

New Technology and Industry Efficiencies

Nursery Growers Short Course

“Making your facility more efficient”- By Brian Decker

Wednesday, February 5, 2020 10:30 a.m. CDT

Decker's Nursery, Inc. Our History

From manual
processes to
automation!

Almost 100
years in the
making!



Founded 1921

Paul Offenbergl

1st
Generation



Bernard Decker



**2nd
Generation**

Brian Decker

My History

Started at the age of 8

Education –

It never stops

Degree in Agriculture

Minor in Business

Industry Participation

Columbus Landscape Assoc

ONLA IPPS

Eastern Region

3-time Guest PRC

The Horticultural Research
Institute

**3rd
Generation**



Decker's Nursery, Inc.

"As I recall . . ."

1. Hand Digging
2. Wheelbarrows
3. Old tractors with front end loaders
4. Propagation in leaky old glass greenhouses



Decker's Nursery, Inc.

"As I recall . . ."

Agriculture

8Years Old

\$0.50 \ per hour

First Tree Spade

Evolution

- Planting
- Care
- Harvesting Solutions

First Plants Grown in

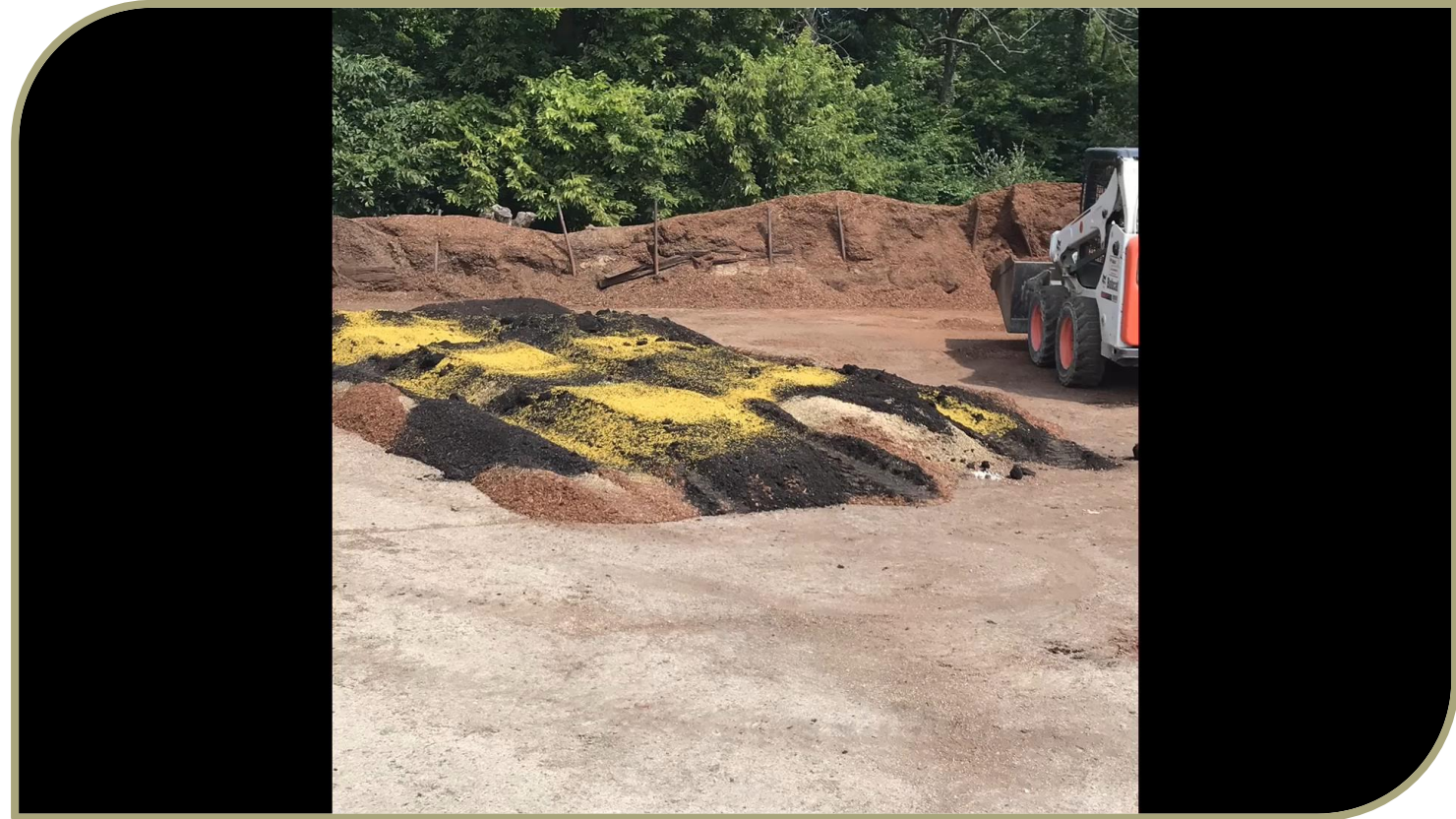
Cans



**New Technology an
Industry Efficiency**

**Decker's
Nursery, Inc.**

Some
Key
Evolution



Agriculture

- Potting Mix Evolution
- Slow Release Fertilizer Development

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**Decker's
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**We've come a
long way!**

