the 2024/2025 manual will be communicated through local Extension Agents and Vegetable Specialists.

The **label** is a legally-binding contract between the user and the manufacturer. The user must follow all rates and restrictions as per label directions. The use of any pesticide inconsistent with the label directions is a violation of federal law.

Cooperating Agencies: Rutgers, The State University of New Jersey, U.S. Department of Agriculture, and County Boards of Commissioners. Rutgers Cooperative Extension, a unit of the Rutgers New Jersey Agricultural Experiment Station, is an equal opportunity program provider and employer.

2024/2025
Mid-Atlantic Commercial Vegetable
Production Recommendations



If you are having a medical emergency after using pesticides, always **call 911 immediately.**



In Case of an Accident

- Remove the person from exposure
- Get away from the treated or contaminated area immediately
- Remove contaminated clothing
- Wash with soap and clean water
- Call a physician and/or the National Poison Control Center (1-800-222-1222).
Your call will be routed to your State Poison Control Center.
- **Have the pesticide label with you!**
- Be prepared to give the EPA registration number to the responding center/agency

Preface

NOT TO BE USED BY HOME GARDENERS

This copy of the 2024/2025 Mid-Atlantic Commercial Vegetable Production Recommendations replaces all previous editions of the Commercial Vegetable Production Recommendations published individually for Delaware, Maryland, New Jersey, Pennsylvania, Virginia, and West Virginia. Information presented in this publication is based on research results from the University of Delaware, the University of Maryland, Rutgers - The State University of New Jersey, The Pennsylvania State University, Virginia Polytechnic Institute and State University, West Virginia University, Delaware State University, Cornell University, the U.S. Department of Agriculture, and other institutions, combined with industry and grower knowledge and experience.

This publication will be revised biennially. In January 2025, a Critical Update with important updates for this publication will be communicated through local Extension Agents and Vegetable Specialists. The editors welcome constructive criticism and suggestions from growers and industry personnel who may wish to help improve future editions of this publication.

These recommendations are intended for the commercial vegetable grower who has to make numerous managerial decisions. Although the proper choices of variety, pesticides, equipment, irrigation, fertilizer, and cultural practices are the individual vegetable grower's responsibility, it is intended that these recommendations will facilitate decision-making. Recommended planting dates will vary across the six-state region. Local weather conditions, grower experience, and variety may facilitate successful harvest on crops planted outside the planting dates listed in this guide. This can be evaluated in consultation with the local agents and state specialists. Government agencies and other organizations administering crop insurance programs or other support programs should contact local Extension agents and/or vegetable specialists for guidance.

Disclaimer

- The label is a legally-binding contract between the user and the manufacturer.
- The user **MUST** follow all rates and restrictions as per label directions.
- The use of any pesticide inconsistent with the label directions is a violation of Federal law.

Pesticide User Responsibility

Always follow the label and use pesticides safely. For Special Local Needs Label 24(c) registrations or Section 18 exemptions, do not use the material without a copy of the special label or written instructions from your Extension Agent or another recognized authority. **The user is always responsible for the proper use of pesticides, residues on crops, storage, and disposal, as well as for damage caused by drift.**

State and federal pesticide regulations are constantly under revision. Be sure to determine if such changes apply to your situation. Using pesticides inconsistent with label directions is illegal.

Days Between Last Application and Harvest

The minimum number of days between the last application and harvest (**PHI**, Pre-Harvest Interval, in days) and reentry information (**REI**, Restricted Entry Interval, in hours) are listed in the herbicide, insecticide and fungicide recommendation tables in chapter F Commodity Recommendations. Always follow the label to avoid the occurrence of deleterious chemical residues on harvested crops.

Trade or Brand Names

The trade or brand names given herein are supplied with the understanding that no discrimination is intended, and no endorsement is implied. Furthermore, in some instances the same compound may be sold under different trade names, which may vary as to label clearances. For the convenience of our users, both product names and active ingredients are provided, and any product name omissions are unintended.

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2024/2025 Mid-Atlantic Commercial Vegetable Production Recommendations

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State Extension Information

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Mid-Atlantic Commercial Vegetable Production Recommendations: publication EB137

Vegetable Program Trial Reports, Publications, and Budgets:

<https://www.udel.edu/academics/colleges/canr/cooperative-extension/sustainable-production/commercial-crops/vegetable-crops/>

Weekly Crop Update Newsletter: <https://sites.udel.edu/weeklycropupdate/>

Delaware Insect Pest Management, Trial Reports, Insect Trapping Program:

<https://www.udel.edu/academics/colleges/canr/cooperative-extension/sustainable-production/pest-management/>

