

Innovation on a Budget

Making Every Penny Count

James C Harden Jr.

Mortellaro's Nursery, Ltd. North, Schertz, Texas 78154, USA

Innovation Requires an Open Mind and Honesty with Yourself

- *An Open mind towards Change
- *An Open mind towards learning
- *An Open mind that you may not know the best way
- *An Open mind that you may not know everything
- *An Open mind that others can help or teach you

Innovation Requires Decisions

- *Do you want the most expensive looking operation?
- *Do you want the most efficient operation?
- *Do you want to control everything alone?

Are you willing to allow others to contribute to your vision or ideas?

Employees will always find the easiest and quickest way to complete a job, if its an improvement, why not implement it and give credit for the idea.

Year Round Signage



Seasonal Signage



**Production Signage
Lists Greenhouse Bow
Space**

Soil Recipes on Colored Signage



Colored Shrink Wrap to Match Soil Mixes



Soil Mixes
Colors for each soil type
\$

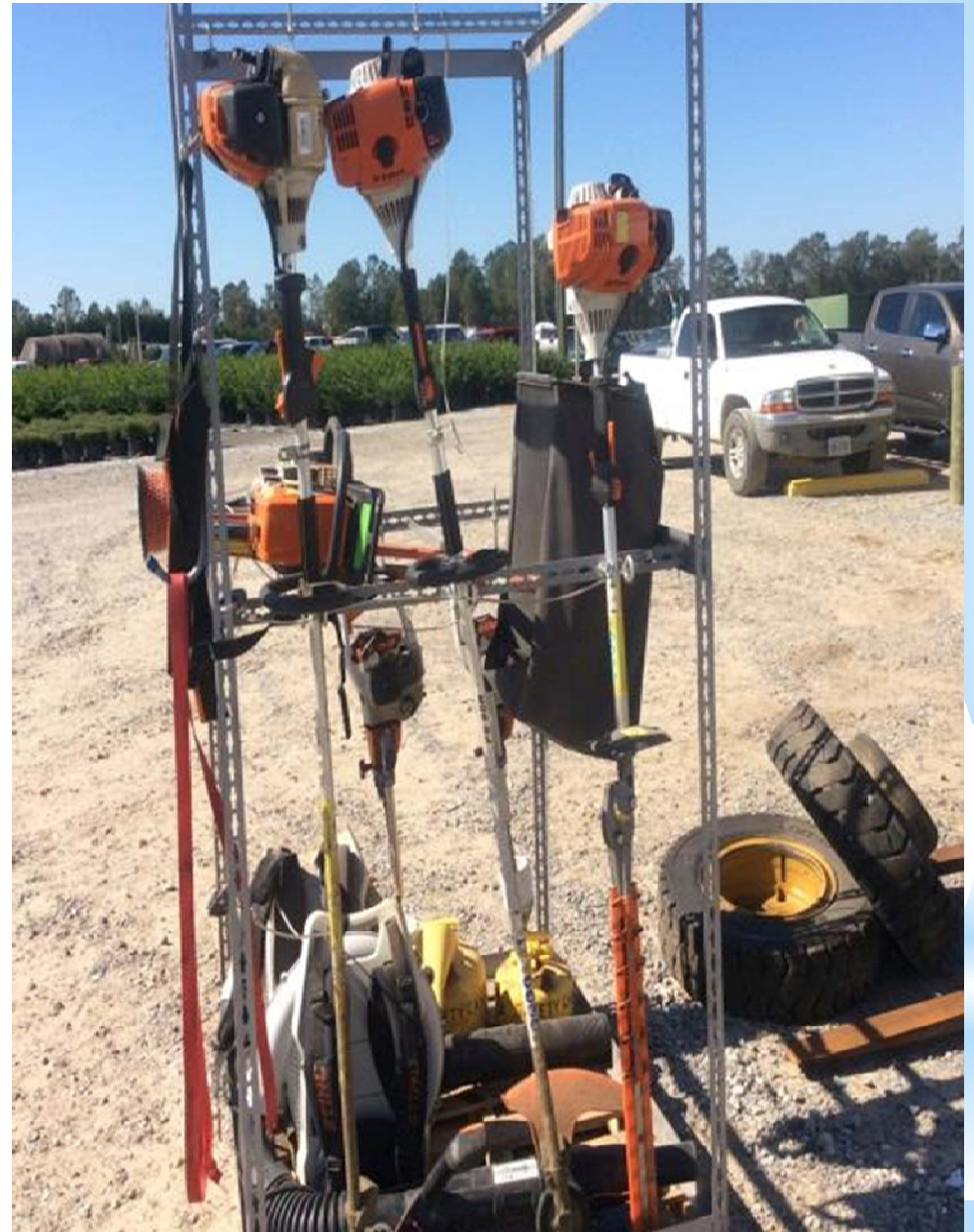
Color Coded Pallets with Filled Flats

- \$
- Overcomes any language barriers
- Plant tags can be color coded to match soil color
- Planting occurs where needed
- Can be shipped to other locations



