UNIVERSITY OF ILLINOIS EXTENSION

GROWING A NEW GENERATION OF ILLINOIS FRUIT AND VEGETABLE FARMERS

USDA NIFA Beginning Farmer and Rancher Development Program
Grant # 2012-49400-19565

BASICS OF COMMERCIAL VEGETABLE PRODUCTION

Mike Roegge, J.D. Kindhart and Nathan Johanning

new ILLINOIS fruit & vegetable FARMERS

Why grow vegetables?

- Greater income potential than grain crop production
  - Also has greater labor demands than grain crops
  - Lower equipment costs (no $250,000 combines)
- Provide a good alternative or addition to row crops
  - Viable operation on small acreage
  - Add additional family member(s) to an existing farm enterprise
  - Diversify an existing row crop operation
- Recently the demand for local food has greatly increased
  - Farmer's Markets, Restaurants, Grocery Stores, Food Service Companies, Government Institutions…
  - In some areas demand is greater than the ability to supply
- Can be a part-time operation

Successful operations have:

- Quality as the number 1 goal
  - Effective crop and pest management, timely harvests, and good post harvest handling
  - Market high quality produce (rest to neighbors or food banks)
- Know your market(s)
  - Types and quantities of produce at appropriate times and price
    - Regional preferences (e.g. straightneck vs. crookneck squash)
    - Ethnic makeup and preferences
- A very strong work ethic … (or a great labor pool)

Getting Started

- Start small and expand as you increase your knowledge and experience!
  - Don't exceed your marketing capacity
  - Try to get better before getting bigger
- If possible, start with crops you have some experience with growing. Gain comfort with commercial production systems and markets before expansion.

To begin a small farm enterprise, you will need …

- Land
  - How much depends upon desired goal; ½ acre to 10 acres is a common range
- Equipment and machinery … from hand tools to tractors and tractor-powered implements
- The capacity to do hand labor!!!
- At least some capital -- amounts vary by crops and scale of operation … start-up costs for small-scale vegetable production are relatively low
- A basic understanding of the markets available to you and the current and potential demand for crops you decide to grow

UNIVERSITY OF ILLINOIS EXTENSION

new ILLINOIS fruit & vegetable FARMERS

At the beginning, you don't have …

- Experience growing vegetables or fruits as a profit-making business
- Knowledge of the growing practices for most specific vegetables and fruits
- Most of the specific equipment may be needed … a good tiller, small tractor, plastic layer, high tunnel, etc.
- An established market

UNIVERSITY OF ILLINOIS EXTENSION

new ILLINOIS fruit & vegetable FARMERS

Recordkeeping

- Keep track of all income, expenses, sales tax, labor, etc.
- Take good notes on field production information
  - Planting dates, varieties, environmental conditions, pesticides used/effectiveness
  - Makes a good reference for future years
- Pricing must be based to allow return on all investments

Business Planning

- Insurance
  - Liability, crop insurance
- Labor considerations
  - Minimum wage, worker safety, Workman's Comp
- Taxes and Accounting
  - Sales tax, income tax, Schedule F, deductions, record-keeping
- Food safety
- Farm safety plans, GAPs, traceability
- Zoning
- Establishing a corporation or LLC

UNIVERSITY OF ILLINOIS EXTENSION

new ILLINOIS fruit & vegetable FARMERS

Marketing

- Direct Market
  - Farmers market
  - CSA(Community Supported Agriculture)
  - Retail on farm
- Wholesale
  - Produce auctions
  - Terminal
  - Local stores/restaurants
  - Hospital/nursing homes
  - Schools
- Cooperative w/ others
- Combination of above

Remember that your marketing plans determine the crops you will grow … base your planting decisions on what your customers will buy and when they will buy it.

UNIVERSITY OF ILLINOIS EXTENSION

new ILLINOIS fruit & vegetable FARMERS

Farmers Markets, for example …

- Appearances make a sale … make a neat and attractive display with clean, high-quality produce
- Quality leads to loyal customers
- Clearly mark prices
- Provide as wide variety of produce as practical
- Be friendly, clean, and courteous when at display
- Overhead shelter helps
- Provide samples??
- Provide recipes and preparation tips

Be aware of and follow regulations … market rules, insurance, health department rules, certification for scales, measurements for containers (small and large versus quart, ½-peck, and peck), sales tax!!

