Growing Season Planning
Lynn Brandenberger
Dept. Horticulture
Oklahoma State University

Picking Crops That Are More Profitable

• Grow what you can sell!
• Start with a mix
  — Market development
  — Don’t put all your eggs in one basket
  • Diversity reduces risk
• Basic crop mix
  — Tomato
  — Squash
  — Sweet corn
  — Leafy crops
  — Etc.

What Is It You’re Selling?

• Nutrition
  — Healthy food
  — Know your crops
• Confidence in
  — How it’s grown
  — Food safety
• Local & diverse
  — Food security
• Trying new things
  — Not easy
  — Can be rewarding

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Tweaking Your Crop Mix

• Records help!
• Timing is important
  — Having it when no one else does is key
• Trying new crops
  — Develop new markets
  — Some belly-flop others soar

We Can Grow 12 Months/Year

• Cool season crops
  — Brassica head crops
  — Greens
  — Root crops
• Warm Season crops
  — Fruiting crops
  — Beans & peas
  — Root crop

Early Spring, Fall & Winter Crops

• Cool season crop groups
  — Greens
  — Brassica head crops
  — Root & tubers
  — Bulb crops
• Some will grow unprotected through winter
**Summer Crops**

- Summer crop groups
  - Fruiting
  - Cucurbits
  - Legumes
  - Sweet potato

**It’s All About Timing**

- Tricks of the trade
  - Operate within crop constraints
  - Transplants = time saved
  - Modifying soil temps
  - Pest management
    - Weeds
    - Insects
    - Diseases
  - Water & fertility
    - Providing
      - Specific crop needs
        - Water
        - Fertilizer

**Post Harvest Product Care**

- Storage conditions
  - Temperature
    - 32-34°F
      - Leafy, crucifers, bulb, S-corn, garden pea
    - 50-54°F
      - Cucurbits, fruiting, most legumes
  - Humidity
    - 95-100%
  - Potential storage time
    - Week to months
      - Crop dependent

**Modifying Soil Temps**

- Mulches
  - Organic
  - Plastic

**Modifying Air Temps: Clear Row Covers**

- A mini greenhouse
- Will get very hot in full sun
- Some are vented
- Favor crop and weed growth
  - Plan for controlling weeds
  - Use with black plastic mulch

**Modifying Air Temps: Spun-bound Covers**

- Spun-bound characteristics
  - Traps heat:
    - 2-4°F frost protection
  - Excludes insects
  - Blocks wind
  - Allows passage of water
  - Heavier shades more, but provides more cold protection
    - 0.5 – 1.25 oz. per yard
  - Thinner gives less cold protection, but shades less

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[Sources](http://smallfarms.cornell.edu/2012/06/27/coolbot-enables-small-farmers-to-build-do-it-yourself-coolers/)
Irrigation Considerations
Small Scale Drip System Control Station Components
- Pressure regulator
- Hose bib
- Check valve
- Filter
- Main line
Note: all fittings are hose thread for easy assembly

High Tunnel Production
Fall-Winter-Spring
- Traditional use of high tunnels
  - Season extension for warm season crops (fall & spring)
    - Tomato
    - Cucurbits
    - Etc.
- Cool season crops in high tunnels (fall-winter-spring)
  - Fills a time-void in market

Winter Production with No Heat?
- Remember!
  - You’re operating a passive solar heated system
  - No energy costs
  - No worries about power losses
- The deal:
  - Select crops that like cold!
    - Cool season greens
    - Cool season root crops
  - Some can survive outside
  - Some just need a little help

Cool Season Greens in a High Tunnel
Why Greens?
- Cold tolerant
  - Frost tolerant
  - Several can overwinter outside
- Fast turn around
  - 30-40 days
- Highly nutritious
  - Selling point
  - Need recipes

Cool Season Greens in a High Tunnel
Cultivar Selection
- Selection of cultivars
  - Consider
    - Disease resistance
    - Resistance to flowering
    - On-site trialing

Cool Season Greens in a High Tunnel
Establishment
- When to start
  - ASAP in the fall
- How to start
  - Direct seed
  - Transplant
- Direct seeding
  - 12 seeds/row foot
    - Works well for
      - Brassica greens
      - Spinach & chard
- Transplants
  - Work well for lettuce

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Cool Season Greens in a High Tunnel

- Many ways to harvest
  - Hand-cut with knife
  - Scythe
  - Basket harvester
  - Whole plant cut
- Decision to make
  - Multi-harvest same plants
    - Sell bunched leaves
  - One-time harvest
    - Must receive premium price

Leafy Greens High Tunnel Research in Oklahoma

- 2 year study
- 4 locations in state
  - Tulsa
  - OKC
  - Ardmore
  - Lane
- 9 different greens crops
  - Spinach, Chard, Romaine
  - Broccoli Raab, Collard, Kale
  - Mustard, Spinach Mustard
  - Turnip

Results Available at:

- Available this evening
- Reports for project:
  - 2010-2012
- Website Address is:
  - [http://www.hortla.okstate.edu/research-and-outreach/research/vegetable-trial-reports](http://www.hortla.okstate.edu/research-and-outreach/research/vegetable-trial-reports)

Root Crops in a High Tunnel

- Carrot & Radish
  - Direct seed both
    - Carrot 6-12 seeds/ft.
    - Radish 12-24 seeds/ft.
  - Carrot may take extra TLC
    - Germination in early fall
    - Cool soil temps somehow
      - Plant in furrow bottom
      - Organic mulch
      - Frequent light irrigations
    - Radish is forgiving & fast

Sources of Information

- Website for info:
  - [http://www.hortla.okstate.edu/research-and-outreach/research/vegetable-trial-reports](http://www.hortla.okstate.edu/research-and-outreach/research/vegetable-trial-reports)
- Available at above website
  - Oklahoman’s guide to growing fruits, nuts, & vegetables E-995
  - Vegetable fact sheets
  - Vegetable trial reports 2001-2014