



**Celery Production
Year-Round for Profit
at Pleasant Valley Farm**

December 2022

Paul Arnold



PLEASANT VALLEY FARM ARGYLE, NEW YORK



ARGYLE



ARGYLE, NY ZONE 4

- ◆ Land purchased in 1988-60 Acres
- ◆ Rent Neighbors 120 Acres



2022 PRODUCTION

- ❖ 3 Acres Mixed Diverse Vegetables
- ❖ 1/2 Acre Large Fruits
- ❖ 1/4 Acre Small Fruits
- ❖ 3-4 Acres Cover Crops
- ❖ Hay fields used by Beefalo farmer
- ❖ CNG certified



2022 MARKETING

- For 34 years did 90%+ at Farmers Markets
- Year-round growing since 2006 (1992)
- 2020 - 2 Farmers Markets & Online Store
- 2022- 75% Online store (40% resold goods)
20% Wholesale and 5% Farmers' Mkt



HIGH TUNNEL CELERY PRODUCTION

- January-Seed
- March to tunnel
- Harvest Apr-Jan



GREENHOUSE SEEDINGS



SEEDS

GOOD SEEDS ARE CRITICAL TO SUCCESS

QUALITY SEEDS

DISEASE FREE



GREENHOUSE

SEEDS

CONSIDER HOT WATER TREATING



GREENHOUSE

Seeding Tips

- Use white China Marker on trays



Uline-like wax pencil

GREENHOUSE

Organic Soil Mix-Cornell:

2 bales horticultural grade peat moss (3.8 cu ft)

1 bag of perlite (21# bag course)

6# organic fertilizer 5-3-4 (not animal based)

