

# BF106 Vegetable Production for Small Scale Farming

Part I of III

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Vegetable Specialist

# SOLID GROUND FARMER TRAININGS

*Strengthening Our Farms Across Connecticut*

Visit [newfarms.extension.uconn.edu/solidground](https://newfarms.extension.uconn.edu/solidground) for the full schedule of trainings offered in collaborations with our **Agricultural Learning Partners:**

- **Common Ground, New Haven**
- **Community Farm of Simsbury, Simsbury**
- **Green Village Initiative, Bridgeport**
- **Killingly Agricultural Education Center, Killingly**
- **Knox- Urban Farming Incubator Program, Hartford**
- **Grow Windham, Willimantic, Windham**
- **Listo Para Iniciar Program, Bethel, Stamford, New Milford**

# Resources: UConn Extension (Education)

- **New England Vegetable Management Guide** ([www.nevegetable.org](http://www.nevegetable.org))
- **Urban Agriculture** ([German.Cutz@uconn.edu](mailto:German.Cutz@uconn.edu))
- **Sustainable Ag/IPM/Reduced tillage** ([Jude.Boucher@UConn.edu](mailto:Jude.Boucher@UConn.edu))
- **Greenhouses** ([Leanne.Pundt@Uconn.edu](mailto:Leanne.Pundt@Uconn.edu), [Rosa.Raudales@UConn.edu](mailto:Rosa.Raudales@UConn.edu))
- **Food Safety** ([Diane.Hirsch@UConn.edu](mailto:Diane.Hirsch@UConn.edu))
- **Business & Risk Management** ([Joseph.Bonelli@UConn.edu](mailto:Joseph.Bonelli@UConn.edu))
- **Pesticide Education** ([Candace.Bartholomew@UConn.edu](mailto:Candace.Bartholomew@UConn.edu))
- **Food Systems** ([Jiff.Martin@UConn.edu](mailto:Jiff.Martin@UConn.edu))
- **Plant Diagnostics** ([Joan.Allen@Uconn.edu](mailto:Joan.Allen@Uconn.edu))
- **UConn Soils Lab** ([Dawn.Pettinelli@UConn.edu](mailto:Dawn.Pettinelli@UConn.edu),
- **Soils Specialist** ([Thomas.Morris@UConn.edu](mailto:Thomas.Morris@UConn.edu))
- **Fruit Crops** ([Mary.Concklin@UConn.edu](mailto:Mary.Concklin@UConn.edu))

# Annual CT Vegetable & Small Fruit Growers' Conference



# Special Topic Workshops & Conferences

**Legume Pest Identification**  
Jude Boucher UCONN | COLLEGE OF AGRICULTURE AND NATURAL RESOURCES EXTENSION

★ Indicates very common pests

Snap beans	★	Snap beans
Peas		Peas
Pole beans		Pole beans
Dry beans		Dry beans
Lima beans		Lima beans
Fava beans		Fava beans
Lentils		Lentils
Soybeans		Soybeans



# Opportunities: Sustainable Ag & IPM

- **New England Vegetable Management Guide (+pest pictures)**
- **Crop Talk: Vegetable & Small Fruit Newsletter**
- **UConn Vegetable Crops IPM Pest Message/Reports from the Farm**
- **New England Vegetable & Fruit Conference (Trade Show)**
- **CT Vegetable & Small Fruit Growers' Conference (Trade Show)**
- **IPM Manuals (Brassicas, Sweet Corn, Peppers)**
- **Special Topic Workshops/Conferences/Twilight Meetings**
- **Beginning Farmer Training ([www.newfarms.extension.uconn.edu/](http://www.newfarms.extension.uconn.edu/))**
- **UConn IPM Website ([www.ipm.uconn.edu/](http://www.ipm.uconn.edu/))/fact sheets**
- **IPM Photo Pest Identification files (PDF Files)**
- **Phone/email/on-farm consultations**
- **On-farm, one-on-one IPM Training Program**

