



# **CHALLENGES TO OUR FUTURE TREE SEED SUPPLY**

June 22 – 27, 2022

Vancouver Island &  
Surrey, BC

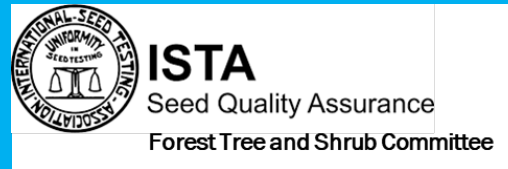
# Welcome to Challenges to our Future Tree Seed Supply

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**Don Pigott**

**Melissa Spearing**

**Victoria Lei**



**Vernon Seed  
Orchard Company**



**PNW CONIFERS**

**The sustained availability of high quality and adapted seed**

# What are our Challenges ?

## Facility Closures

- BC: Retirement, death, reduced foreign seed market

## Rapid Succession

- Loss of practical wisdom , expertise, and field knowledge
- Lack of Interest/Motivation??? ***We are always a good news story!***

## Seed Services taken for granted

- Lack of understanding of our role in the reforestation system
- *“Operating behind the scenes, seed services are only noticed when the fail”*

## Lack of Research and Education (linked)

- Emphasis on newest technologies - dig deeper
- Picking the latest, sexiest tools rather than the most appropriate/efficient
- ***no funding, no research, no people, no teaching, no progress***

## Capital Investment

- Large investments required – different times – farm vs. industrial model





TRILLION TREE  
CAMPAIGN



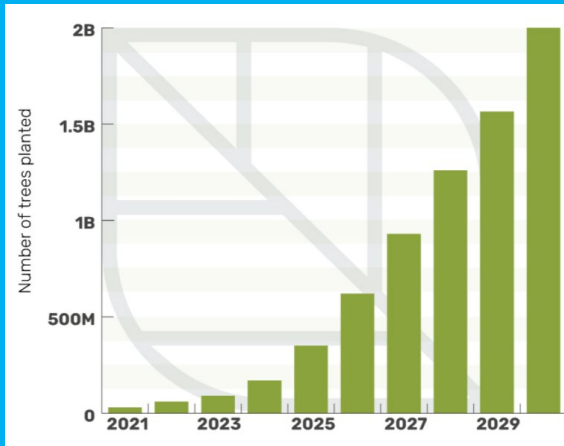
American Forests program  
to plant 100 million trees  
by 2030



THE GLOBAL  
PARTNERSHIP  
ON FOREST AND  
LANDSCAPE  
RESTORATION



European Green Deal  
Climate Neutral by 2050

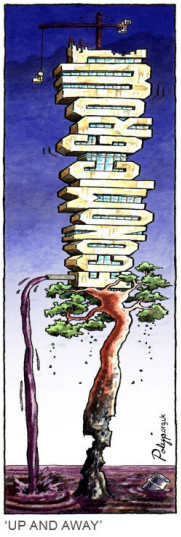


# BIG PROMISES

Seed is often an afterthought

Do people think seed biology  
is immune to climate change?