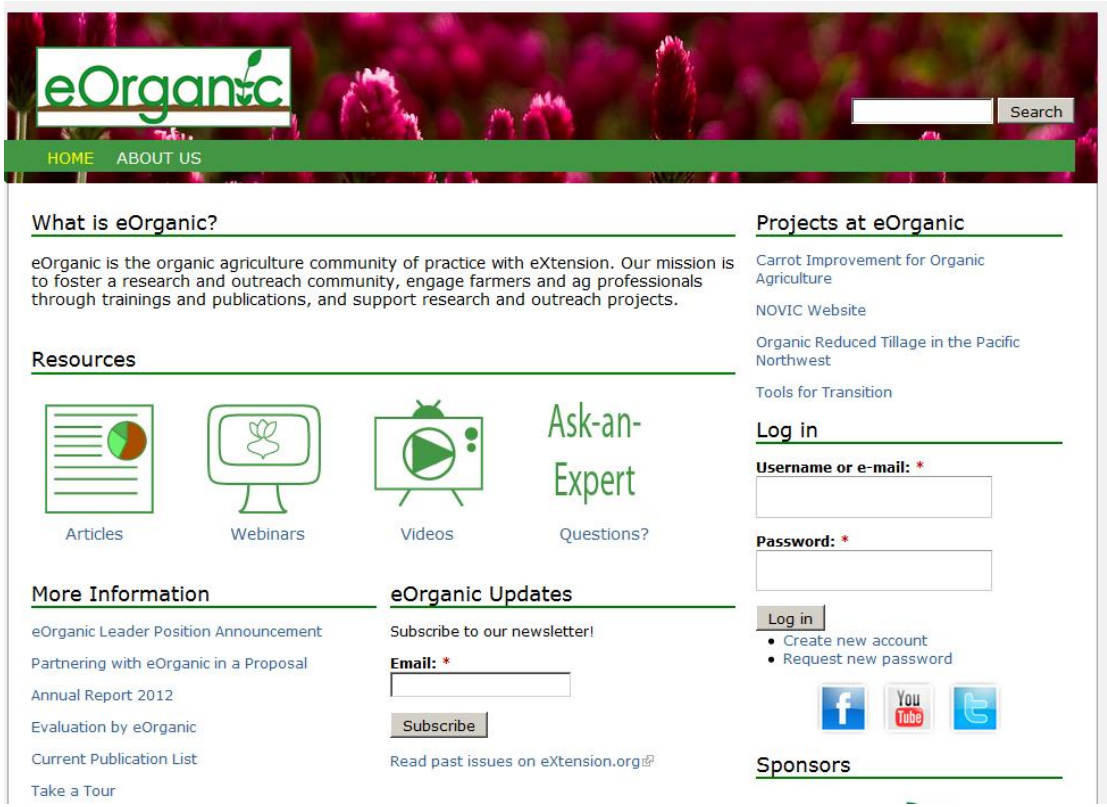
Conventional vs. Organic

- Usually a decision based on personal opinions
- Organic crops usually command higher prices but have lower yields
- Producing crops organically usually is more expensive and labor intensive.
- Certification is required if annual sales exceed $5,000 and you identify your produce as Organic.

UNIVERSITY OF ILLINOIS EXTENSION

new ILLINOIS fruit & vegetable FARMERS

http://eorganic.info/



http://illinoisorganicgrowers.org/

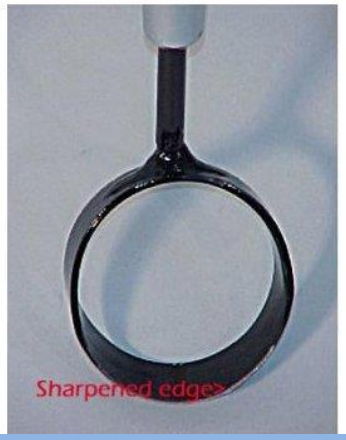
Equipment

- Equipment needs vary with the size of the operation. A small operation might require hand tools and a tiller while a large operation would have multiple tractors, tillage implements, transplanter, planter, sprayer, plastic mulch layer, etc.
- Greenhouses and high tunnels

Basic Field Equipment

- Hand tools (hoes, shovels, etc)
- Tiller (Walk-behind, or tractor mounted)
- Tractor
- Planter
- Plastic mulch layer
- Transplanter
- Packing/washing equipment
- Cultivator
- Sprayer
- Fertilizer Spreader
- ???
- Engineer your own equipment!!!

This is an old design with a perfectly curved blade and keen edge that's ideal for cutting weeds and roots.



Circle hoe ideal for close weeding without harming crop

I like the fact that the blade is not welded, but part of the entire head

This one is sharpened on the sides as well as the bottom. Loosening the soil and slicing through weeds is a snap. Because of the wide blade, it works well for grading, too

The triangular design is excellent for making furrows as well as for close weeding and cultivating.

UNIVERSITY OF ILLINOIS EXTENSION

new ILLINOIS fruit & vegetable FARMERS

JANG Seeder

PLANET JUNIOR Seeder

JOHNNY'S 6 Row Seeder

EXTENSION

ILLINOIS
FARMERS


08/02/2009

Other Equipment Needs

- Soil thermometer
  - Plant sh2 sweet corn at ≥65 degrees F
- Irrigation
  - Supply lines, drip tape, back-flow preventer
- Harvest and marketing equipment
  - Spade, knife, tubs, totes, cleaning, processing, packages
- Season Extension
  - Row covers, High/low tunnels, cold frame
- Coolers
  - Air conditioner with cool-bot, walk-in coolers

UNIVERSITY OF ILLINOIS EXTENSION

new ILLINOIS fruit & vegetable FARMERS

Estimated Equipment Needs for Various Sizes of Vegetable Farms.

Scale	Seed Starting	Power Source and Tillage	Direct Seeding	Production Equipment	Cultivation	Harvesting	Postharvest Handling	Delivery
1-3 acres	small hoop house, grow lights, planting trays	rototiller or walking tractor, custom work	Earthway seeder, Cyclone seeder	Back-pack sprayer, irrigation, tools	Wheel hoe, hand hoes, digging forks, spades	Field knives, hand boxes, buckets, carts	Bulk tank, canopy, packing containers	Pickup with topper or van
4-6 acres	1000 sq. ft. greenhouse, cold frames, field tunnels, planting trays	35-40 hp tractor, with creeper gear, power steering, high clearance	Planet Jr. plate seeder	1-row transplanter, irrigation, more tools	Cultivating tractor (IH Super A or IH 140)	Potato digger, bed lifter, wagon, more boxes, buckets	Roller track conveyor, hand carts, walk-in cooler	Cargo van
7-10 acres	Additional cold frames, planting trays	40-60 hp tractor, chisel plow, spader	Stanhay preceision belt seeder with belts	2-row transplanter, sprayer,	Tool bar implements: beet knives, basket weeder	More field crates	Barrel washer, spinner, pallet jack	1 ton truck with refrigeration
20 + acres	2,000 sq. ft. greenhouse	80 hp tractor with loader bucket and forks, compost spreader	Nibex or Monosem seeder	Irrigation, bed shaper, mulch layer	Sweeps (Besserides), Buddingh finger weeders, flame weeder, potato hiller, 2nd cultivating tractor	Asa lift, harvest wagon	Wash line, larger cooler, packing shed and loading dock	Refrigerated truck