# Trade Show – New England Vegetable & Fruit Conference



# Farm tours/twilight meetings

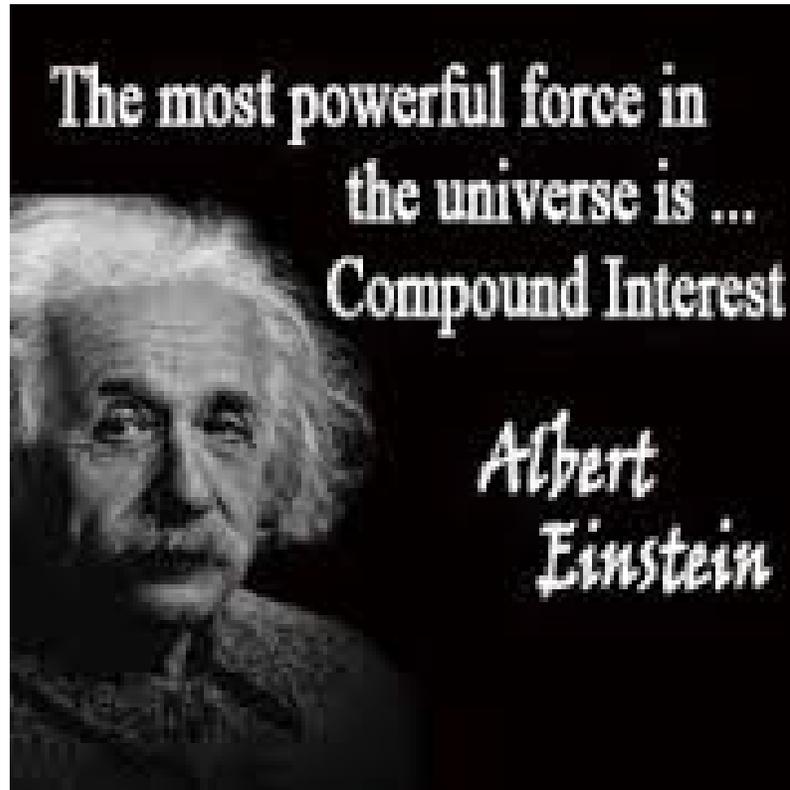


# Other Farm Resources:

- **CT Agricultural Experiment Station**
- **USDA Natural Resource Conservation Service (NRCS)**
- **USDA Farm Service Association (FSA)**
- **CT Department of Agriculture (CT DoAg)**
- **CT Department of Environmental and Energy Protection (DEEP)**
- **CT Farm Bureau**
- **CT New Farmers' Alliance**
- **CT Vegetable & Berry Growers' Association**
- **NE SARE**

# Pay Yourself First!

- Roth IRA: \$5,500/year, every year!



**@ 5% interest,**

<u>year</u>	<u>Interest/year</u>
1	\$275
31	\$19,174
40	\$32,776
50	\$56,848

Total saved after 50 years: \$1,193,810

# Choosing Crops to Grow

- What sells? (**If you can't sell it, don't grow it!** depends upon location, customer base, marketing, etc.)
- What brings in customers? (flowers, strawberries, tomatoes, sweet corn, pumpkins)
- What makes money? (strawberries, tomatoes, salad mix, leafy greens, summer squash, pumpkins, etc.)
- What gets you into a specific market? (niche crops)
- What turns you on?
- What to avoid? (anything that costs you more than it brings in – time or \$)







WARNING  
RIDERS CAN  
FALL OFF AND  
BE KILLED

**GATOR**  
**4x2**















# Marketing

- **Farm stand**
- **Community Supported Agriculture (CSA)**
- **Farm Credit**
- **Farmers' Markets**
- **U-pick**
- **Restaurants**
- **Agritainment/Agritourism**
  
- **Other farm stands/stores**
  
- **Wholesale – on commission**
- **Direct to Supermarket Chain Stores**

**Spend a little, or spend a lot!**



CHEESE

FARM FRESH

SWEET CIDER  
60's

PLEASE  
USE  
OTHER  
CHECKOUT  
→

FARM BUREAU  
MEMBER

MILLET - \$1.00  
KALE and  
GARAGE - \$5.00  
MILK - \$6.00  
ASTERS - \$8.00  
GRASS - \$7.50

Samples

Our  
own Heirloom  
Tomato

TOMATOES  
\$3.00/lb  
CHERRY TOMATOES  
\$4.00/lb

TOMATOES



Coolbot: [www.storeitcold.com](http://www.storeitcold.com)



GRESCZYK

FARMS

CSA

WANT TO...