UD Plant Diagnostic Clinic: <https://www.udel.edu/academics/colleges/canr/cooperative-extension/sustainable-production/plant-diagnostic-clinic/>

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Maryland Fruit & Vegetable Farm Blog: <https://blog.umd.edu/umefruitveg/>

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Fact Sheets and Bulletins: <https://njaes.rutgers.edu/pubs/>

Plant & Pest Advisory: <https://plant-pest-advisory.rutgers.edu>

Mid-Atlantic Commercial Vegetable Production Recommendations: publication E001
<https://njaes.rutgers.edu/pubs/publication.php?pid=e001>

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Rutgers Soil Testing Lab <https://njaes.rutgers.edu/soiltestinglab/>

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Rutgers NJAES Pesticide Safety Education Program

<https://pestmanagement.rutgers.edu/PAT> (pesticide manuals, record forms, regulations, and safety)

<https://pestmanagement.rutgers.edu/worker-protection/> (WPS training videos and regulations),
phone 848-932-9802

Rutgers NJAES OCPE Pesticide Applicator Certification Exam Registration (PACER)

<https://pacer.rutgers.edu/index.php>, phone: 848-932-9271 Option 7; email: pacer@njaes.rutgers.edu

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The Pennsylvania State University

Penn State Extension, including publications, fact sheets, and more: <http://extension.psu.edu>
Mid-Atlantic Commercial Vegetable Production Recommendations: publication AGRS-028:
<https://extension.psu.edu/mid-atlantic-commercial-vegetable-production-recommendations-sections> and
<https://extension.psu.edu/catalog/product/view/id/21333/s/commercial-vegetable-production-recommendations/>
Penn State Vegetable Production: <https://extension.psu.edu/forage-and-food-crops/vegetables> (click on the “News” button to see recent articles related to vegetable and small fruit production)

Penn State Vegetable Team Directory

For a complete listing and contact information of Extension offices throughout Pennsylvania, see:
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Plant Disease Clinic: <https://plantpath.psu.edu/about/facilities/plant-disease-clinic>

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Table of Contents

Preface	i
Coordinators and Editors	ii
Contributors	iii
State Extension Information	iv
Table of Contents	viii
Tables and Figures	x
Abbreviations and Acronyms	xii

Chapter	Section	Title	Page
A General Production Recommendations	1	Varieties	1
	2	Seed Storage and Handling	2
	3	Specialty Vegetables	3
	4	Organic Production	7
	5	Transplant Production	8
	6	Conservation Tillage Crop Production (No-Till, Strip-Till)	13
	7	Mulches and Row Covers	14
	8	Staking and Trellising	16
	9	High Tunnels	17
	10	Greenhouse Production	19
	11	Wildlife Damage Prevention	20
	12	Pollination	29
	13	Food Safety Concerns	35
B Soil and Nutrient Management	1	Soils	38
	2	Liming Soils	38
	3	Plant Nutrients	42
	4	Nutrient Management	46
	5	Soil Improvement and Organic Nutrient Sources	53
C Irrigation Management	1	Basic Principles	58
	2	Drip (Trickle) Irrigation	60
	3	Fertigation	65
	4	Subsurface Drip Irrigation Systems	66
	5	Chemigation	67
D Pesticide Safety	1	General Information	68
	1.1	Pesticide Registration	68
	1.2	Pesticides and Food Safety	68
	2	Certification of Pesticide Applicators	69
	3	The Pesticide Label	70
	3.1	Labels and Labeling	70
	3.2	Label Statements	71
	3.2.1	Restricted Use Classification Statement	71
	3.2.2	Signal Words	71
	3.2.3	First Aid Statements	73
	3.2.4	Other Label Statements	74
	3.3	Significant Labeling Changes	75
	3.3.1	Soil Fumigants	75
	3.3.2	Paraquat Dichloride (Paraquat)	75
3.3.3	Chlorpyrifos	76	