Appropriate Technology Transfer for Rural Areas

Market Gardening: A Start-up Guide
https://attra.ncat.org/attra-pub/summaries/summary.php?pub=18

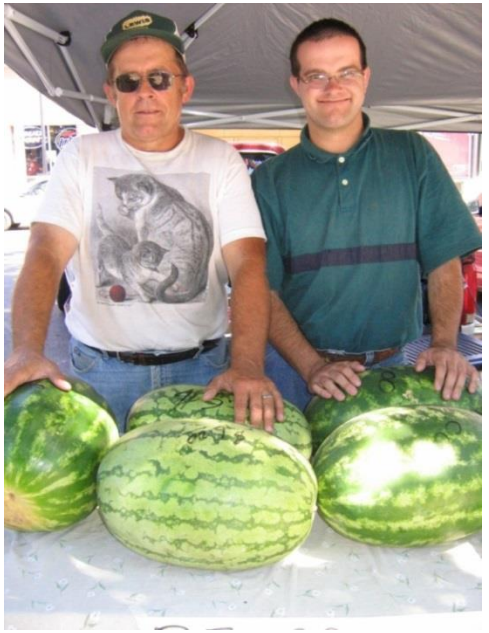
University of Illinois Extension

new ILLINOIS fruit & vegetable FARMERS

What crops to plant?

- Those which you can successfully raise and market for the greatest return on investment.
  - Which crops are easiest to raise or sell?
  - Which crops provide best return?
  - What crops do I feel comfortable growing?
- Which crops fit land, labor, capital and equipment resources

Illinois vegetable crops



Major crops

- Sweet corn
- Cucurbit crops - pumpkin, squash, melons
- Green beans
- Tomatoes
- Horseradish

Others

- greens, onions, potato, asparagus, cole crops, pepper, beets, carrots, cauliflower, peas, cabbage, broccoli, lettuce, radish, spinach, melons, others

Crop	Market*	Labor	Equipment	Pest Management Level
Asparagus	R/W	Medium	Little	Low-Moderate
Beans	R/W	High	Little	Low-Moderate
Beets	R	Medium	Little	Low-Moderate
Carrots	R	High	Little	Low-Moderate
Cabbage	R/W	Medium	Sprayer	High
Cauliflower	R/W	High	Sprayer	High
Broccoli	R	Medium	Sprayer	High
Lettuce	R	Low	Little	Low-Moderate
Muskmelon	R/W	Low	Sprayer	High
Onions	R	High	Little	Low-Moderate

*R = retail; W = wholesale

UNIVERSITY OF ILLINOIS EXTENSION

new ILLINOIS fruit & vegetable FARMERS

Crop	Market	Labor	Equipment	Pest Management Level
Peas	R	High	Little	Low-Moderate
Peppers	R	Medium	Little	High
Potatoes	R/W	High	Yes	High
Radish	R	High	Little	Low-Moderate
Spinach	R	Yes	Little	Low-Moderate
Sweet corn	R/W	High	Sprayer	High
Sweet potato	R/W	Low	Little	Low-Moderate
Tomato	R/W	High	Sprayer	High
Watermelon	R/W	Low	Sprayer	High

Cooperative Extension Service
University of Illinois at Urbana-Champaign, College of Agriculture

Horticulture Facts

Vegetable Planting Guide

James C. Schmidt
Department of Horticulture

VC-14-93

Even though seed packets often provide valuable information, the charts on the following pages will give you additional details about planting vegetable seeds and plants. Descriptions of the chart headings are as follows:

SEEDS OR PLANTS PER 100-FT. ROW is the recommended amount (or number) to use for proper spacing and good growth.

AVERAGE AMOUNT SUGGESTED PER PERSON is based on fresh use and is just a guideline. If you plan to preserve during the season, you will need to plant more of that particular vegetable.

ESTIMATED YIELD is based on optimum growth. To ensure good yields, maintain fertility, provide adequate moisture, use mulches, control pests (weeds, insects and diseases), start with healthy plants and fresh seed, and use recommended varieties. Weather conditions can also greatly affect yields.

DISTANCES BETWEEN PLANTS AND BETWEEN ROWS are the recommended spacings that allow for optimum growth and development. Plants growing too closely together compete for fertilizer and moisture, which creates conditions ideal for disease problems. If seed is sown thickly, thin the seedling at the recommended distance once they are well above the ground.

PLANTING DEPTH. A good rule of thumb is to plant the seed at a depth equivalent of 2 to 4 times their diameter. Cover small seeds with 1/4 to 1/2 inch of soil; place large seeds 1 to 2 inches deep.

FROST RESISTANCE. Vegetables are planted according to their ability to withstand frost and are classified into 4 general categories: *Very hardy, Frost-tolerant, Tender, and Warm-loving.* The average date of the last 32°F freeze in the spring in your area can help you determine planting time.

Very hardy (VH) vegetables can withstand freezing temperatures and hard frosts without injury. They may be planted as soon as the ground can be prepared usually 4 to 6 weeks before the approximate frost-free date in your area. The suggested planting times are as follows:

Southern Illinois—March 10 to 25
Central Illinois—March 25 to April 10
Northern Illinois—April 10 to 25

Frost-tolerant (FT) vegetables withstand light frosts and can be planted 2 to 3 weeks before the approximate frost-free date. Suggested planting times are as follows:

Southern Illinois—March 25 to April 10
Central Illinois—April 10 to 25
Northern Illinois—April 25 to May 10

Tender (T) vegetables are injured or killed by frost, and their seeds do not germinate well in cold soil. They are usually planted on or after the approximate frost-free date. Suggested planting times are as follows:

Southern Illinois—April 10 to 25
Central Illinois—April 25 to May 10
Northern Illinois—May 10 to 25

Warm-loving (WL) vegetables cannot tolerate cold. They require warm soils for germination and good growth, and should be planted 1 to 2 weeks after the approximate frost-free date. Suggested planting times are as follows:

Southern Illinois—April 25 to May 10
Central Illinois—May 10 to June 1
Northern Illinois—May 25 to June 1

APPROXIMATE DAYS TO HARVEST will vary with temperature and weather conditions. Use this number as a general guide (along with *Horticulture Facts* VC-11-80) to decide when a crop is likely to be ready for harvesting.