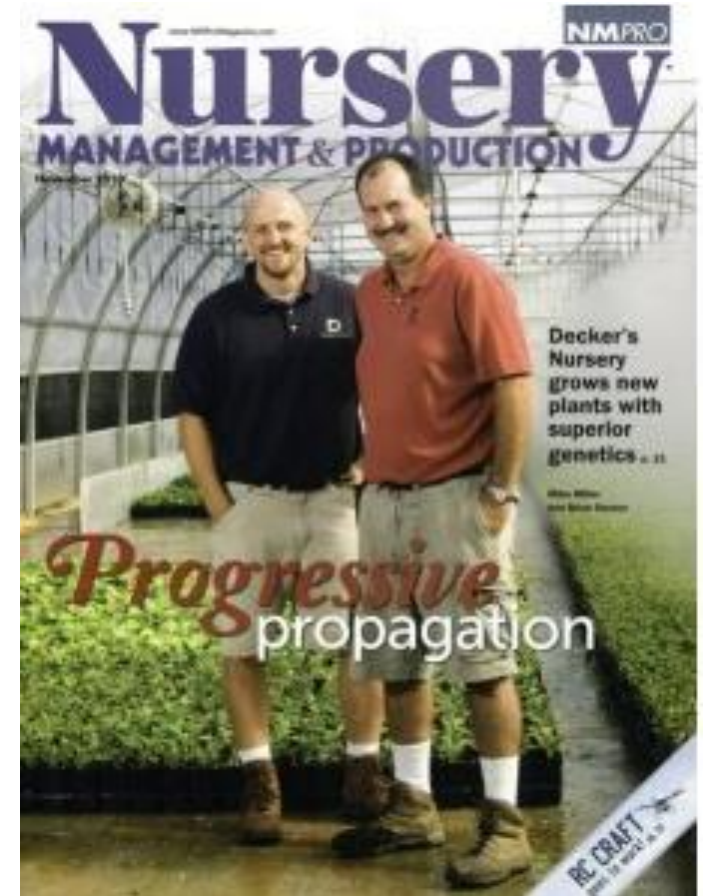
Agriculture

First Computer – 1992

Automation in the office
too!

- Payroll
- Payables
- Inventory \ Billing

Cover Featured – Nursery
Management & Production



New Technology and Industry Efficiency

Efficiency:
What does it mean?



New Technology and Industry Efficiency

It's not really
puzzling –
check this out!



Productivity

“Mindset” Productivity

Lean Management Practices

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Efficiency

Automation stretches that payroll dollar!



Productivity

Increased productivity per man hour

(methods to follow)

- Decker Nursery Staff numbers today vs the equivalent in 1975
- 35 vs 200



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Efficiency

Plan

Streamline

Automate



Productivity

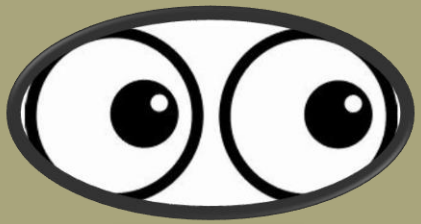
Improved quality over historical norms

- Product consistency
- Mechanized trimming
- Uniform production practices
- Science- It must be understood to be undertaken
- Defeating seasonal availability
- Product reliability and predictability



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Efficiency



Always looking ahead!



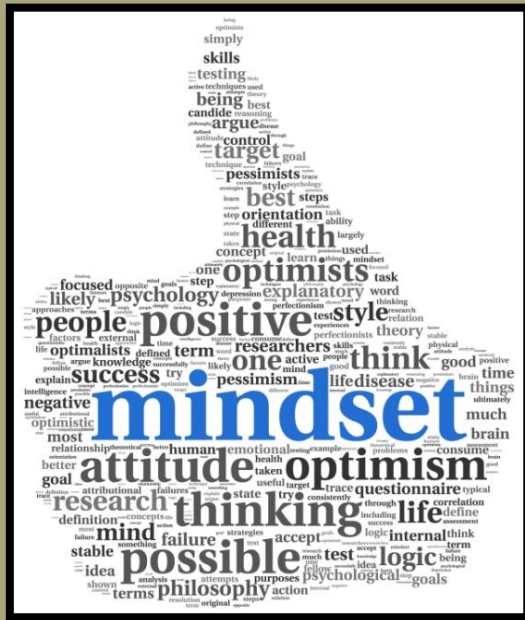
Productivity

New product introduction

- Genetic breeding vs “finding the sport along the side of the road.”
- Improved transportation and delivery
- Viewing the world from the eyes of the consumer.