Table of Contents - continued next page

Table of Contents - continued

Chapter	Section	Title	Page	
D Pesticide Safety <i>(continued)</i>	4	Handling Pesticides	77	
	4.1	Prior to Pesticide Application	77	
	4.2	Pesticide Application and Record Keeping	78	
	4.3	Pesticide Transport	81	
	4.4	Pesticide Storage	81	
	4.5	Disposal of Pesticides	82	
	4.6	Disposal of Pesticide Containers	84	
	4.7	Pesticide Spills	86	
	5	Reducing Risks to Handlers and Workers	88	
	5.1	EPA's Worker Protection Standard	88	
	5.2	Personal Protective Equipment (PPE) for Pesticides	92	
	5.2.1	Body Protection for Early Entry Workers and Pesticide Handlers	92	
	5.2.2	Respiratory Protection for Pesticide Handlers	95	
	6	Protection of the Environment	96	
	6.1	Minimize Off-Target Drift	96	
	6.2	Protect Surface and Ground Water	97	
	6.3	Protect Non-Target Organisms	99	
	6.3.1	Protection of Pollinators	99	
	6.3.2	Protection of Endangered Species	105	
	7	Mid-Atlantic Region Pesticide Program Contacts	107	
	E Pest Management	1	How to Improve Pest Management	109
		1.1	Recommendations for More Effective Pest Control	109
1.2		Calibrating Field Sprayers	113	
1.3		Calibrating Granular Applicators	114	
1.4		Pesticide Drift and Misapplication	115	
1.5		Soil Fumigation	116	
1.6		Nematode Control	116	
2		Weed Control	120	
2.1		Postharvest Perennial Weed Control	120	
2.2		Herbicide Mode of Action	120	
2.3		Herbicide Effectiveness on Common Weeds in Vegetables	123	
2.4		Weed Species Prone to Resistance and of Concern in the Mid-Atlantic Region	126	
2.5		Crop Rotation Planting Restrictions	127	
2.6		Prepackaged Herbicide Mixtures	138	
3		Insect Control	140	
3.1		Soil Pests - Detection and Control	140	
3.2		Insecticide Mode of Action	142	
3.3		Insect Pest and Mite Control for Greenhouse Production	143	
3.4		Insect Pest and Mite Control for Chemigation	146	
3.5		Other Labeled Formulations for Insecticides	147	
4		Disease Control	148	
4.1		Fungicide Mode of Action	148	
4.2		How Biofungicides Work	148	
4.3		Disease Control in Seeds, Plant Growing Mix and Plant Beds	149	
4.4		Fungicides Registered for Vegetables	150	
4.5		Disease Control for Greenhouse Production	157	

Table of Contents - continued next page

Table of Contents - continued

Chapter	Section	Title	Page
F Commodity Recommendations		Pesticide Use Disclaimer	162
		Asparagus	163
		Beans (Snap and Lima)	172
		Beets (Garden)	187
		Carrots	192
		Celery	198
		Cole Crops: Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Collards, Kale, and Kohlrabi	205
		Cucumbers	223
		Edamame	237
		Eggplant	245
		Garlic	254
		Greens (Mustard, Turnip)	261
		Horseradish	268
		Leeks	273
		Lettuce, Endive and Escarole	278
		Muskmelons and Mixed Melons	287
		Okra	301
		Onions	307
		Parsley	316
		Parsnips	321
		Peas (Succulent)	325
		Peppers	333
		Potatoes	349
		Pumpkins and Winter Squash	362
		Radishes, Rutabagas and Turnips	376
		Spinach	382
	Strawberries	388	
	Summer Squash	407	
	Sweet Corn	420	
	Sweet Potatoes	436	
	Tomatoes	443	
	Watermelons	465	
G Resources	1	Vegetable Seed Sizes	484
	2	Plant Spacing and Populations	484
	3	Frequently Used Weights and Measures	485
	4	Making a Plant-Growing Mix	485

Tables and Figures

Figure	Title	Page
B-1	Nutrient Application Rates Vary in Relation to Soil Test Category	43
B-2	Petiole Delineation for Several Plant Species	51
B-3	Changes in Soil Test Levels over Time under Different Nutrient Management Scenarios	53
E-1	Droplet Size and Surface Coverage, and Trade-off Between Spray Coverage and Drift Reduction	111