VEGETABLE PLANTING CHART

Vegetable	Amount to Plant		Planting Instructions				Time Required	
	Seeds or plants per 100-ft. row	Average amount suggested per person	Estimated yield per 100-ft. row[a]	Distance between plants	Distance between rows	Planting depth	Frost resistance[c]	Approx. number of days (or years) to harvest[d]
Artichoke, Jerusalem	40-50 tubers	5-10 ft.	150-200 lb.	24-30 in.	36-48 in.	2-3 in.	FT	130-150
Asparagus	50 roots	10-15 roots	80-100 lb.	18-24 in.	36-60 in.	6-8 in.	VH	2 years
Bean, Bush (lima)	1/2 lb.	10-15 ft.	30 lb.	3 in.	18-24 in.	1-1 1/2 in.	WL	50-60
Bean, Bush (snap)	1/2 lb.	10-15 ft.	50 lb.	3 in.	18-24 in.	1-1 1/2 in.	T	50-60
Bean, Pole	1/2 lb.	5-10 ft.	50 lb.	3-4 in.	30-36 in.	1-1 1/2 in.	T	60-70
Beet	1 oz.	5-10 ft.	75 lb.	2-3 in.	12-18 in.	1/2-1 in.	T	55-65
Broccoli	50 plants	5-10 plants	80-100 lb.	18-24 in.	30-36 in.	[b]	FT	70-80
Brussels sprouts	50 plants	3-5 plants	80-100 lb.	18-24 in.	30-36 in.	[b]	FT	70-80
Cabbage	75-100 plants	3-5 plants	150-200 lb.	12-18 in.	18-30 in.	[b]	FT	70-80
Carrot	1/4 oz.	5-10 ft.	100-150 lb.	1-2 in.	12-18 in.	1/4 in.	FT	65-75
Cauliflower	50-75 plants	3-5 plants	80 lb.	18-24 in.	24-36 in.	[b]	FT	60-65
Celeriac	200 plants	5-10 ft.	100-150 lb.	6 in.	18-24 in.	[b]	FT	100-120
Celery	150-200 plants	4-6 plants	200 lb.	6-8 in.	24-36 in.	[b]	FT	100-110
Chard	2 oz.	5-10 ft.	100 lb.	4-6 in.	18-24 in.	1/2 in.	FT	50-60
Chinese cabbage	1/2 oz.	5-10 ft.	200-300 lb.	12-15 in.	24 in.	1/4 in.	FT	80-90
Collards	1/2 oz.	5-10 ft.	80-100 lb.	12-15 in.	18-24 in.	1/4 in.	VH	70-80
Corn, Sweet	4 oz.	15-25 ft.	100-150 lb.	9-12 in. (single) 36 in. (hills)	24-48 in.	1/2-1 in.	T	70-90
Cucumber	1 oz.	2-3 hills	100-150 lb.	12 in. (single) 36 in. (hills)	48-72 in.	1/2 in.	WL	60-70

http://njaes.rutgers.edu/pubs/urbanfringe/pdfs/urbanfringe-v07n01.pdf

Monthly Briefing from Rutgers New Jersey Agricultural Experiment Station
Volume 7, Issue 1 September 2012

Yield Expectations for Mixed Stand, Small-Scale Agriculture

Jack Rabin, Associate Director – Farm Programs,
Gladis Zinati, Ph.D., Research Manager – Sustainable Soil Science
and Peter Nitzsche, County Agricultural Agent, Morris County

Horticultural row crop yield expectations from commercial fields are well confirmed by multiple studies. Agricultural professionals use these target yields to assist them in predicting cost and return budgets, number of seeds or plants needed, fertilizer and other inputs, packaging supplies, and estimating revenues.

Yield expectations are an equally important planning tool for mixed stands of vegetables and small fruit crops grown in community gardens and small-scale agriculture enterprises. Yet, few yield studies are available for these operations.

Realistic yield expectations:

- Matter the moment participants sell crops, i.e., advance from gardening lifestyle activities to commercial market gardening or small-scale agriculture enterprises.
- Enable individuals unfamiliar with farm productivity to estimate food garden output based on parcel size when preparing grants and community garden project proposals.
- Enable quick estimates of "food security" production required for calculating daily

UNIVERSITY OF ILLINOIS EXTENSION

new ILLINOIS fruit & vegetable FARMERS

Cultivar and Variety Selection

- Cultivars are different in:
  - Response to environment
  - Growth habit, fruit shape
  - Overall yield
  - Maturity
  - Color
  - Flavor and nutritional value
  - Disease and insect resistance
  - Post-harvest stability
  - Market niche
  - Profit potential

Select cultivars or varieties based on …

- Seed and plant stock catalogs, suppliers
- Research reports
  - Midwest Vegetable Variety Trial Reports at: https://ag.purdue.edu/hla/fruitveg/Pages/MVVTRB.aspx
- Extension programs
- Other growers, farmers markets
- Your experience and records
- Disease resistance
  - For example, V, F, N designations in seed catalogs refer to Verticillium, Fusarium, Nematodes

Hardiness

- Hardy crops can be planted 4 weeks before the last frost in the spring.
  - asparagus, broccoli, cabbage, horseradish, onion, peas, spinach, turnips
- Semi-hardy crops can be planted 2 weeks before the last frost in the spring
  - carrots, cauliflower, lettuce, potatoes, beets, radish
- Tender crops can be planted at the time of the last frost in the spring
  - green beans, corn
- Very tender crops are planted at least 2 weeks after the last frost in the spring
  - cucumber, eggplant, lima bean, melons, squash, okra, sweet potato, peppers, tomatoes

And when is the last frost? Remember that if the average date for the last spring frost at your location is April 15, it will be later than April 15 in roughly half of all years. If the average date for the last frost is April 15, there is roughly a 25% chance of frost as late as April 25.