2# lime



*Test soil mix for pH and salts and nutrients

*Test greenhouse water for pH

*Work with professionals if issues



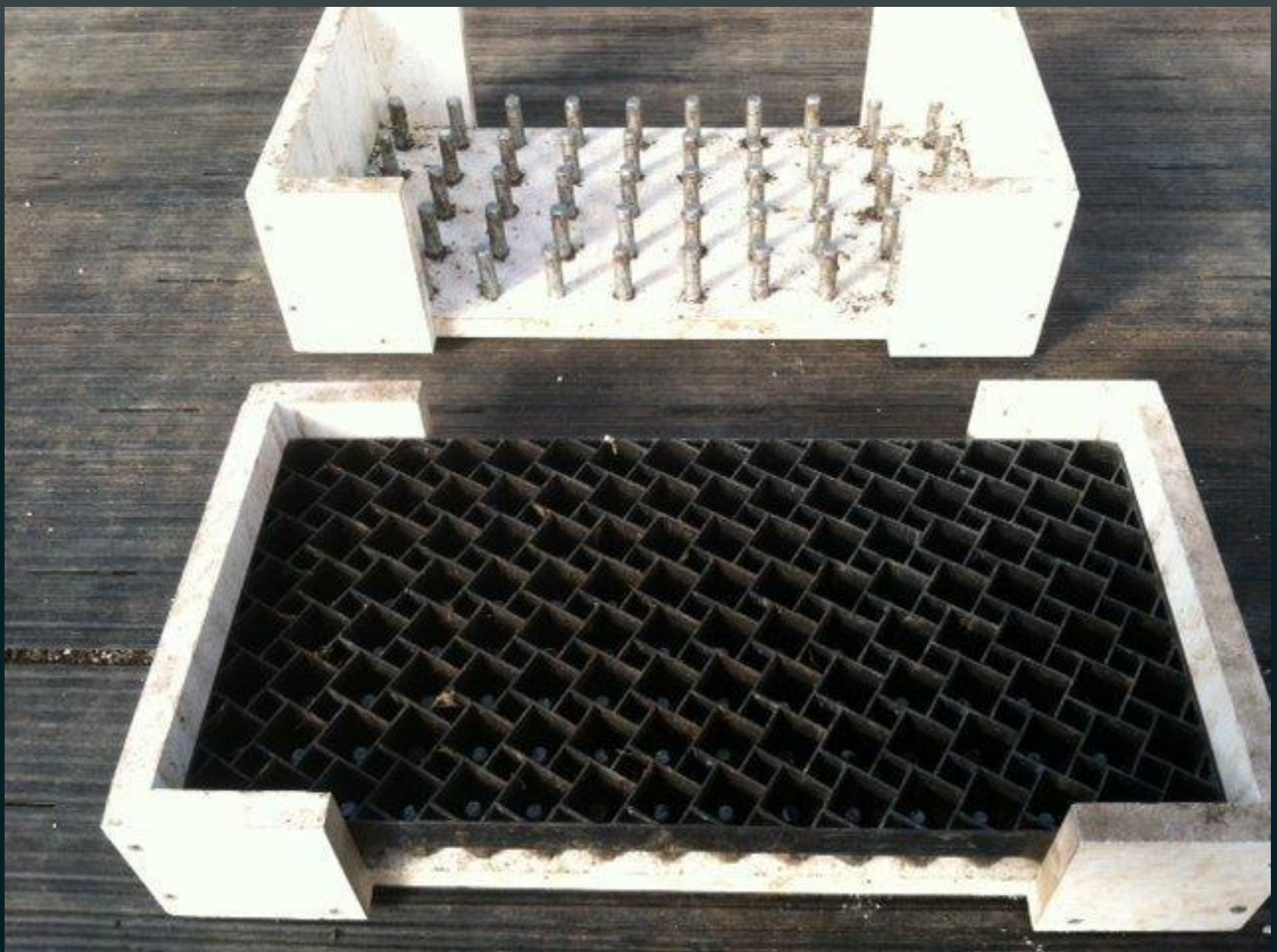
GREENHOUSE

SEED STRIPS, SPEEDLING, WINSTRIPS



Seed 1 seed per cell
into 128 Winstrip
Trays

SEEDING TRAYS



POPPERS—DIFFERENT SIZES--HOMEMADE

- Diseases-Root Shield and Root Shield Plus
- Actinovate-Fusarium
- Biological Stimulants
- Humic Acids



TRANSPLANT
SOLUTIONS

Water in

GREENHOUSE CARE

Soil Tests

- Amend as needed or get custom fertilizers (2 opinions)
- Know how to calculate what is needed
- Know crop needs (Knott's Handbook)
- Soil Test as Soil Media maybe for high tunnels

Report Number: 13307-01
Account Number: 87982

A & L Canada Laboratories East, Inc.
2750 Sheppard Avenue East, Unit 10, Scarborough, Ontario M1S 4T5
Telephone: (416) 437-2075 Fax: (416) 437-2044

AL

Report Date: 2013/03

SOIL TEST REPORT

Sample	Lab. Number	Location	Depth	pH	Ca (ppm)	Mg (ppm)	K (ppm)	Na (ppm)	Cl (ppm)	S (ppm)	N (ppm)	P (ppm)	Fe (ppm)	Zn (ppm)	Cu (ppm)	Mn (ppm)	B (ppm)	I (ppm)	Se (ppm)
1	13307-01	1	0-10 cm	6.8	1800	1200	1500	100	100	100	100	100	100	100	100	100	100	100	100
2	13307-01	2	10-20 cm	6.8	1800	1200	1500	100	100	100	100	100	100	100	100	100	100	100	100
3	13307-01	3	20-30 cm	6.8	1800	1200	1500	100	100	100	100	100	100	100	100	100	100	100	100
4	13307-01	4	30-40 cm	6.8	1800	1200	1500	100	100	100	100	100	100	100	100	100	100	100	100

- Each Lab is individual
- Logan-extra micronutrients
- Extension-Resource

SOIL HEALTH



March-Tear
out winter
greens crop
in one bed

Peat Moss

16 bales per tunnel
or 2 per bed

BED PREP



OUR FERTILIZER

- NO ANIMAL PRODUCTS
- Use plant-based for tunnels
- Nitrogen: Peanut Meal, Soybean Meal, Feather Meal
- CELERY: 120# N
- Boron optimum



- Peat Moss

Rotary Plow



BED FORMING



BED FORMING

Raking out



ALTERNATIVE – ADD PEAT MOSS & FERTILIZER THEN TILL & PLANT



RE-MAKE BEDS

PREPARE TRANSPLANT BEDS



- 7 BEDS IN 30' WIDE TUNNEL
- 8 BEDS IN 34' WIDE TUNNEL
- ROTOTILL AND FORM BEDS with Rotary Plow
- BEDS ABOUT 3 FT WIDE
- LAY DRIP TUBES
- LAY BIOTELLO BY HAND TO SAVE SPACE

ROCK DOWN BIOTELLO



Waterwheel axle for marking

PLANT TRANSPLANTS



- **3 Rows per bed**
- **12" in row...Some do 10"**

Celery- March

ADD STRAW TO PATHS



- Paths weed-free
- Cushion on knees
- Clean & neat
- Organic matter
- Row-cover stays cleaner
- Install via buckets or plastic
- Note-tape measure

HARVEST
STARTS
APRIL OR
MAY

**HARVEST OUTSIDE
STALKS ONLY**



FERTILIZE

**Weekly summer
fertilizing
program with
Enviro 5-0-20
2 cups per
tunnel per week
High fertility
needs**



DISEASES

INSECTS

Minor Issues

- Some virus but minimal
- Rogue out plants
- Aphids-rarely
- Slugs - Sluggo



**HARVEST
TILL DEC-JAN
OFF SAME
BED**

135' LONG

33" WIDE



Bunches

.5 to .8 #

Mostly retail

\$3-\$4



**Plants can be
huge**

-Kelvin (Tall)

-Tango



Tunnel transitions to winter crops



**November +
use minimal
heat at night
with
row-covers
to continue
harvests**

-Thermostat

-Probe



Final harvest

-Too cold

-Store in
crates in root
cellar

-3 to 5
weeks



ECONOMICS = PROFIT

- One bed 88'x3' produced 1300# of celery May 1 to Sep 1
- Harvest 50-90 bunches per week
- Value at \$6 per pound is \$7800 or \$6500 at \$5 per pound
- Extrapolated over \$1 million per acre!!



