



Growing Great Garlic in the Northeast

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Topics for today

- **Soil preparation and fertility**
- **Weed control**
- **Disease control**
- **Post-harvest handling**



Soil preparation

- Weed control
- Nutrient optimization
- Bed preparation



Weed control in garlic



Image: Crystal Stewart-Courtens

Weed control in the prior year:



In-season weed control



Image: Crystal Stewart-Courtens







Image: Crystal Stewart-Courtens





Image: Rich Guardi



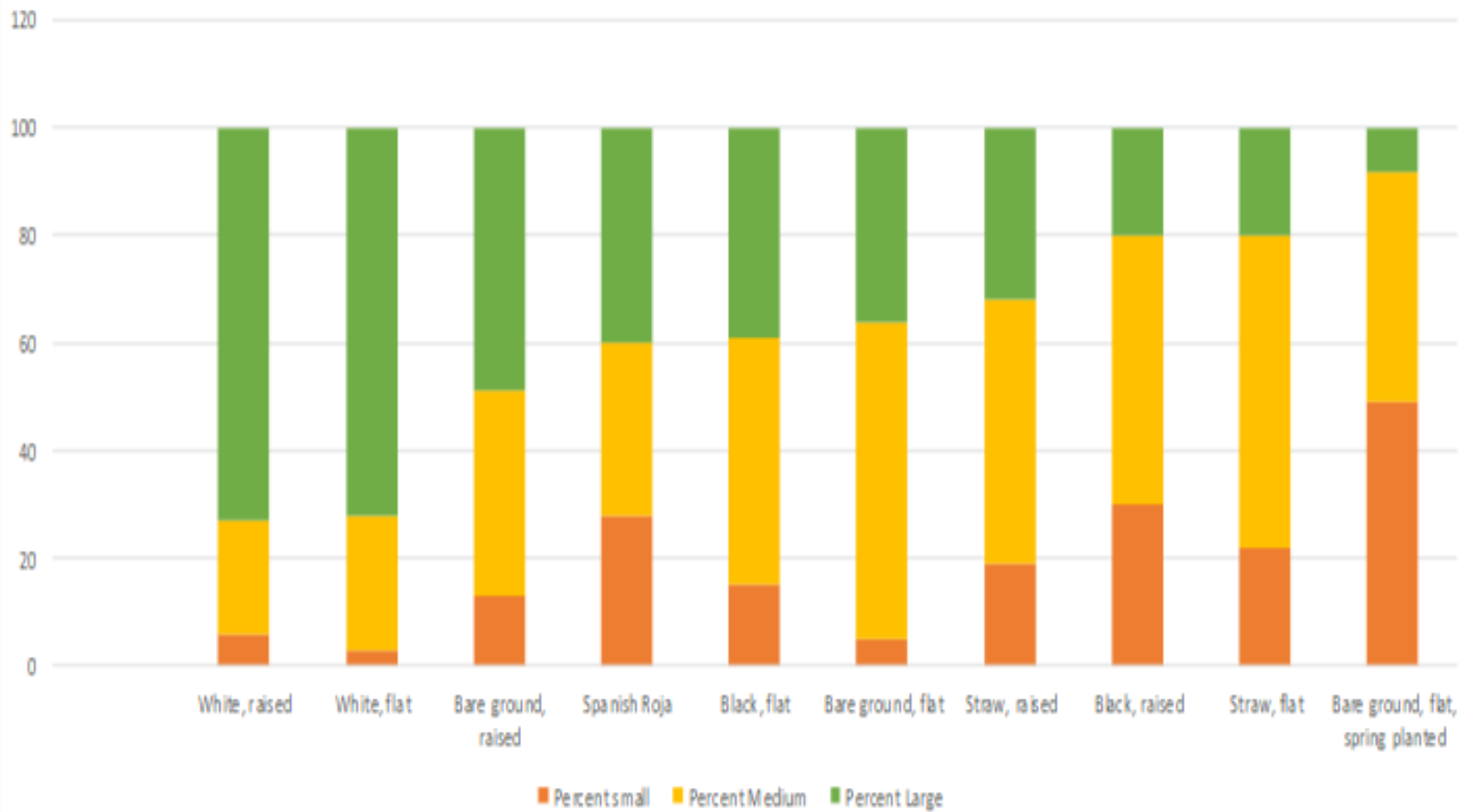


Image: Brian Fox





Distribution of Small, Medium and Large Bulbs



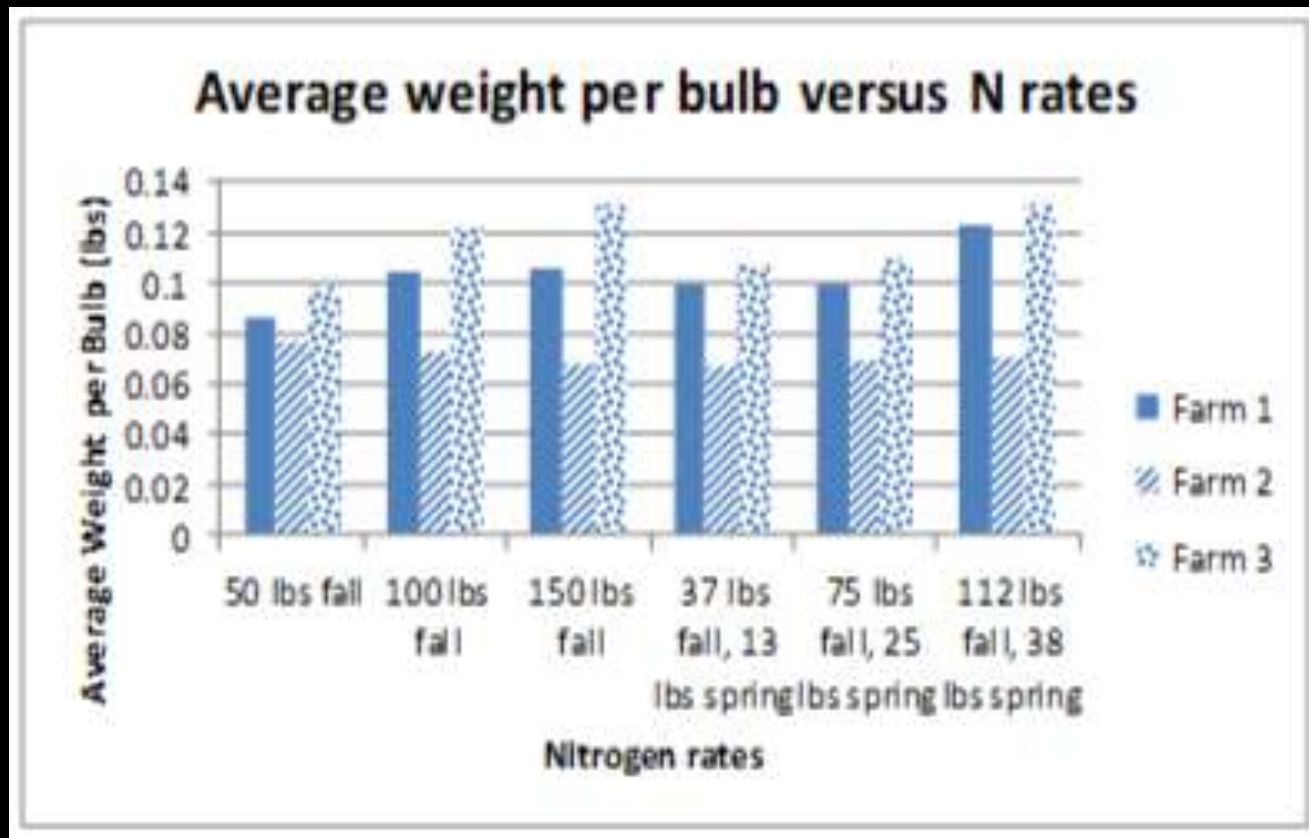
New England Vegetable Guidelines for Garlic