◆ SAVE MONEY

◆ EAT HEALTHIER

◆ KNOW WHERE  
YOUR FOOD COMES  
FROM

ASK US HOW YOU  
CAN PARTICIPATE IN



# ROOTS AND FRUITS

Your Share: up to a LEVEL ROOTS  
AND FRUITS BAG<sup>1</sup> per share

\* Please use the bags provided on either end of this table

Gold Beets

Red Beets

★ Carrots - up to 1 pound per share

Zucchini

Zephyr Squash

Cucumbers

Red Torpedo Onions

★ Cauliflower - up to 1 per share

Ailsa Craig Onions

Red Norland Potatoes

Yukon Gold Potatoes

★ Green Peppers - up to 2 per share

★ Red and Yellow Peppers - up to 1 per share

★ Jalapeño Peppers - up to 1 per share

★ Eggplant - up to 1 per share



# PICK YOUR OWN



Flowers ★ up to 1 bouquet per share



Sunflowers ★ up to 1 per share



Green Beans (The Green Bean patch has moved, it's in the same area, just a little farther down)  
★ up to 1/2 'PICK YOUR OWN BAG' per share



Cherry Tomatoes ★ up to a LEVEL 1/2 PINT per share



Edamame ★ up to 6 plants per share

The Edamame are right next to the new patch of Green Beans.  
Harvest Edamame ONLY from rows marked with pink flags.  
The other rows are not ready.

To harvest Edamame, cut the stem at the base of the plant, take the entire plant home, remove the pods and steam or boil for 2-3 minutes, season with salt or soy sauce and suck the beans out of the pod. Discard the pods.



Raspberries | ★ up to a LEVEL HALF PINT per share

# HERB CORNER

Basil ★ take what you can use

★ up to 1 bunch per of . . . .

Parsley \* the parsley has moved. next to the

Oregano

Thyme

Sage

Chives

Dill

# Farm Credit

## Community Supported Agriculture CSA

A way for the public to buy farm fresh fruits + vegetables and directly support local farmers. We are introducing a CSA program.

Customers prepay for farm products and receive a 10% discount for their support. Shares must be purchased in \$90 increments which equals \$100 in store credit. When a credit is spent in full, you may reinvest. Credit may be used a little at a time or all at once.

# Farmers Markets







WARNING

DO NOT TOUCH

DO NOT TOUCH

DO NOT TOUCH

DO NOT TOUCH

Wholesale



# Labor: to do what?

**Very expensive**

**Fewer the better**

**...but more is easier**

Help transplanting, harvesting, selling



# FARM RULES As of 7/5/2016



- ① No excessive Texting,  
Do Listen to music while working.
- ② When Picking \* get  
Produce washed, PACKED  
AND IN COOLER AS  
FAST as possible
- ③ Do each task completely
  - \* wash bins, pick up after yourselves
  - \* Cover produce in cooler
  - \* No crates/Bins left in field or
  - \* label bins in the mule
- ④ ONLY ONE Person is needed  
To drive produce up to the cooler
- ⑤ make sure AND Double check your  
Counting before you put produce in  
the cooler.

Nick Tuesday - Wednesday

- ~~mow~~/trim upper garden
  - \* @ Barrys { especially by peppers <sup>Hot + green</sup>  
Not between sweet potato  
Be sure not to hit peppers
- Tie up tomatoes by the woods
- 



- ⑦ Label bins w/date \*  
Whether its for the market or CSA
- ⑧ Pick into buckets  
untill after its washed.  
then into crates. 

# SOP's

# Choosing Varieties





**Downy mildew on Boothby Blond, but not on resistant Marketmore cucumbers,** *photo by Ian Gibson*





**Churchill**



# Sites & Soils

- You want a south or south west-facing gentle slope or flat field
- Sandy-loams, silt-loams and loamy sands are the best for veggies. Loam and sandy soils work too. Muck soils are great for some crops (i.e. onions, lettuce)
- **Avoid heavy clay soils and wet soils.**
- Available water source: wells, river, ponds, city hydrant



# Soil Testing & Fertility

- Test your soil every year or two
- Track test results over time for each field
- **pH is most critical**
- Split up N application to reduce leaching
- Some crops require a little extra something (i.e. brassicas needs B)
- Fertilizers list % N-P-K (i.e. 10-20-10 or 20-8-16)