**AMAZING HIGH
VALUE CROP!!**

GREENHOUSE CELERY PRODUCTION

- July-Seed
- Transplant up
- Harvest Jan-May





Seed 1 seed per cell into 128 Winstrip
Trays in mid to late July

TRANSPLANT UP



- Pot up to 4" pots
- Keep fertility up

RADIANT HEATED BENCHES



UTILIZE ALL LATE FALL & WINTER FOR GROWTH

TRANSPLANT UP



- Final Pot up to quart pots
- Keep fertility up
- Sress-X & Chilean in dosatron

HARVEST



- Outside stalks only
- Keep well watered
- Scout often for insects

PESTS

- Aphids: Mpede
- Fungus gnats:
Beneficial
nematodes – Arbio
- weekly through
dosatron
- Yellow sticky traps



HARVEST

- Bunches of Celery Sprigs!
- Popular & nice flavor
- January till May when tunnel ready
- \$2.50 to \$3 per bunch



TECHNOLOGY AT WORK WITH EACH CROP WE GROW



The screenshot shows the iMONNIT mobile application interface. At the top, the iMONNIT logo is displayed. Below it is a 'Menu' button and a dropdown menu set to 'PVF 2'. A refresh icon is also present. The main content is a table with four columns: 'Type', 'Sensor / Data', 'Signal', and 'Battery'. The table lists several sensors with their respective data values, signal strength indicators (represented by green bars), and battery status icons.

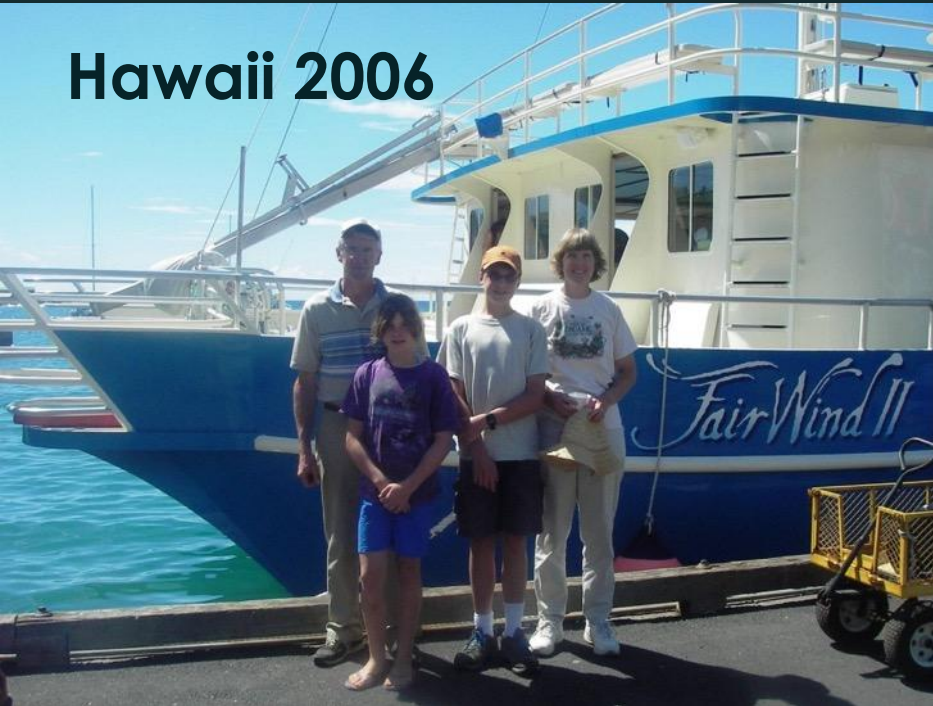
Type	Sensor / Data	Signal	Battery
Thermometer icon	Cooler Temp 36.5° F	Signal strength bars	Battery icon
Thermometer icon	Extra Temp 1 66.4° F	Signal strength bars	Battery icon
Thermometer icon	Extra Temp 2 66.4° F	Signal strength bars	Battery icon
Pressure gauge icon	Greenhouse Pressure 9.2 PSI	Signal strength bars	Battery icon
Thermometer icon	Greenhouse Temp 1 - Bench 3 East 66.6° F	Signal strength bars	Battery icon
Thermometer icon	Greenhouse Temp 2 - Bench 4 West 55.6° F	Signal strength bars	Battery icon
Thermometer icon	Greenhouse Temp 3 - Bench 5 West 66.4° F	Signal strength bars	Battery icon
Thermometer icon	Root Cellar (Temp) 35.2° F	Signal strength bars	Battery icon
Thermometer icon	Tunnel 1 - Low	Signal strength bars	Battery icon



Temp Monitoring & Alarms- prevents Disasters

THANKS AND HAVE A GREAT WINTER & 2023 SEASON!

Hawaii 2006



Alaska, Glacier 2011



- Questions? Email us at : arnold.pvf@gmail.com
- Call us! 518-955-6922
- Come visit anytime! Food and beds available always!
- Come be an intern or work on our farm for any time frame!