

2016 - 2017

Mid-Atlantic Commercial

Vegetable Production

Recommendations

Delaware

University of Delaware Cooperative Extension
EB137

Maryland

University of Maryland Extension
EB-236

New Jersey

Rutgers Cooperative Extension
E001

Pennsylvania

Penn State Extension
AGRS-028

Virginia

Virginia Cooperative Extension
456-420

West Virginia

West Virginia University Extension Service

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[abridged]

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NOT TO BE USED BY HOME GARDENERS

Preface

This copy of the *Mid-Atlantic Commercial Vegetable Production Recommendations* for 2016 - 2017 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; and the U.S. Department of Agriculture, combined with industry and grower knowledge and experience.

This vegetable production guide is 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.

The publication will be revised annually or as is necessary to include new information that evolves in the rapidly changing vegetable industry. Important updates 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.

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.

The use of any pesticide inconsistent with the label directions is a violation of Federal law.

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.

Pesticide User Responsibility

Always follow the label and use pesticides safely. For special Local-Needs Label [24(c)] registrations or Section 18 exemption, do not use the material without a copy of the special label or written instructions from your Extension Agent or another recognized authority.

Remember, 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

Minimum days between last application and harvest for insecticides and fungicides are listed in tables at the end of the Insect Control section for each crop. The minimum number of days between last application of herbicide and harvest is listed in Table E-4. To avoid deleterious chemical residues from occurring on harvested crops, heed this warning.

See Table D-6 for Reentry Information listed under Toxicity of Chemicals.

2016 - 2017
Mid-Atlantic Commercial Vegetable Production Recommendations

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UD Ag Extension: <http://extension.udel.edu/ag/>

Fact Sheets: <http://extension.udel.edu/factsheets/>

Weekly Crop Update Newsletter: <http://extension.udel.edu/weeklilycropupdate/>

IPM Crop Pest Hotline Report: 1-800-345-7544

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Newark, DE 19716

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UD Nematode Assay Service

<http://extension.udel.edu/ag/plant-diseases/nematology/>

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UMd Ag Extension: <http://extension.umd.edu/topics/agriculture>

Maryland Vegetables: <http://extension.umd.edu/mdvegetables>

Vegetable & Fruit Headline News: <http://extension.umd.edu/anne-arundel-county/agriculture/vegetable-fruit-headline-news>

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New Jersey Ag Experiment Station: <http://njaes.rutgers.edu/ag/>

Fact Sheets: <http://goo.gl/PyBwOb>

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

Vegetable Crops Online Resources: <http://nj-vegetable-crops-online-resources.rutgers.edu>

Pesticide Applicator Certification Information, NJ DEP Pesticide Control Program

<http://www.nj.gov/dep/enforcement/pcp/bpo-appropriate.htm#part2>

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<http://njaes.rutgers.edu/plantdiagnosticlab/>

20 Indyk-Engel Way

North Brunswick, NJ 08902

Telephone: 732-932-9140

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Rutgers Soil Testing Lab

<http://njaes.rutgers.edu/soiltestinglab/>

57 US Highway 1

New Brunswick, NJ 08901-8554

Telephone: 848-932-9295

Email: soiltest@njaes.rutgers.edu

PENNSYLVANIA

The Pennsylvania State University

PennState Extension: <http://extension.psu.edu>

Fact Sheets: <http://extension.psu.edu/plants/vegetable-fruit/fact-sheets>

Publications: <http://extension.psu.edu/publications/plants-and-pests/vegetable-small-fruit-and-mushroom-production>

Vegetable and Small Fruit Gazette: <http://extension.psu.edu/plants/vegetable-fruit>

Penn State Horticulture Team Directory

For complete listing and contact information see: <http://extension.psu.edu/plants/vegetable-fruit/directory>

Plant Diagnostic Clinic

<http://plantpath.psu.edu/facilities/plant-disease-clinic>

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Fact Sheets: <http://www.ext.vt.edu/topics/agriculture/index.html>

Virginia Tech Pesticide Programs: <http://vtppt.ext.vt.edu>

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Abbreviations & Acronyms

A listing of abbreviations and acronyms not defined elsewhere.

Diseases

AMV	alfalfa mosaic virus	PMR	powdery mildew resistant	WMV	watermelon mosaic virus
EBDC	early blight disease control	PMT	powdery mildew tolerant	WMV2	watermelon mosaic virus race2
FR	<i>Fusarium</i> wilt resistance	PR	<i>Phytophthora</i> resistance	WRR	white rust resistance
LR	leaf roll resistant	PT	<i>Phytophthora</i> tolerant	ZYMV	zucchini yellow mosaic virus
MT	mosaic tested	PVX	potato virus X		
		PVY	potato virus Y		

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
°F	degrees Fahrenheit
ft	foot (feet)
g	gram
gal	gallon(s)
gpm	gallons per minute
in	inch
lb	pound(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
wk	week(s)
yr	year(s)

Product Formulations

COC	crop oil concentrate
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
L	liquid
LC	liquid concentrate
LF	liquid flowable
ME	micro-encapsulated
OF	oil formulation
OLF	other labeled formulations
SC	spray concentrate, soluble concentrate
SG	soluble granules
SP	soluble powder
W	wettable
WBE	water-based emulsion
WDG	water-dispersible granules
WDL	water-dispersible liquid
WP	wettable powder
WSB	water-soluble bag
WSP	water-soluble packet

Other

ai	active ingredient
ALS	acetolactate synthase
AMS	ammonium sulfate
FRAC	Fungicide Resistance Action Committee
K	potassium
K ₂ O	available potash
N	nitrogen
P	phosphorus
P ₂ O ₅	available phosphoric acid

**For Immediate Medical Attention
Call 911**

**For a Pesticide Exposure Poisoning
Emergency Call**



For All States

Pesticide Poisoning: Call the Poison Center (800) 222-1222

This number will automatically connect you to the poison center nearest you. Anyone with a poisoning emergency can call the toll-free telephone number for help.

Personnel at the Center will give you first-aid information and direct you to local treatment centers if necessary.

For Pesticide Spills

Small Spills: See the product label for cleanup advice.

Large spills: Call the National Response Center at 1-800-424-8802 or CHEMTREC 800-424-9300 - Industry assistance with emergency response cleanup procedures for large, dangerous spills.

Be aware of your responsibility to report spills to the proper state agency.