Tables and Figures - continued next page

Tables and Figures *(continued)*

Table	Title	Page
A-1	World Vegetable Crops for Mid-Atlantic Growers	4
A-2	Baby and Miniature Vegetable Varieties and Harvest Stage	5
A-3	Potherbs and Salad Greens	6
A-4	Temperature and Planting Recommendations for Transplant Production	9
A-5	Planting and Harvesting Schedule for Freestanding High Tunnel Vegetable Crop Production	19
A-6	State Apiarist Contact Information	30
B-1	Target Soil pH Values for Vegetable Crops	39
B-2	Pounds of Calcium Carbonate Equivalent (CCE) Recommended per Acre	41
B-3	Conversion of Recommended Calcium Carbonate Equivalent to Recommended Limestone	42
B-4a,b	Soil Test Categories for Nutrients Extracted by Mehlich 3 and 1	44
B-5	Composition of Principal Macronutrient Fertilizer Materials	48
B-6	Chemical Sources of Secondary and Micronutrients	49
B-7	Boron Recommendations Based on Soil Tests for Vegetable Crops	50
B-8	Recommendations for Correction of Vegetable Crop Nutrient Deficiencies	51
B-9	Sufficiency Ranges for Fresh Petiole Sap Concentrations in Vegetable Crops	52
B-10	Plant Nutrient Value Credits to Be Allowed for Manure Applications and Crop Residues	56
B-11	Status for Organic Production, Mineral Nutrient Value, and Relative Availability of Various Materials	57
C-1	Most Critical Periods of Water Needs by Crops	58
C-2	Available Water Holding Capacity Based on Soil Texture	59
C-3	Soil Infiltration Rates Based on Soil Texture	59
C-4	Irrigation Applied per Hour per Cropped Acre (Inches)	61
C-5	Maximum Number of Hours per Application for Drip Irrigated Vegetables	61
C-6	Irrigation Guidelines for Tensiometers	62
C-7	Equivalent Injection Proportions	65
D-1	EPA Signal Words According to Toxicity Categories (I, II, III, IV) of Pesticide Products	72
E-1	Ground Speed Conversion	113
E-2	Important Herbicide Groups for Commercial Vegetables	121
E-3	Herbicide Effectiveness on Common Weeds in Vegetables	123
E-4	Weed Species Prone to Resistance and of Concern in the Mid-Atlantic Region	126
E-5	Crop Rotation Planting Restrictions: Months After Herbicide Application Until Planting New Crop	127
E-6	Prepackaged Herbicide Mixtures	138
E-7	Insecticides and Miticides Labeled for Use on Greenhouse Vegetables	143
E-8	Insecticides with Labels for Chemigation	146
E-9	Other Labeled Formulations for Insecticides	147
E-10	FRAC Codes and Corresponding Chemical Groups for Commonly Used Fungicides	148
E-11	Effective Seed Treatment Temperature Protocols (2 nd Bath) for Pathogen Eradication	150
E-12	Commonly Used Fungicides Registered for Vegetables	151
E-13	Selected Fungicides Labeled for Greenhouse Use	157
G-1	Vegetable Seed Sizes	484
G-2	Plant Spacing and Populations	484
G-3	Frequently Used Weights and Measures	485
G-4	Simple Plant-Growing Mix	486
G-5	Preferred Plant-Growing Mix	486

Abbreviations and Acronyms

Units of Measurement

/A	per acre
bu	bushel(s)
°C	degrees Celsius
cc	cubic centimeter(s)
cu ft	cubic foot (feet)
cu yd	cubic yard(s)
cwt	hundredweight
d	day(s)
°F	degrees Fahrenheit
ft	foot (feet)
fl oz	fluid ounce(s)
g	gram(s)
gal	gallon(s)
gpm	gallons per minute
h	hour(s)
in	inch(es)
lb	pound(s)
min	minute(s)
mph	miles per hour
oz	ounce(s)
ppm	parts per million
psi	pounds per square inch
pt	pint(s)
qt	quart(s)
sq ft	square foot (feet)
tbs	tablespoon(s)
tsp	teaspoon(s)
wk	week(s)
yr	year(s)

Product Formulations

A	acid
CS	capsulated suspension
D	dust
DF	dry flowable
DP	dry prill
DS	dry salt
E	emulsion
EC	emulsifiable concentrate
ES	emulsifiable suspension
EW	emulsion in water
F	flowable
FC	flowable concentrate
FL	fluid
FM	flowable micro-encapsulated
G	granule

Product Formulations (*continued*)

L	liquid
LC	liquid concentrate
LF	liquid flowable
LFR	liquid fertilizer ready
LV	low volatile
ME	micro-encapsulated
OF	oil formulation
SC	spray concentrate, soluble concentrate
SE	suspoemulsion
SG	soluble granules
SL	soluble liquid
SP	soluble powder
W	wettable
WBE	water-based emulsion
WDG	water-dispersible granules
WDL	water-dispersible liquid
WP	wettable powder
WS	water soluble
WSB	water-soluble bag
WSP	water-soluble packet
ZC	CS and SC mixture

Other

ae	acid equivalent
ai	active ingredient
AMS	ammonium sulfate
AP	at planting
COC	crop oil concentrate
FRAC	Fungicide Resistance Action Committee
HRAC	Herbicide Resistance Action Committee
IRAC	Insecticide Resistance Action Committee
K	potassium
K ₂ O	available potash
MoA	mode of action
MSO	methylated seed oil
N	nitrogen
NIS	non-ionic surfactant
OLF	other labeled formulations
OMRI	Organic Materials Research Institute
P	phosphorus
P ₂ O ₅	available phosphoric acid
PHI	Pre-Harvest Interval (in days)
REI	Restricted Entry Interval (in hours)
TR	Toxicity Rating
WSSA	Weed Science Society of America