PLANT NUTRIENT RECOMMENDATION ACCORDING TO SOIL TEST RESULTS FOR GARLIC

GARLIC	NITROGEN (N) LBS PER ACRE	PHOSPHORUS (P) LBS P ₂ O ₅ PER ACRE				POTASSIUM (K) LBS K ₂ O PER ACRE			
		VERY LOW	LOW	OPTIMUM	ABOVE OPTIMUM	VERY LOW	LOW	OPTIMUM	ABOVE OPTIMUM
Broadcast and Incorporate in fall	40	150	100	25-50	0	150	100	50	0
Sidedress in spring when shoots are 6 inches high	40	0	0	0	0	0	0	0	0
Sidedress 3-4 weeks later	40	0	0	0	0	0	0	0	0
TOTAL RECOMMENDED	120	150	100	25-50	0	150	100	50	0

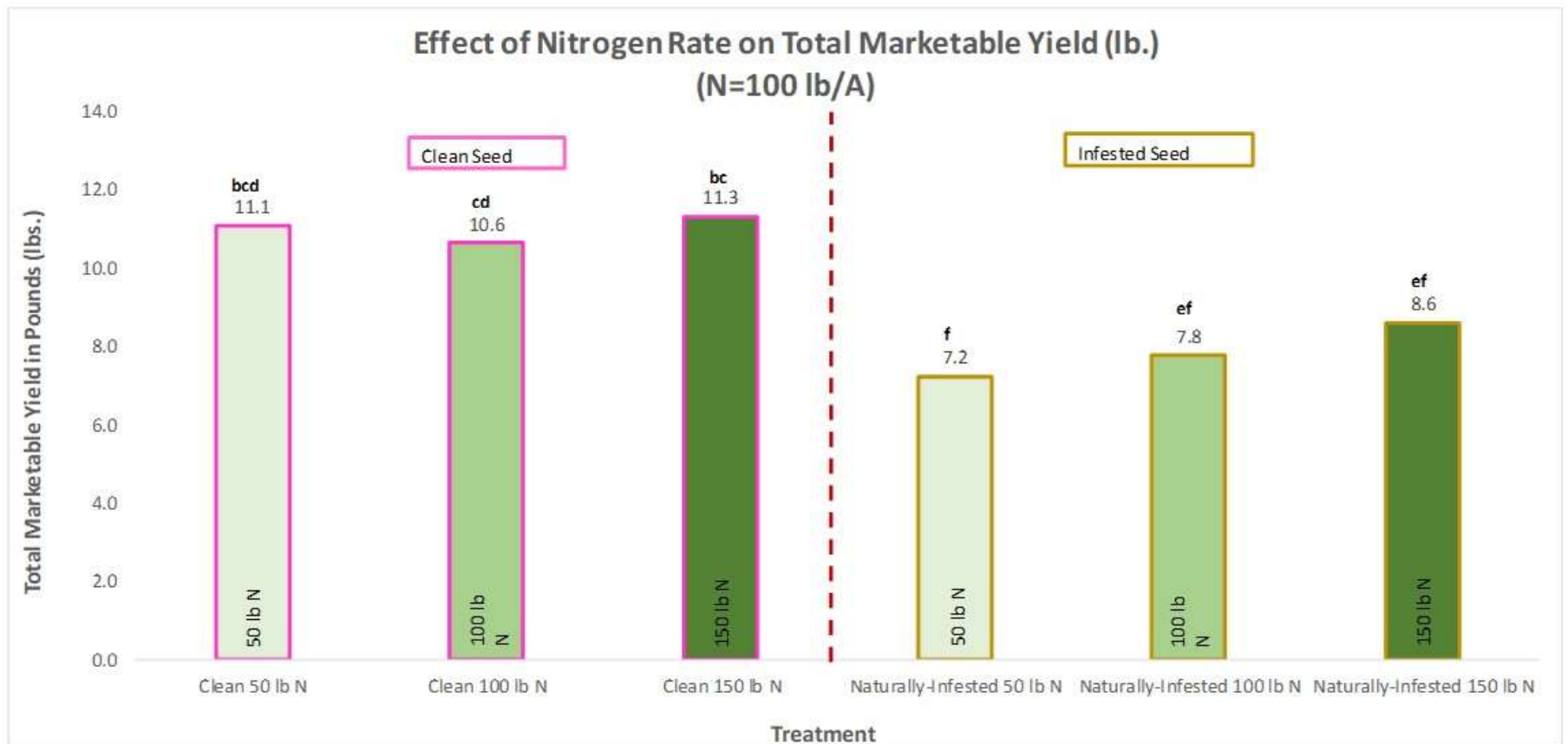
But wait!!