Average Frost Free Date

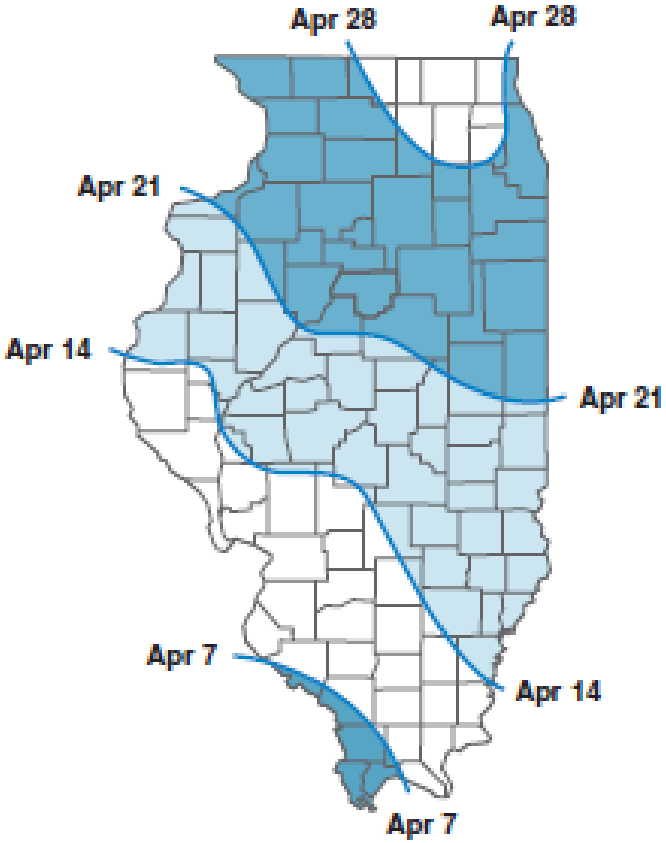
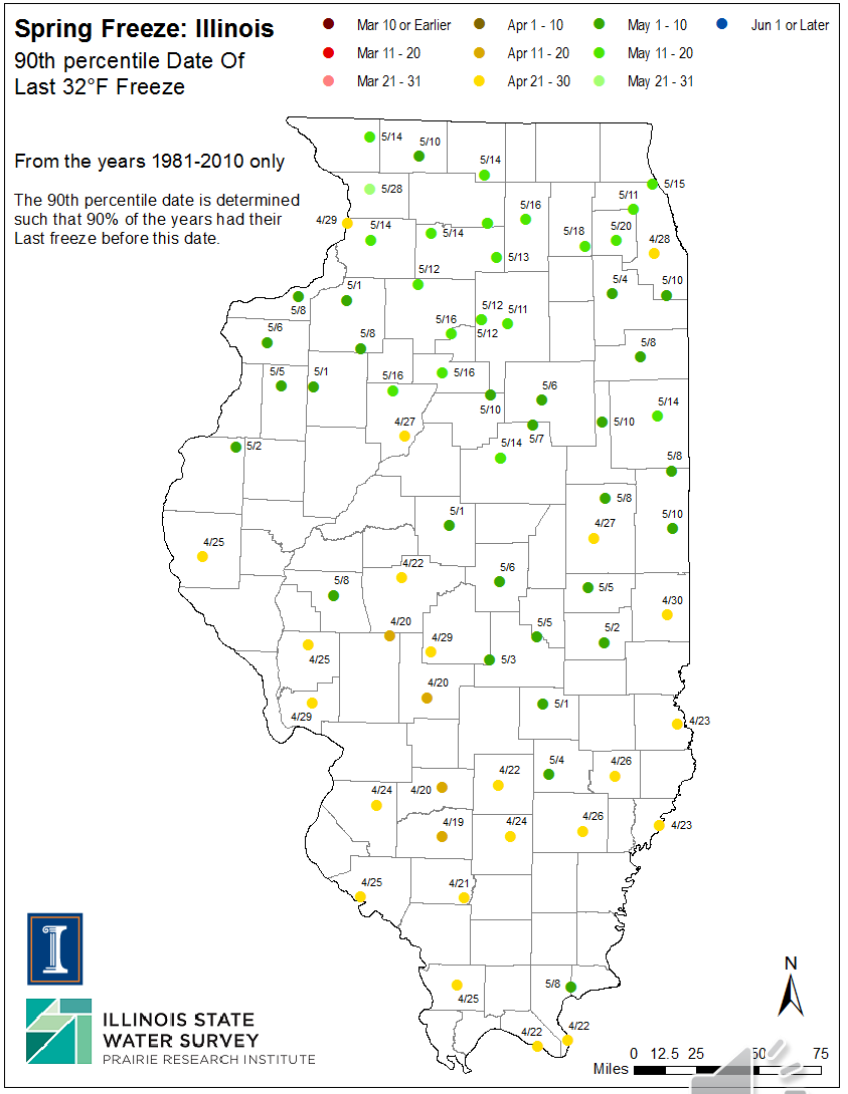


Figure 1.5. Average last occurrence in spring of 32 °F (0 °C) in Illinois, 1971 to 2000.