# Soil Testing & Fertility

**Phosphorus (P) is the next most important nutrient to think about.**

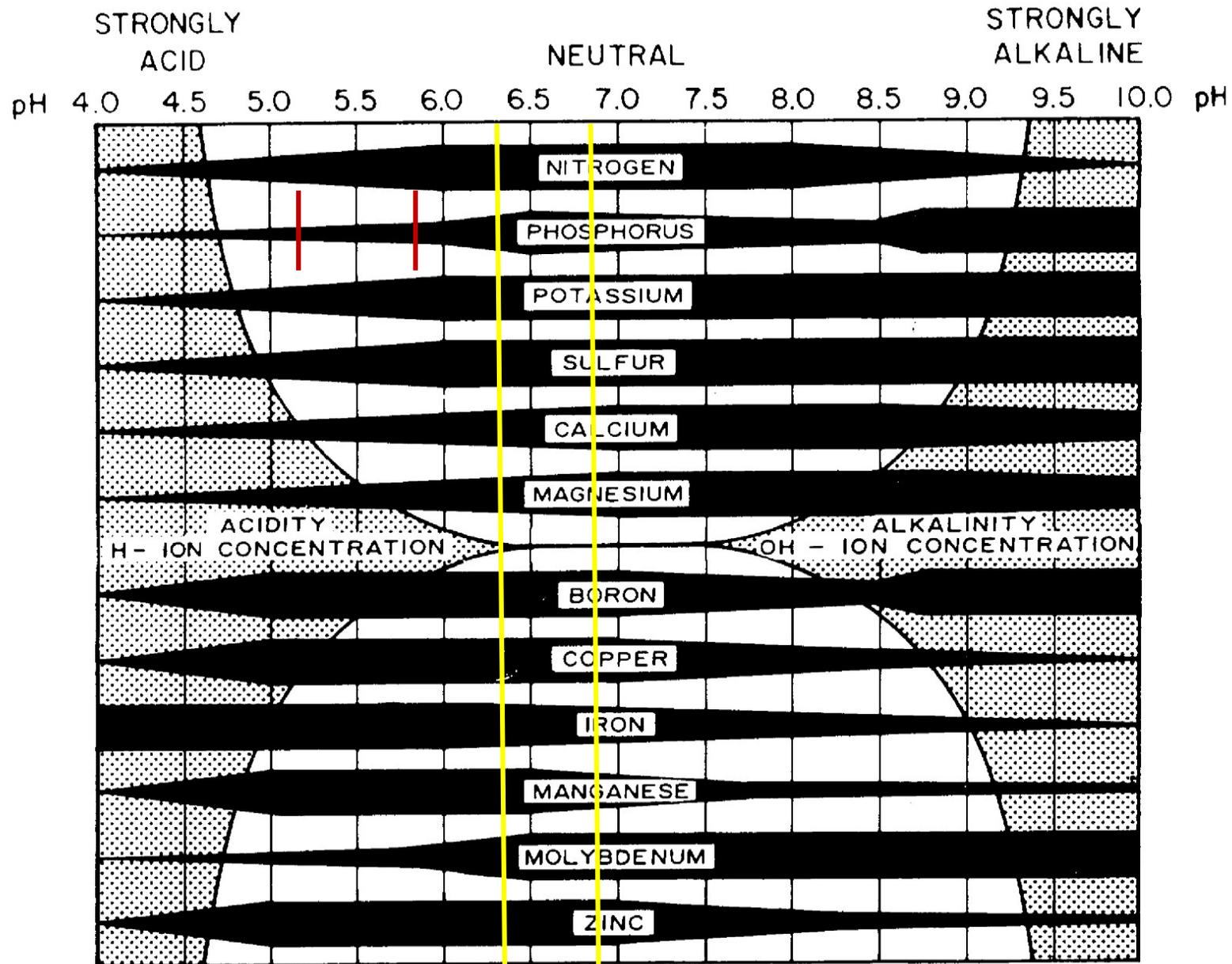
**You need P to grow roots.**

**P is not available in cold soils, even if there is plenty in the soil. Band some P at planting in cold soils**

**P is not very available if pH is < 6**

**Forget about growing vegetables if pH is in the low 5's or 4's (except potatoes).**





Influence of pH on the availability of plant nutrients in mineral soils; widest parts of the shaded areas indicate maximum availability of each element.