Organic nitrogen study, 2011



This work was funded through the support of Northeast SARE

Conventional nitrogen study, 2017



This work was funded through the support of Northeast SARE

Nitrification and temperature graphs

Diseases of the field



Images: Crystal Stewart

Fusarium bulb rot (left) and Fusarium basal rot (right).

Severity varies



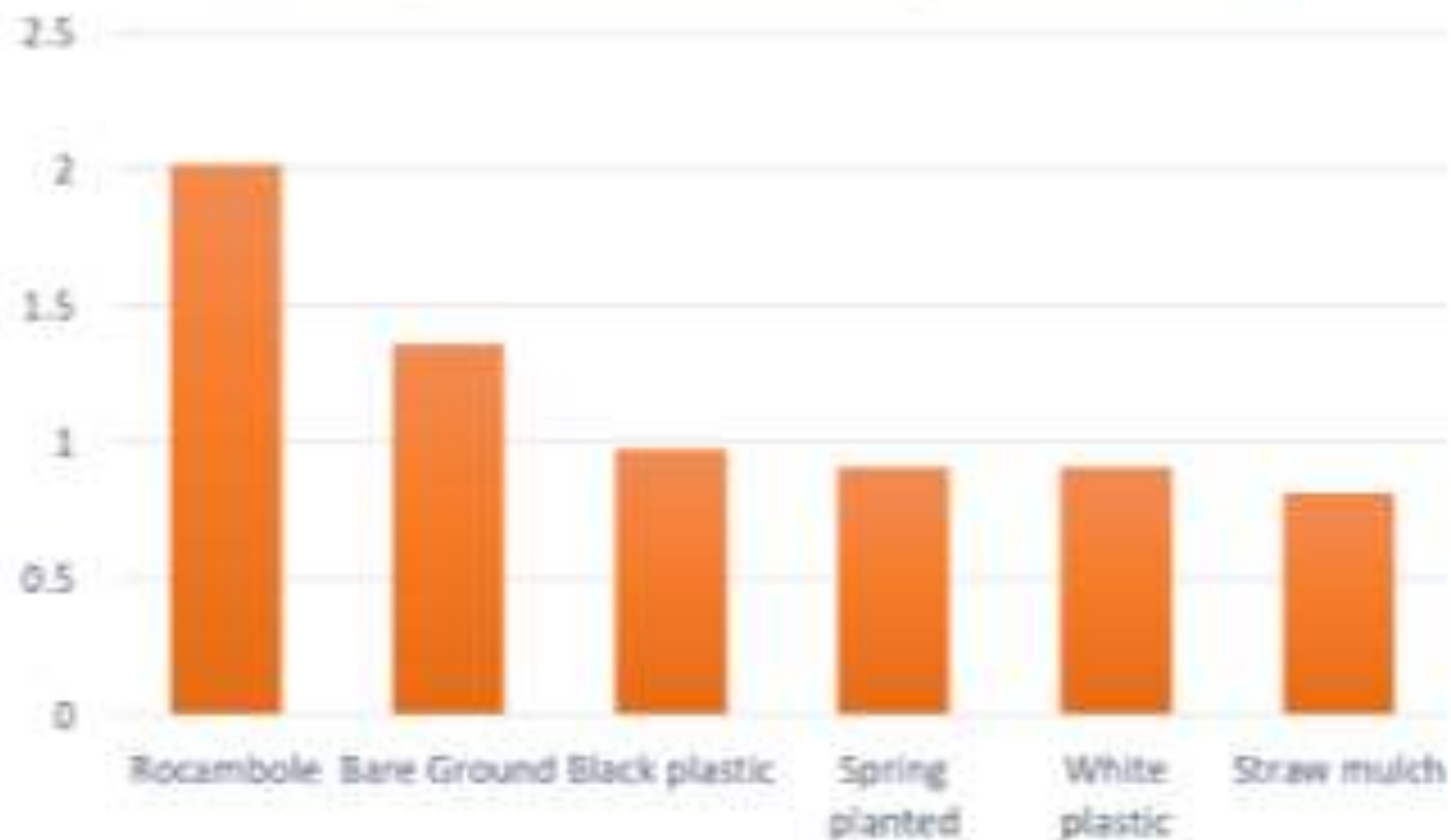
Image: Crystal Stewart



Control factors

1. Start with clean seed
2. Create a great growing environment for garlic
3. Cull suspicious plants during the season and destroy them
4. Surface sterilization will not control *Fusaria*.

