



Annual Asparagus: Does it Work?

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Common Practices - Asparagus

- **Field prepared a year ahead (cover crop, weed control, beds prepped, nutrition adjusted)**
- **Crowns order one year ahead (variety, etc)**
- **Plant crowns, manage field for 2 years**
- **Initial harvest in year 3 (8-10 cuts)**
- **Longer harvest with maturity; starts yr 5-6**
- **Maintain site for additional 5-10 years**
- **Land tied up for 15-20 years.**

Traditional Asparagus System

Huge up front investment

Low yields

Large land area

Market uncertainty

Opportunity cost lost



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Yr -1												\$1000/A
Yr 1												\$5-7000/A
Yr 2												\$1000/A
Yr 3												\$1500/A
Yr 4												\$1800/A
Yr 5												\$2500/A
Yr 6												\$3500/A
Yr 7-15								High yields expected \$\$				
Yr 16-20								Yield decrease with age				

Annual Asparagus – Transplants or Crowns - 1 year Cycle



Crowns: 3-5 oz./plant
Seedling: 1-2 oz./plant





Asparagus Yields – lbs./plant

- Yields are variable (yr-yr)
- Plant populations (low) – field at 8,700-12,000/A
- 5-6 years to full production
- Change the system to....

	Notable Yields		
	lbs./A	lbs./plt	lbs./ft2
Washington	4,500	0.52	0.10
California	3,000	0.34	0.07
Utah*	4,000	0.46	0.09
Netherlands	5,475	0.55	0.13
Japan	4,575	0.46	0.11
Peru	9,550	0.95	0.22