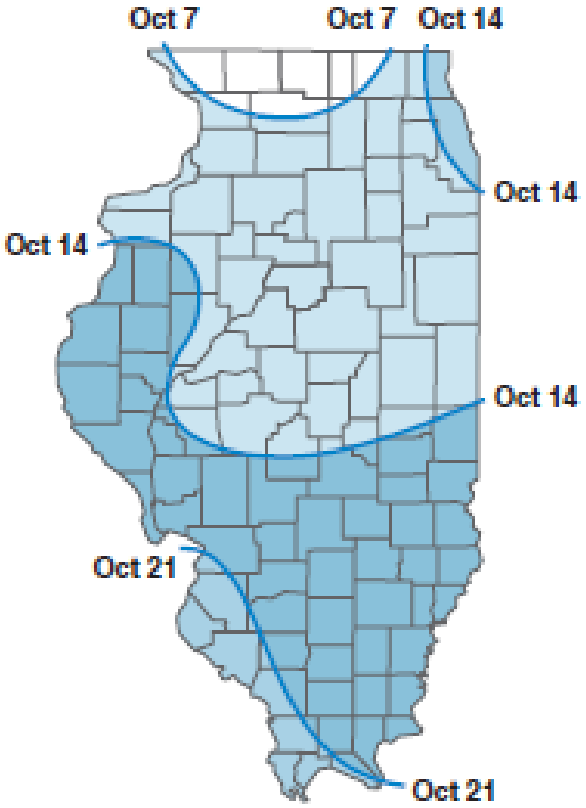


Figure 1.6. Average first occurrence in spring of 32 °F (0 °C) in Illinois, 1971 to 2000.

Growing season

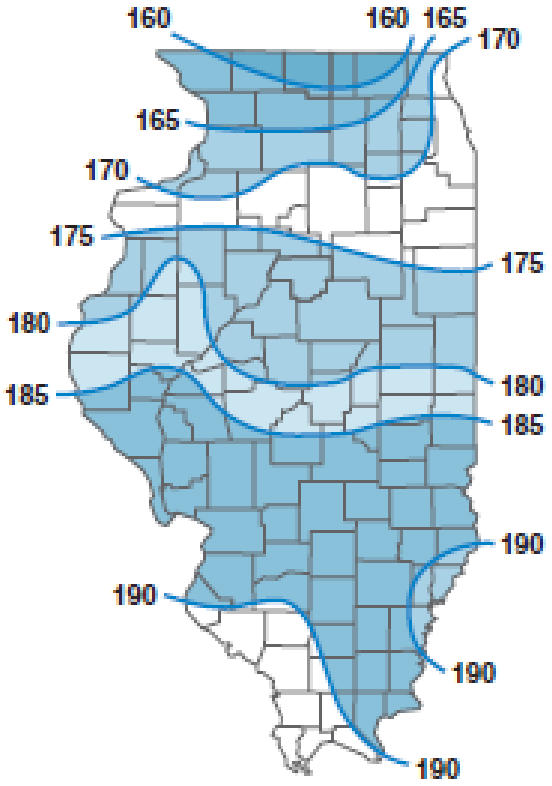


Figure 1.7. Average frost-free growing season length (days) in Illinois, 1971 to 2000.

Season Extension

- Methods of protecting crops from the cold in the spring and fall thus “extending the growing season”
- Very beneficial for increasing the diversity of crops early in the season for markets
- Disadvatages:
  - Additional expense of structures and more labor intensive
- Advantages
  - Higher price for earlier product, decreased disease issues, high quality products

Extending the Season

- Row covers
- Hoop houses / high tunnels
- Low tunnels

UNIVERSITY OF ILLINOIS EXTENSION

new ILLINOIS fruit & vegetable FARMERS

Fall Crops

- Most don't take advantage of fall season
- Cool season crops- cole crops, leafy greens, etc.
- Presents special "challenges"- moisture especially- more insects?- source of plants?
- Mid July- beets, broccoli, cabbage, carrots, cauliflower, beans
- Mid August- lettuce, spinach, turnip
- Frost protection?- row covers

Transplant vs Direct Seed

- Transplants can give you a head start on the season compared with direct seeding
- Avoids seed predation or seedling decay in cold or wet soils
- Direct seeding can less costly than transplanting
  - Most small seeded crops that are direct-seeded will need to be thinned to achieve optimal growth
    - Beets, carrots, and head lettuce, for example
- Often depends on the crop

Common Crop Planting Methods

- Transplanted
  - Tomatoes
  - Peppers
  - Cole Crops
  - Sweet Potato
- Direct-Seeded
  - Sweet Corn
  - Green Beans
  - Lettuce
  - Beets
  - Peas
- Either
  - Cucurbit Crops

Start your own transplants?

- Growing your own allows you plant the varieties YOU want and when YOU want to transplant them
- Requires space to grow transplants (typically a greenhouse), specific knowledge of transplant production and requires and additional 5 to 8 weeks of labor.

Next month's class focuses on transplant production

UNIVERSITY OF ILLINOIS EXTENSION

new ILLINOIS fruit & vegetable FARMERS

Site Selection

- Soil type and fertility
- All soils are not equal in terms of productivity and ability to grow vegetables
  - Soil type can impact which crops can be successfully grown
- Cropping history: Know what has been grown and what pesticides have been used to avoid problems with herbicide carryover and insect, disease, and weed pressure
- Site elevation

Pest Management:
Weed, disease, and insect control

- Integrated pest management (IPM) is essential to grow high quality produce- never rely upon a single control option, rather utilize as many as possible
  - Weed control: Herbicides, cultivation, tillage, hand weeding, mulches (Plastic, straw, paper), crop rotations, mowing, flaming
  - Insect control: Insecticides, row covers, rotations, hand-picking
  - Disease control: Fungicides, disease-free seeds and transplants, resistant varieties, rotations, sanitation

Crop Families

- Rotate fields (3 years) between crop families to reduce disease pressure
  - Alliums
    - onion, garlic, shallot, leek
  - Corn
  - Cucurbits
    - cucumbers, melons, squash, pumpkin
  - Cole
    - cabbage, broccoli, cauliflower, radish, brussel sprouts, horseradish, turnip
  - Legumes
    - beans, peas
  - Solanaceous
    - tomato, potato, pepper, eggplant
  - Goosefoot
    - beet, spinach, chard

Harvesting

- Depends somewhat upon personal preferences- ie- zucchini, sweet corn, cucs (pickling or eating) etc.
- Harvest in early morning (during summer) if possible
- Cool as soon as possible to reduce respiration
- For most- harvest as close to ripe as possible, when plant sugars are highest (sweet corn, strawberries, etc.)