# Soil Testing & Fertility

**Other macro-nutrients (Ca, Mg, K) should be in the Optimum or slightly above Optimum range.**

**Micro-nutrients (B, Cu, Fe, Mn, Mo, Zn, S, Al) should be within the range provided on the soil test results**

**Nitrogen recommendation is based on plant requirement for realistic yield – see NEVMG.**

**Can apply Mg as dolomitic (high Mg) lime, rather than high Ca lime.**

**Gypsum can be applied if you need Ca, but do not need to raise the pH**



# Compost & Manure

Manure and manure-based composts are essentially a balanced fertilizer (1-1-1)

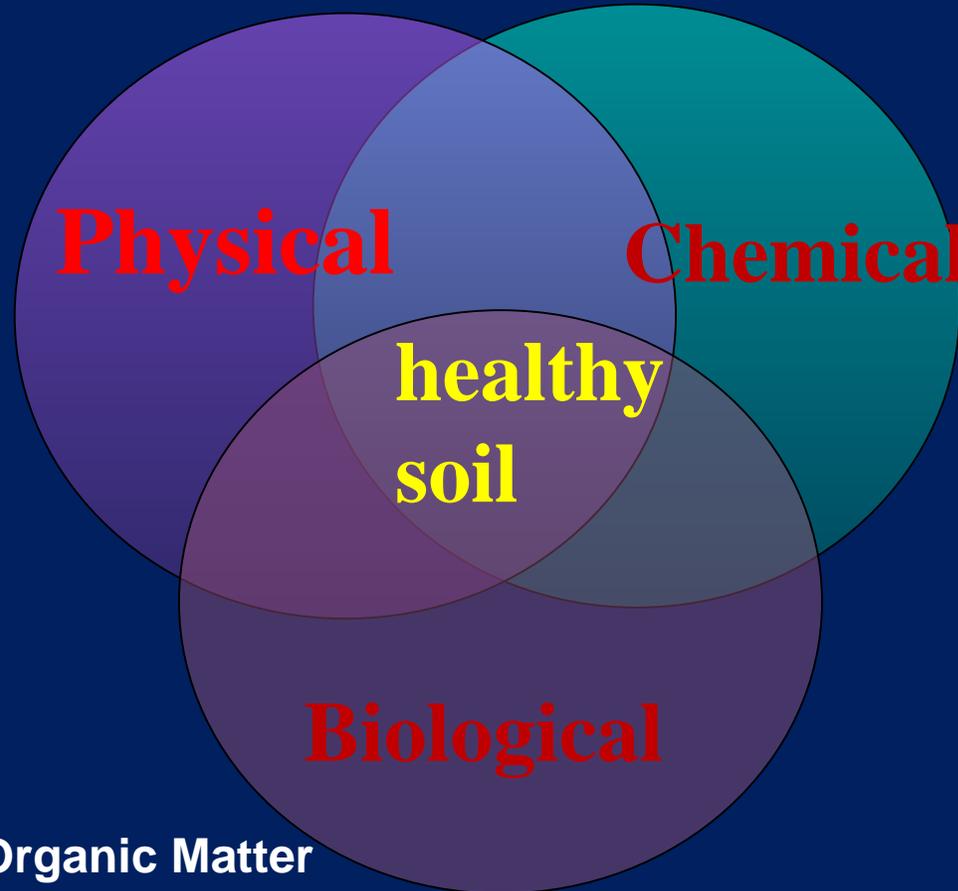
Because plants usually need much more N & K than P, if you keep using only manure/compost your test results will soon be off-the-chart in P & K

This leads to P runoff and polluted surface waters

**\*Fertilize to meet the crop P requirements with manure/compost, then supplement with more N & K through other amendments (i.e. legume)**



# Soil Health



- Aggregate stability
- Water capacity
- Surface hardness
- Subsurface hardness

- Organic Matter
- Active carbon (feeds microorganisms)
- N mineralization rate (N in OM)
- Soil respiration

pH

- phosphorus
- potassium
- Micronutrients
- (nitrogen)
- Ca, Mg, lead

# Test for soil compaction with a penetrometer



# Soil Health Management Toolbox

- **Reduced-tillage**
- **Reduce traffic**
- **Cover crops**
- **Crop rotation**
- **Adding organic amendments**