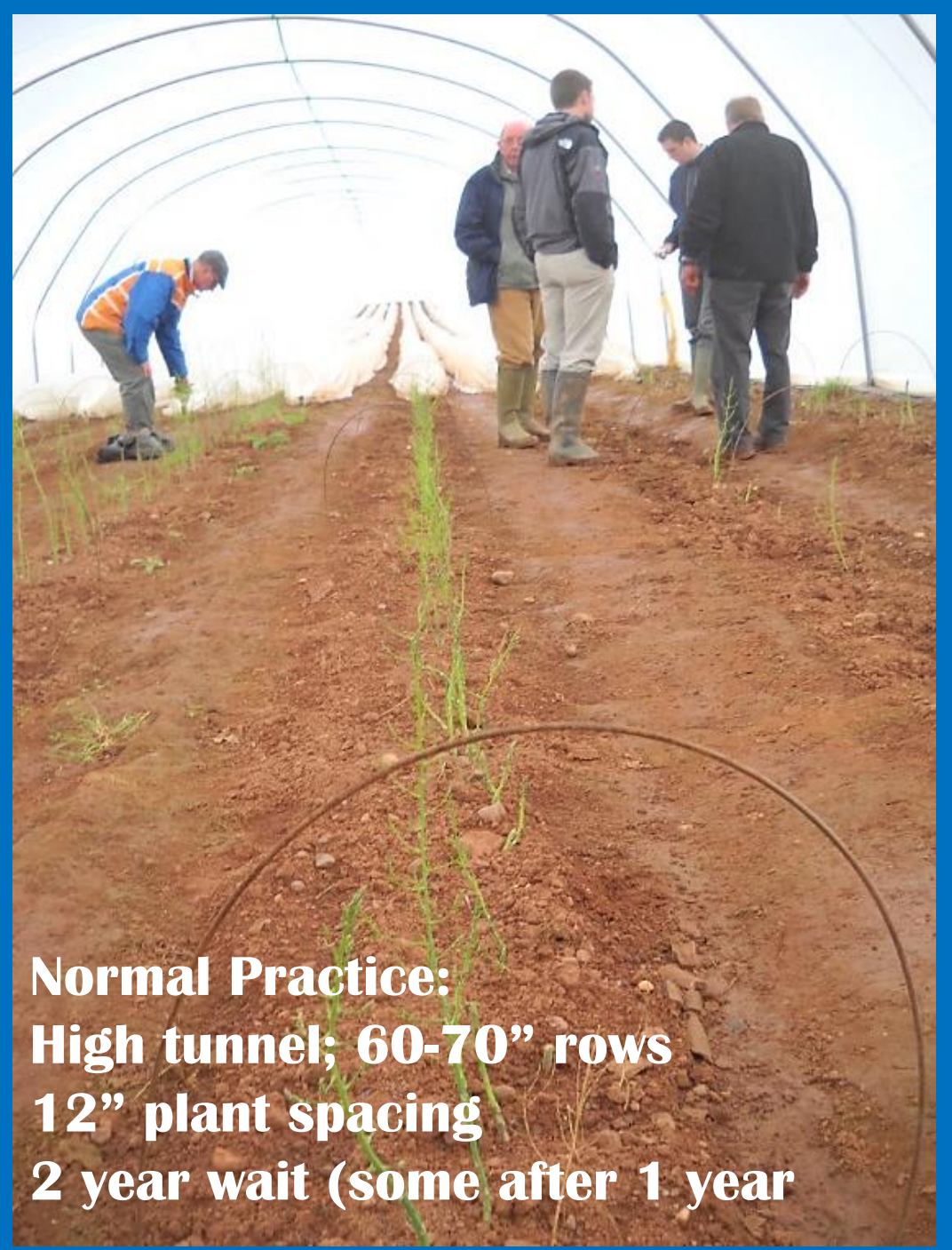
The Idea: Annual Asparagus



Dr. Ariki and Maeta

- Heated raised beds; mature crowns
- Tunnels
- December-January production
- Tokyo markets (\$20-25/lb)
- Green/white spears

European Asparagus



**Normal Practice:
High tunnel; 60-70" rows
12" plant spacing
2 year wait (some after 1 year)**



Knaflewski – Poland

- 36" rows/high tunnels**
- crowns or plants (2 yrs)**
- improve by 1 yr to field**



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Yr 7-15								High yields??; good \$\$				
Yr 16-20								Yield decrease with age				

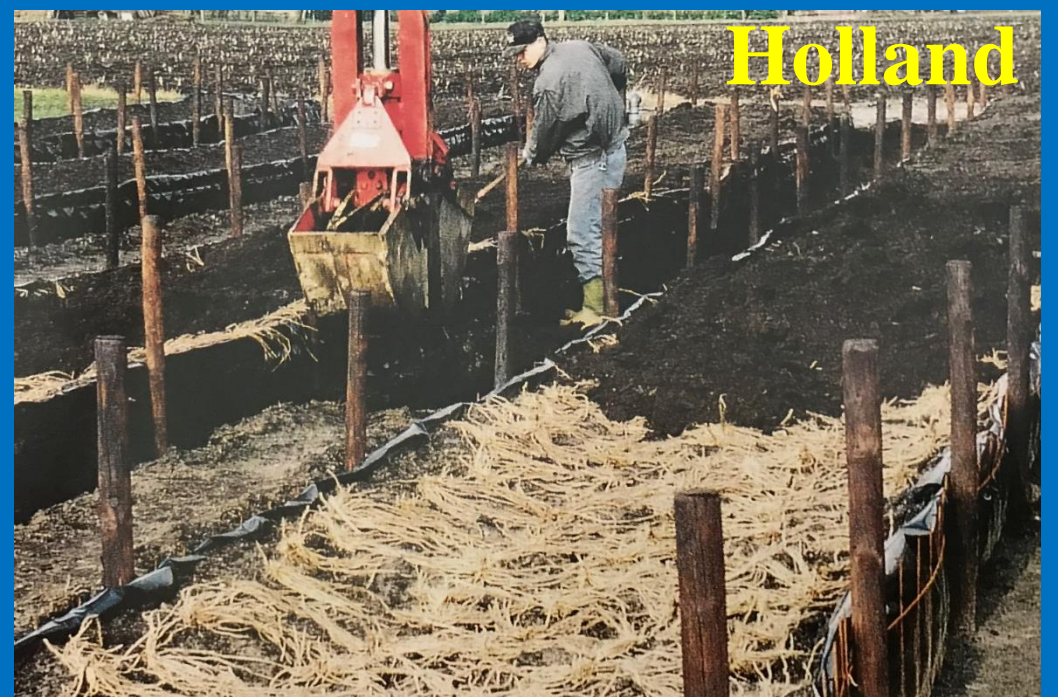
Annual Asparagus System

- Start with transplants or crowns
- Seed cheaper (10¢/seed) but have to raise seedlings – 12 weeks to grow
- Crowns bit more (30-50¢/root), but avoids plant growing issues; like starting with a 2-yr old plant (**yield potential**)
- **Key:** high densities & good care





Japan



Holland

Annual Asparagus Goal

- Increase Yields
- Produce Earlier Yields
- Minimize Land Use
- Alternate Approach



	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Yr 1											
Yr 2					Other cropping options						

Plant, grow

Harvest, remove



Year #1

- Seed trays in early January (13th)
- Transplant in early/mid April
- Narrow Rows (18"), High Density (3, 4, or 6" apart) = 58, 87, or 116,000/A
- Grow in High Tunnel + row cover
- Push growth with good management

Year #2

- Close tunnel in late February
- Turn on soil heat
- Harvest from Mid-March to Late April before outdoor
- Remove plants for other crops!