Gas Power Tools Storage and Transport

- \$
- Palletized so equipment can be hauled to jobsite or left in storage
- Racks can be cheap or free with items delivered
- Pallets are in cheap supply



Lockable Tool Storage

\$\$



Open Tool Storage

\$



Power Tool Storage and Charging

Used Pot Storage and Transport

- \$\$
- Available used
- Easy to make in several styles
- Can be broken down for storage and shipment
- Can be transported to work area or to other locations when loaded



Frost Blankets Storage



Cardboard and Load Locks



**Tote Pallets can be
dropped where needed
\$20 each**

Baling Twine Storage



Plastic Lock Storage



Used Barrels
\$10 each

Mule Tape, Hose and Scrap Carpet



Mule Tape and T Posts



Tree Staking
\$

**Anchor and Install
Brace**



Anchor Install Tool



**Tree Staking Mobile Home
Anchors
\$**

Bottom Heat

- \$\$
- 2" x 4' x 8' Styrofoam bottom
- Regular ¾" PVC used for radial tube system
- Covered with 2" of small lava rock to dissipate heat
- Landscape fabric on top
- Spa Heater for heat
- Temp below 100



Hand Held winch

- \$
- Warn offers 110v and drill powered
- Lifts heaters with little employee effort
- One ladder and one employee needed to raise and bolt heater to building
- Heaters installed in less than 15 minutes



Hooking up Heater to Winch



Bolting Heater to Building



**Low Effort
Labor Saving
\$**

Portable Plumbing Trailer

- \$
- Air Force Surplus \$400
- Came with 8 slide out drawers and 4 fluid capable hose reels
- All irrigations parts used on nursery are in bins inside container
- Can be used or stored anywhere on property
- Could be used for other equipment



Single Tree Roller for 95g



Trailer to Trailer Roller



Used Conveyors
\$

Rear Weights



Side Weights



Custom Tractor Weights

\$

Multi Use Truck Bed

- \$\$\$
- Allows one Truck for multiple trailer styles
- Gooseneck Ball
- Semi Fifth Wheel
- Gooseneck modified to fifth Wheel
- Bumper Pull
- Flat bed for 4-6 pallets



Weatherproof Drinking Fountain

- \$
- Obvious drinking station
- Easy Bottle and Thermos filling
- Water drains out to keep hose clean
- Animal proof
- Freeze proof with sand filled pipe around 1" water supply



Magnetic Nail Dolly

- \$
- Magnet rests on ground when not in use
- Rear wheel is adjustable to hold constant height
- Steering wheel or T handle for pushing or pulling



Ipad Tablets for Management

Apps for Tablets

- Refurbished IPADS \$400
- Evernotes-Production info, customer info, projects, safety meetings, etc.
- ELD software for drivers so managers can track hours of service remaining
- Google Maps-check delivery sites for scheduling
- Driver Tracking-Find my Friends is free to track drivers
- Shared Calendars for each department
- Email
- Group Texts to management, supervisors, departments, etc.
- Custom written app for repairs, inspections, pest scouting, etc.

Tablets for Drivers

Apps for Tablets

- Evernotes-Customer info, Vehicle Parts Info, Emergency Info
- ELD Software for Drivers
- Google Maps-Directions and traffic info
- Shared Calendars for driver scheduling
- Email
- Group Texts to Drivers from Mgmt

Tablets for Supervisors and Pest Control

Apps for Tablets

- Evernotes-Crop Info, Pesticide Info, Rotation info, Production Schedules
- Shared Calendars for Spray Schedules, Safety Meetings,
- Email
- Group Texts to Supervisors or Sprayers
- Custom Software for pest scouting, crop rotation notices, crop scheduling

Cargo Containers

- Lockable storage for tools, equipment, or fertilizer,
- Easy to build a cover and lockable doors for larger equipment
- Covered work area for shop use
- Temporary Structure to avoid building permits
- \$2000 per container delivered
- \$6500 for storage and barn



Opposition to Change

It can come from management, employees, and even customers.

-Management-Using more equipment to replace labor and improve safety requires higher pay and better training for the equipment operators. It may be easier to get unskilled labor.

-Employees-They do not want to spend a little more time using the conveyors to slide plants off a trailer to the ground when they previously dropped them "gently".

-Customers-Did not like the look of the squat pots we used to grow shallow rooted native plants in. Native plants only rooted down about 12" in the wild and regular pots were 18" -36" deep.