Average Fusarium % by treatment



White rot



Sclerotia at base of bulb (x 16)



Image: Frank Hay

Favorable Conditions:

- Temperature range approx. 9 – 22°C (50-72°F).
- Optimum range approx. 15-18°C (59-65°F).
- Adequate soil moisture.
- **Infection terminates at temperatures above approx. 72°F (22°C)**

Botrytis porri



Botrytis porri
produces larger
and fewer sclerotia
than *Sclerotium*
cepivorum

Eriophyid mites



German White



Image: Frank Hay

Garlic Bloat Nematode



Image: George Abawi

Control measures:

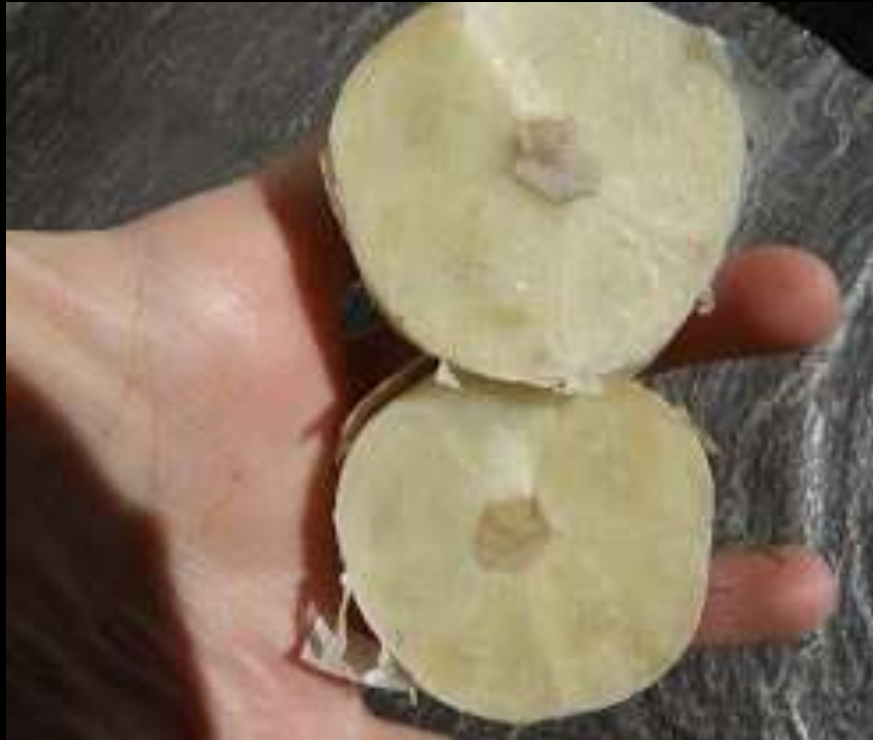
1. Start with clean seed—have it tested!
2. Create a great growing environment for garlic
3. Cull suspicious plants during the season and destroy them
4. Surface sterilization will not control Garlic Bloat Nematode

For articles on many of these
issues....

<http://enych.cce.cornell.edu>

Find the garlic icon- clicking it will show all
garlic information available through CCE

Prepare for Post-Harvest Success



Harvest at the right time
Undercut garlic before pulling
Handle well at harvest



Image: Crystal Stewart



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Results: Trimming Tops

Table 1: Bulb weight comparison from year one-tops cut at 6 inches

Treatment	Average weight/head	Count
Cut at 6"	0.113	1036
Uncut	0.130	972

Table 2: Bulb weight comparison from year two—more cutting lengths are included

Treatment	Weight	Count	Average weight/head
10 inch	24.4	206	0.118
1.5 inch	23.7	183	0.129
6 inch	22.7	186	0.122
Uncut	39.4	302	0.130



Image: Brian Fox

High tunnel drying



Storage



Show our drying area

Thank you!
Questions?

*Thanks to the many growers who
graciously shared their pictures with us for
this presentation.*