**MARCH 10, 2020
(50 DAY HARVEST)**

Productivity

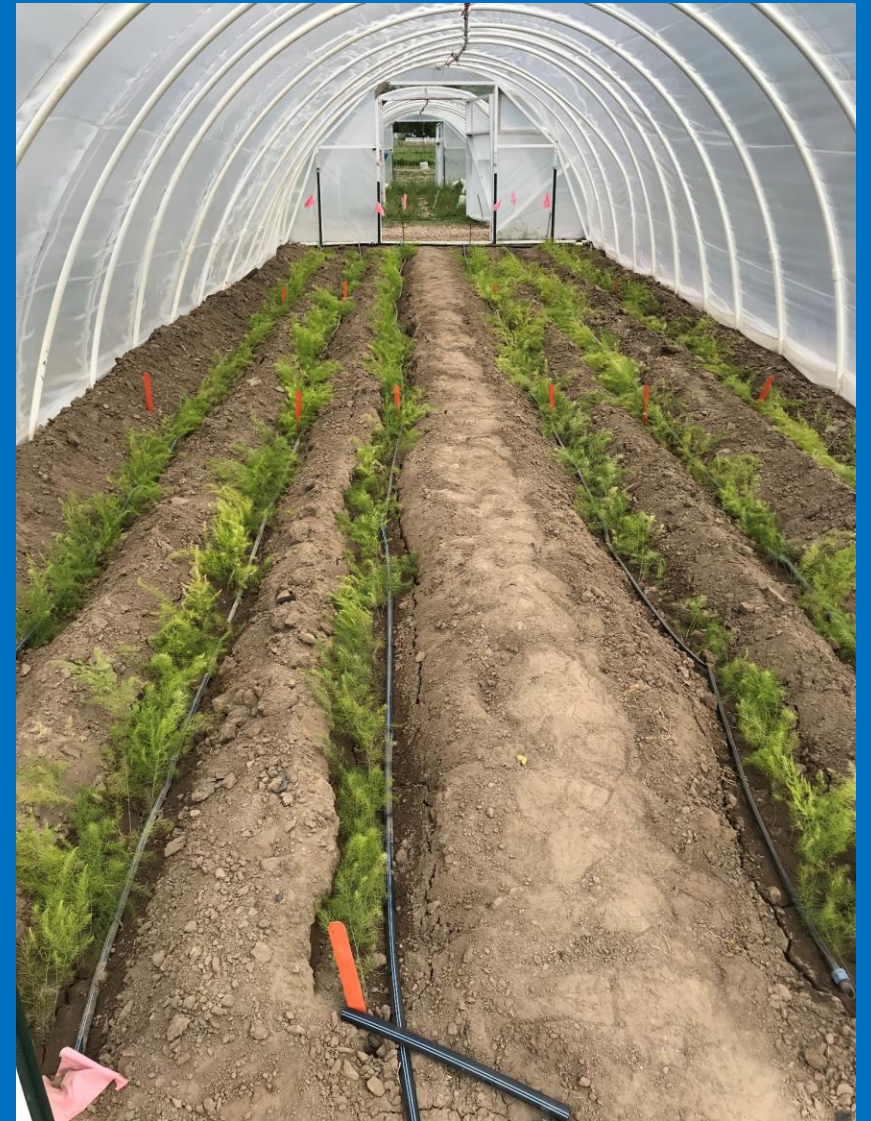


Density & Heat	Yield* (spears/ft ²)	Yield* (lbs./ft ²)	Yield* (lbs./A)
58,000 (-)	0.92	0.022	960
58,000 (+)	0.92	0.021	915
87,000 (-)	1.39	0.034	1481
87,000 (+)	1.28	0.029	1263
116,000 (-)	2.57	0.065	2831
116,000 (+)	2.67	0.064	2788