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Efficiency



“Mindset” Productivity

Company philosophy’s then vs. now

- Staff buy in to efficiency
- Economic return to participants
- Profit Sharing
- Wages and benefits

Efficiency



Analyzing all factors that contribute toward a final product/process

- Time studies
- Outside observation
- Fresh new looks

Efficiency



Analyzing all factors that contribute toward a final product/process

- Time studies
- Outside observation
- Fresh new looks

Outside consultants

Efficiency –



Analyzing all factors that contribute toward a final product/process

- Time studies
- Outside observation
- Fresh new looks

Outside consultants

“Mindset” development

- No idea is a bad idea
- Opportunity for discussion
- Compensation- Credit and Economic reward

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Management
Efficiency

Management Efficiencies -
they don't have to be an oxymoron



Analysis



- Tom Demaline @ Willoway Nursery



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Analysis
Distribution



Management Efficiency

- Tom Demaline @ Willoway Nursery
- **Shipping Efficiency**



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Analysis
Distribution
What?



Management Efficiency

- Tom Demaline @ Willoway Nursery
- Shipping Efficiency
- **Communication Strategy**



Analysis Distribution What?



- Tom Demaline @ Willoway Nursery
- Shipping Efficiency
- Communication Strategy
- Planning

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Technology

Efficient

Innovative

Experimental

Results Driven



Fork Moving



Trimming



Rice Hulls



Solar

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Fork Moving

Custom built by Decker's Nursery

Labor

Considerable Savings in Labor Costs

Handling Pots

Volume \ Alignment \ Consistency

Spacing Pots

Efficient automated spacing for all size pots based on fork attachment

(Not shown in video snippet)



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Fork Moving

Trike

Broad tires to prevent rutting

Three-wheel design for maximum maneuverability

Low profile above

High clearance below

Multiple attachments



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Fork Moving

Trailer

4 x 12 ft.

Maximum of about 6 trailers per tractor set

Grids to keep pots aligned

Tracking trailers over towing trailers



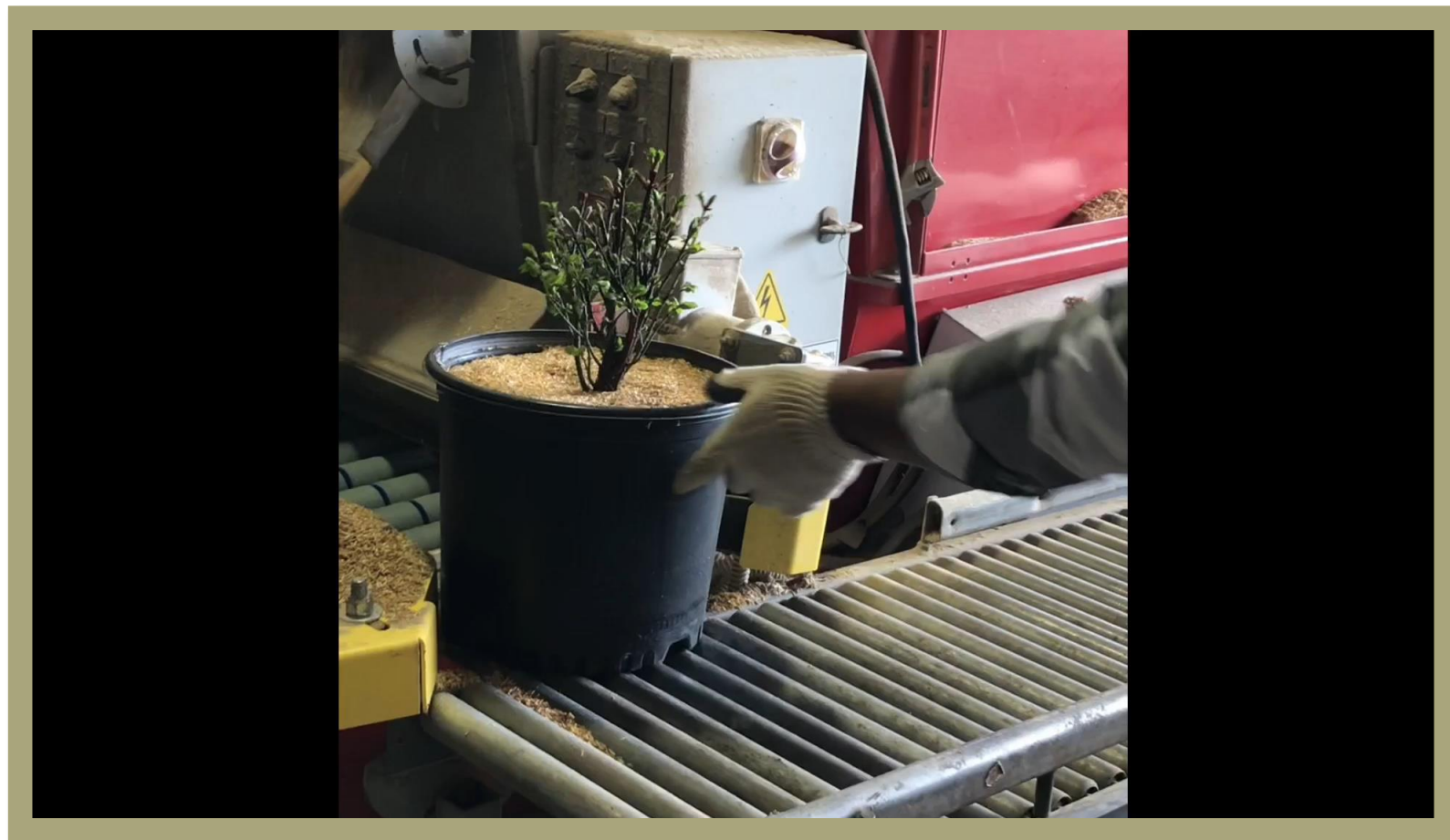
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Fork Moving Pots

