

### Production, Marketing, and Economics for Winter Grown Leafy Greens



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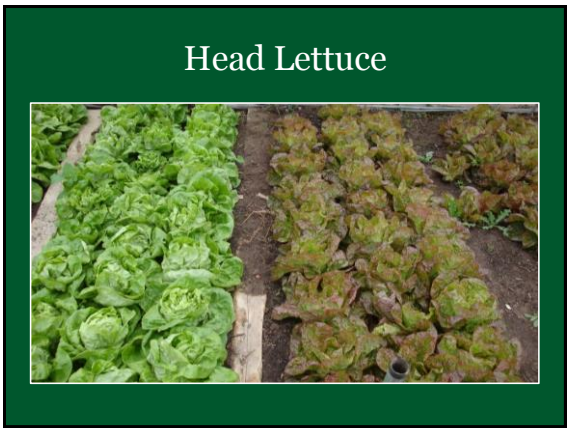
### High Tunnels and Hoophouses



### Spinach



### Head Lettuce



## Baby Leaf Salad Mix



## Kale



## Swiss Chard and Collard Greens



## Asian Greens



## Production Considerations (Pre-Plant)

- MARKET?
- Access (Cold or wet weather?)
- Direct Seeding, transplanting, and spacing
- Crop Availability and Production Volume
- Warm Season Crop Needs
- Internal Cover Needs and Management
- Fall vs. Spring Timing

## Direct Seeding, Transplanting, and Spacing

CROP	DS/TP	SPACING (INCHES) IN ROW X BETWEEN ROW
Spinach	DS and TP	TP = 6 X 6 DS = 2 X 4-6 inches
Head Lettuce	TP	10-12 X 10-12
Salad Mix	DS	8-10 per inch X 2.5-4
Kale	TP	12 x 12
Swiss Chard	TP	12 X 12
Collards	TP	12 x 12
Asian Greens	TP	10-12 X 10-12

## Fall and Winter Transplant Production – Buy In or Grow Your Own?



## Fall Spinach Transplants



## Crop Availability and Volume

- Market Dependent
- Impacts:
  - Bed layout
  - Succession Planting and Timing
  - Time off?
  - Timing for Least Cold Tolerant Crop Sales
  - Warm Season Crop Production

## Bed Layout Multiple Crops



## Bed Layout Single Crop



## Warm Season Crop Needs



### Internal Covering Management



### Poly or Fabric, Low or High



### Fall and Spring Timing



### Market, Market, Market



### MARKET, MARKET, MARKET!



## Winter Marketing Tips

- Tell customers early
- Explain winter harvesting
- Watch the weather!
- Try NOT to skip a week
- Have somewhere warm(ish) to wash
- Prevent freezing products
- Post what you have
- Recruit other farmers

## Winter Economics



## Yields – 3 X 90ft Bed

CROP	APPROX PLANTS/BED	YIELD/PLANT	TOTAL YIELD/BED (~@90%)
Spinach	552	1/2 lb	250 lbs
Head Lettuce	270	1 Head	240 heads
Salad Mix	N/A	1 lb/8 ft2	30 lbs 90 lbs (3 cuts)
Kale	270	3/4 lb	180 lbs
Swiss Chard	270	1/2 lb	120 lbs
Collards	270	3/4 lb	180 lbs
Asian Greens	270	1 head	240 heads

## Gross Sales

CROP	YIELD/BED	PRICE/UNIT	GROSS SALES/BED
Spinach	250 lbs	\$6/lb	\$1,500
Head Lettuce	240 heads	\$2/head	\$480
Salad Mix	30 lbs 90 lbs (3 cuts)	\$7.50/lb	\$675
Kale	180 lbs	\$3/lb	\$540
Swiss Chard	120 lbs	\$3/lb	\$360
Collards	180 lbs	\$3/lb	\$540
Asian Greens	240 heads	\$2/head	\$480

## Production Costs

CROP	TP COSTS 72s @ \$15	TRANSPLANT TIME	WEED TIME	HARVEST TIME AND COST	WASH/PACK TIME
Spinach	\$132	1.25 hrs (8 s) \$12.50 (@\$10/hr)	3 hrs \$30	5.5 hr (.75 lb/m) \$55	4 hrs (1 lb/min) \$40
Head Lettuce	\$66	0.6 hrs \$6	3 hrs \$30	0.67 hrs (6/m) \$6.70	4 hrs (1 head/min) \$40
Salad Mix	\$20	0.25 hrs (seeding) \$2.50	6 hrs \$60	1.8 hrs (50/hr) \$18	3 hours (1 lb/2 min) \$30
Kale	\$66	0.6 hrs \$6	3 hrs \$30	3 hrs (1 lb/min) \$30	3 hrs (1 lb/min) \$30
Swiss Chard	\$66	0.6 hrs \$6	3 hrs \$30	2 hrs (1 lb/min) \$20	2 hrs (1 lb/min) \$20
Collards	\$66	0.6 hrs \$6	3 hrs \$30	3 hrs (1 lb/min) \$30	3 hrs (1 lb/min) \$320
Asian Greens	\$66	0.6 hrs \$6	3 hrs \$30	0.67 hr (6/min) \$6.70	4 hrs (1 head/min) \$40

CROP	PRE-PLANT	PRODUCTION	PACKAGING	COSTS
Spinach	\$70	\$270	\$7.50 3 lb bags	\$347.50
Head Lettuce	\$70	\$150	\$2.70 8/bag	\$222.70
Salad Mix	\$70	\$130	\$2.70	\$202.70
Kale	\$70	\$160	\$5.40	\$235.40
Swiss Chard	\$70	\$140	\$3.60	\$213.60
Collards	\$70	\$160	\$5.40	\$235.40
Asian Greens	\$70	\$150	\$2.70 8/bag	\$222.70

CROP	Gross Sales	COSTS	NET/BED (PROFIT)
Spinach	\$1,500	\$270	\$1,230
Head Lettuce	\$480	\$150	\$330
Salad Mix	\$675	\$130	\$545
Kale	\$540	\$160	\$380
Swiss Chard	\$360	\$140	\$220
Collards	\$540	\$160	\$380
Asian Greens	\$480	\$150	\$330

## Other Possible Costs

- Mileage
- Delivery Labor
- Tunnel Depreciation

## Goals for Winter Leafy Greens

- Retain customers year-round
- Keep employees engaged
- Provide rotation for tunnels
- Make \$