* Yield x 43,560 ft²/A

Key Improvements – 2021 & beyond

- Repeat same study – tunnel watered & closed March 1.
- Increased planting depth from 2 to 4 inches.
- Track input costs closely to do economic assessment.
- Integrate crowns into the mix (arrive Apr 15). Should increase spear size.
- Compare more closely to outside production system (\pm high tunnel)

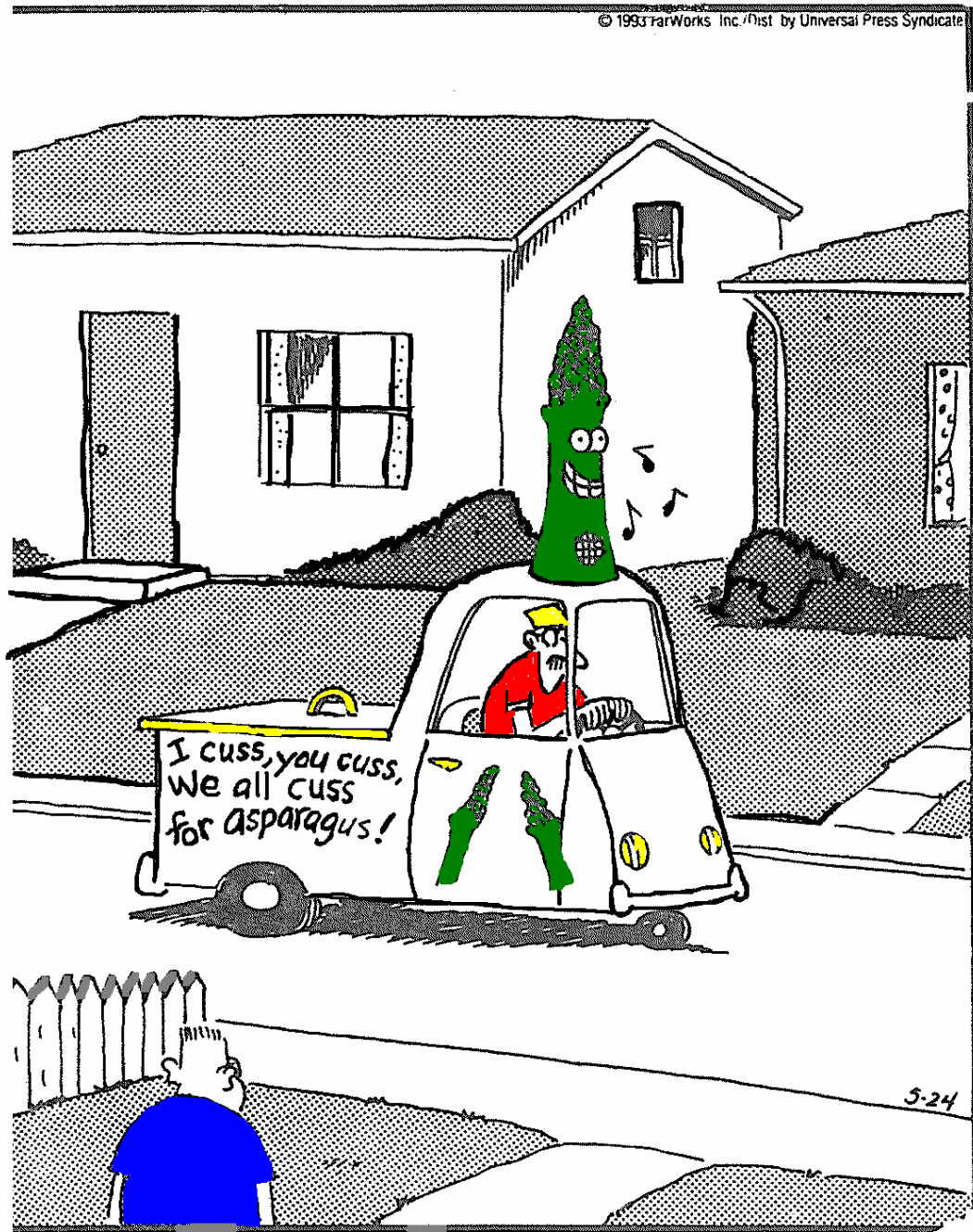


11 May 2020

Concept appears sound

- Creating the Ideal Growth Environment (soil, density, environment, management)
- Focus on earliness (variety, protection, competition)
- Still evaluating (economics, productivity, returns \$\$)

QUESTIONS



Failed Marketing Ploys