*Anne & Eric Nordell, Weed the Soil Not the Crop*

# Water/Irrigation

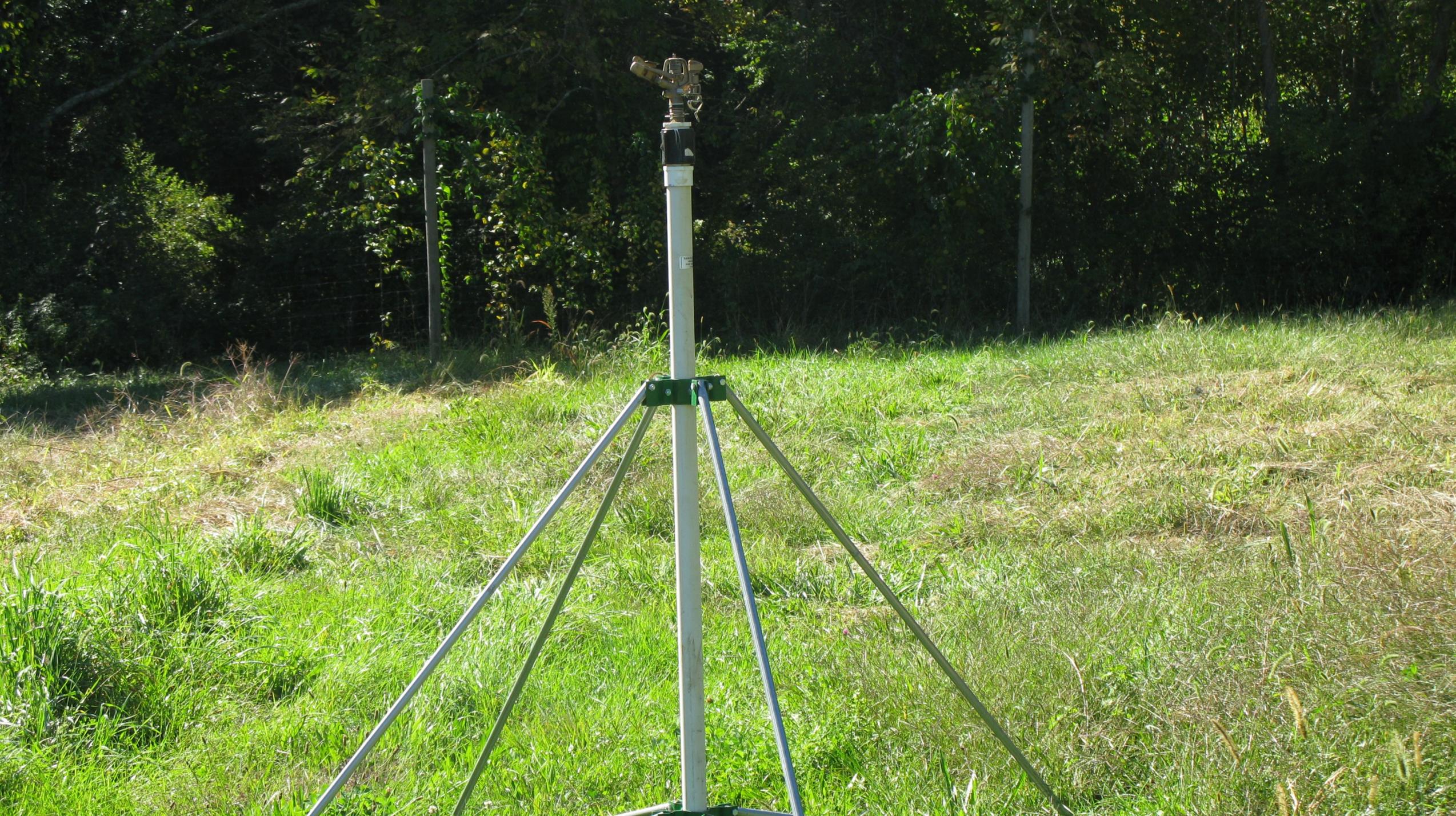




# Water/Irrigation













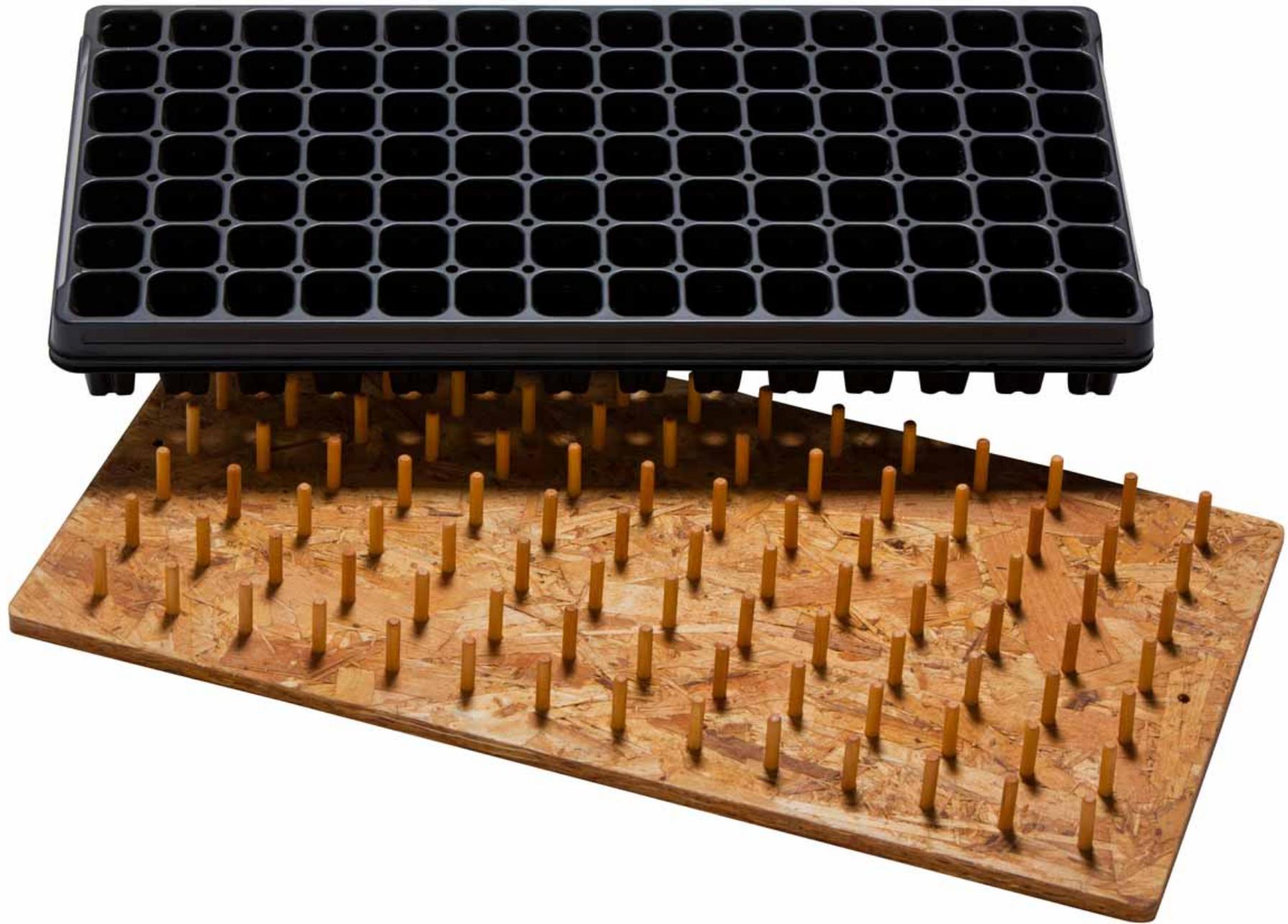




# Transplant Production & Planting/Transplanting









**Stand 'N Plant Seeder**



# Jang Seeder









# Hatfield Transplanter



Small.....Medium.....Large Plugs

# Stand 'N Plant Planter











# **Water-in your transplants with a starter solution high in P (i.e. 10-20-10)**

- **Helps plants recover from transplant shock**
- **Provides good root to soil contact**
- **P helps them establish a good root system**
- **Gives them a good head start**

BE  
GOOD  
TO THE  
LAND AND  
THE LAND  
WILL BE GOOD  
TO  
YOU