Harvesting

- Make sure to harvest crops at the correct maturity for the given crop
- In addition be prepared to provide adequate post-harvest storage conditions for the given crop
  - *Post harvest handling is discussed in more detail later in the year.*

Expenses for Vegetable Crops

- Biggest expense is inputs: seed, plants, fertilizer, pesticides, machinery, fuel, land, etc. Vegetables are much cheaper than fruits.
- Some fruit crops can cost up to $7000 per acre
- Labor: must be supplied by you or by hiring others
- Marketing costs: packaging costs, market fee (farmers market), advertising, road-side stand, etc.
- Don’t sell too cheap! Know your costs

UNIVERSITY OF ILLINOIS EXTENSION

new ILLINOIS fruit & vegetable FARMERS

Possible Returns

*Avg. price, 2013 Quincy Farmers Mkt.

Crop	Yield/ 100 ft.	Price*	Gross Income/ 100 ft. row
Asparagus	80-100#	$2.50-3.00	$200-300
Bean, snap	50#	$2-3	$100-150
Broccoli	80-100#	$1.50-2.00/hd	$100-150
Cabbage	150-200#	$.50/lb	$75-100
Cauliflower	80#	$2.00/hd	$150
Sweet corn	10 dz	$5	$500
Cucumber	100-150#	$.50	$50-75
Muskmelon	200#	$3.00/hd	$120
Onion	150#	$1.50	$225
Pea	25-30#	$2.00-3.00	$50-90
Pepper	75-100#	$0.75 each	$50-75
Potato	100-200#	$1.00-1.50	$100-300

Possible Returns

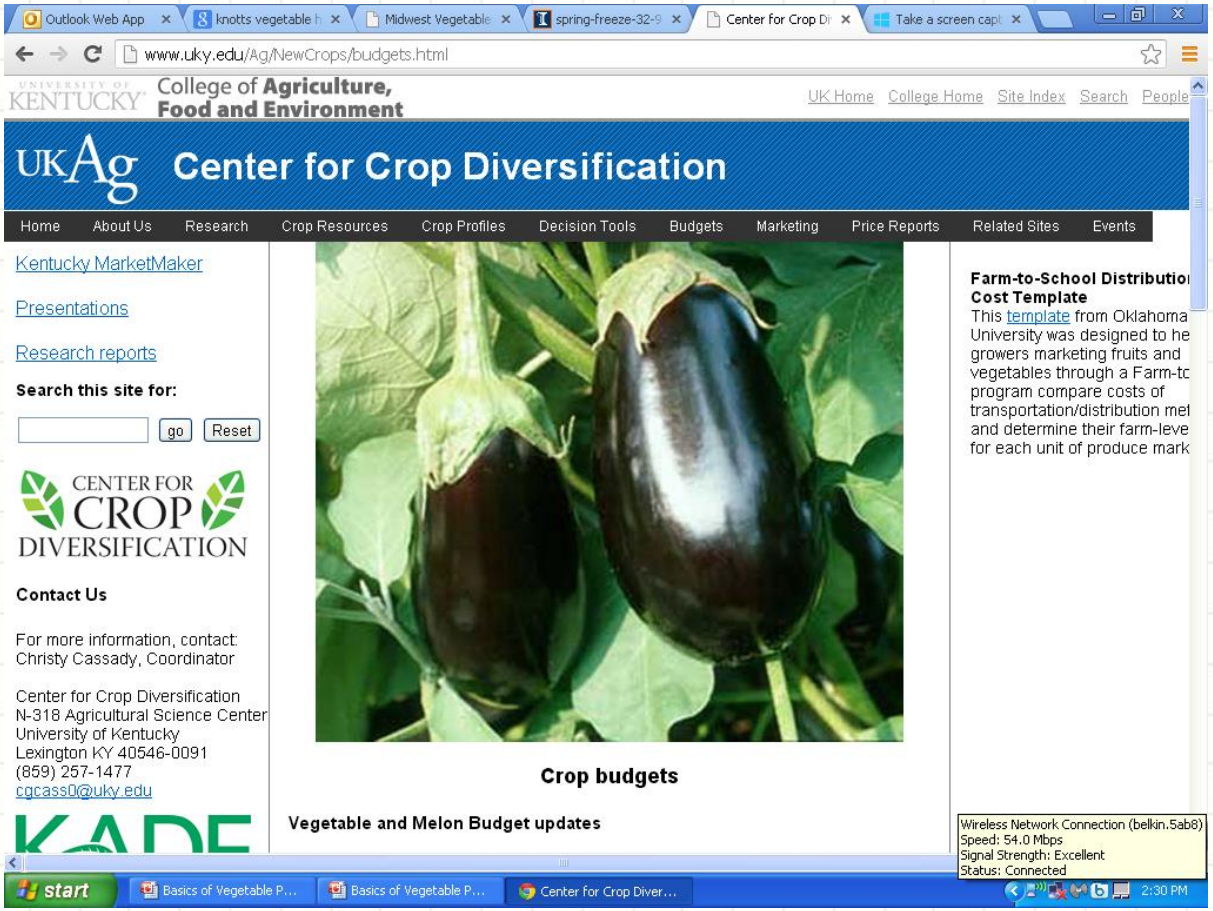
Crop	Yield/ 100 ft.	Price*	Gross Income/ 100 ft. row
Sweet potato	80-100#	$1.50	$80-150
Rhubarb	150-200#	$1.50	$150-200
Summer Squash	150-200#	$1	$150-200
Winter Squash	200#	$.75	$150
Tomato	200-300#	$2.00-2.50	$400-750
Watermelon	200-300#	$5.00ea	$100-150