Get the pot right!

Pot must be ridged

Require the correct lip



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Fork Moving Pot Spacing

Grow in solid cubes

Row Spacing



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Mechanized Trimming

Reduces Trim Time
Saving Payroll Dollars Again

Improves Quality
Improves Consistency
Fantastic Inventory

Adjustable Shaping
Blades
Multi-purpose



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Mechanized Line Trimming

Reduce Chemical
Growth Regulator

Consistency

Container Trimming
Young Plants



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Rice Hulls

Weed Reduction

Save Payroll Dollars

Chemical Reduction

Save Operational Costs

Natural\Sustainable\Renewable – It's the right thing to do

Alternative to Peat

\Vermiculite\Perlite

Helps maintain soil structure
when mixed into media



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Irrigation

Spacing to match pot fork widths

Drive over lateral lines (Ovaltube)



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Top Hats

The struggle is
real!



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Top Hats

Reduces Labor of having to re-stand plants up after strong winds

Reduces Lost Fertilizer

Let's watch a tasteful video, shall we?

 Brian – Click play



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**Right House
Right Plant
Right Time**



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Foliar Application of IBA Rooting Hormone



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Foliar Hormone results for the Cutting Environment

- Improves rooting percentages
- Crop uniformity
- Weak cutting survival increased
- “Hetzii” understocks 204k stuck, 198k grafted in 2019- 97%

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Progressive Cutting Sticking

- At least 3 people in a “line”
- Slowest sticker in the middle
- Trays shift as soon as supervisor at the end is complete
- Speeds up weak links, ensures quality control

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Direct Sticking

- Sacrifices infrastructure for labor
- Reduces every plant by a least 2 touches
- Saves us 4 weeks of transplanting labor for a 5-person crew

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Conveyor System

**To move Flats
into sterile
houses**



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Dutch Style Sweat Tents

**Mist System
Elimination**

**Improved Plant
Environment**

Energy Efficient



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Grafting Environment

- Reduced stress- high humidity
- Easy to vent when needed
- Mulch grafts to achieve a humidity microclimate
- Natural humidity recirculation
- Mimics a grade school terrarium

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2 month
Graft
Note the callus
formation



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**“Wow”
Factor
3-gallon C.
obtusa
in 18-24
months**



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Cutting Environment

- Improves rooting percentages
- Reduces stress
- Eliminates mist system and cutting “wet feet” mortality

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**Fresh
Understock
cutting**

**220,000
direct-stuck
Nov 2019**



Decker Nursery goes Solar!

Investment Tax Credit
2019 30% 2020 26%

Long Term Savings
\$25K Annual Electric
Grants Available

Based on Decker's Nursery Use:

- 1 Year = Removing 470 Cars from the Road
- 1 Year = planting 57K Trees for 10 years



Everyday is a great day to
innovate, save and
conserve at
Decker's Nursery, Inc.

Any Questions?