*Avg. price, 2013 Quincy Farmers Market

UNIVERSITY OF ILLINOIS EXTENSION

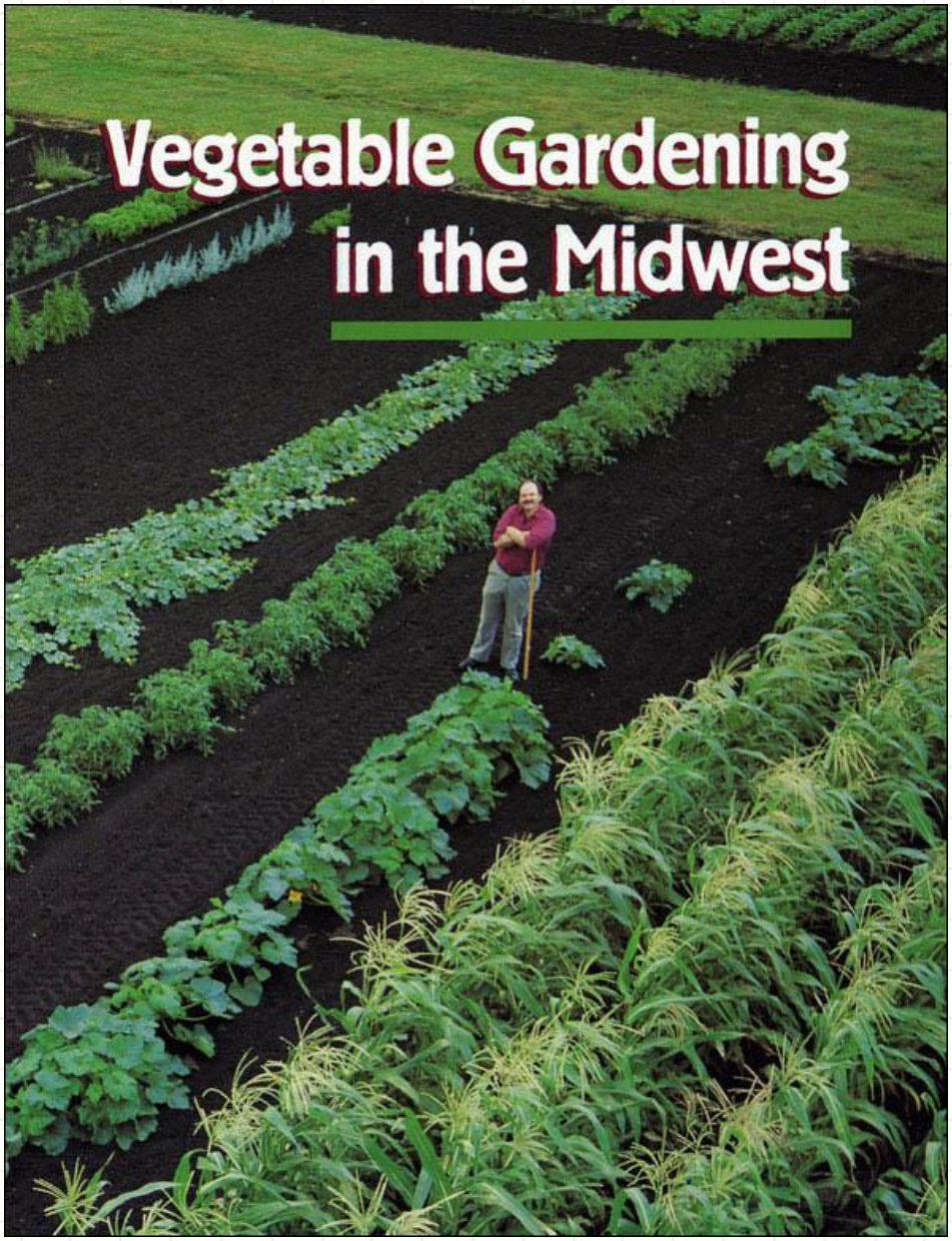
new ILLINOIS fruit & vegetable FARMERS

Commercial Enterprise Budgets



University of Illinois Extension

new ILLINOIS fruit & vegetable FARMERS



http://ia600706.us.archive.org/23/items/vegetablegardeni1331voig/vegetablegardeni1331voig.pdf

UNIVERSITY OF ILLINOIS EXTENSION

new ILLINOIS fruit & vegetable FARMERS

http://www.btny.purdue.edu/pubs/id/id-56/

UNIVERSITY OF ILLINOIS EXTENSION

new ILLINOIS fruit & vegetable FARMERS

Resources

- http://ia600706.us.archive.org/23/items/vegetablegardeni1331voig/vegetablegardeni1331voig.pdf
- http://www.btny.purdue.edu/pubs/id/id-56/
- http://web.extension.illinois.edu/vegguide/
- http://www.urbanext.uiuc.edu/vegproblems/

UNIVERSITY OF ILLINOIS EXTENSION

new ILLINOIS fruit & vegetable FARMERS

To reach us

Contacts	Contact information
Mike Roegge	roeggem@illinois.edu
Jeff Kindhart	jkindhar@illinois.edu
Nathan Johanning	njohann@illinois.edu
Rick Weinzierl	weinzier@illinois.edu

UNIVERSITY OF ILLINOIS EXTENSION

new ILLINOIS fruit & vegetable FARMERS