It's global



RESTORE  
OUR FUTURE  
BONN CHALLENGE

PLANT  
A BILLION  
TREES

2BILLION  
TREES

Planting today  
for a better tomorrow

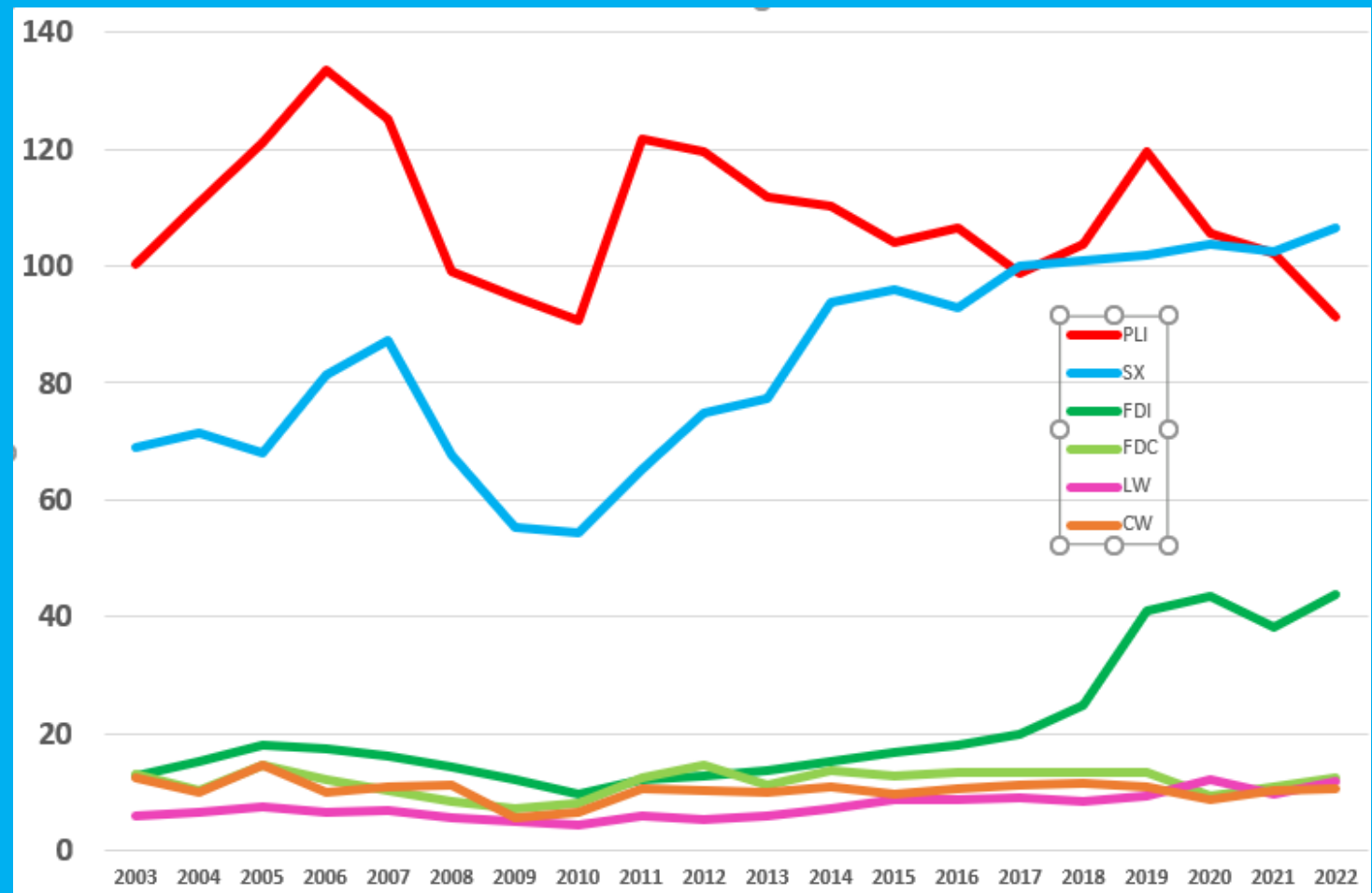
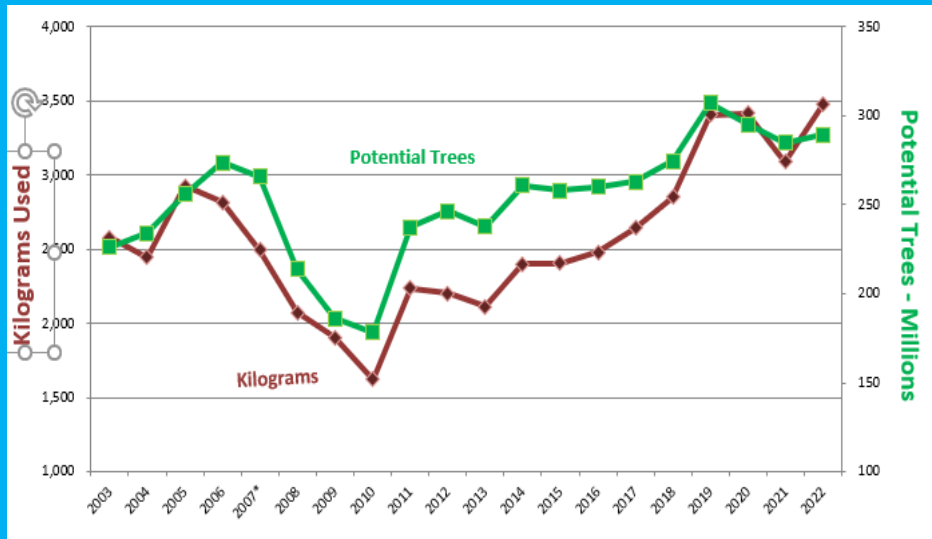
#2BillionTrees

afr100

TRILLION  
TREES

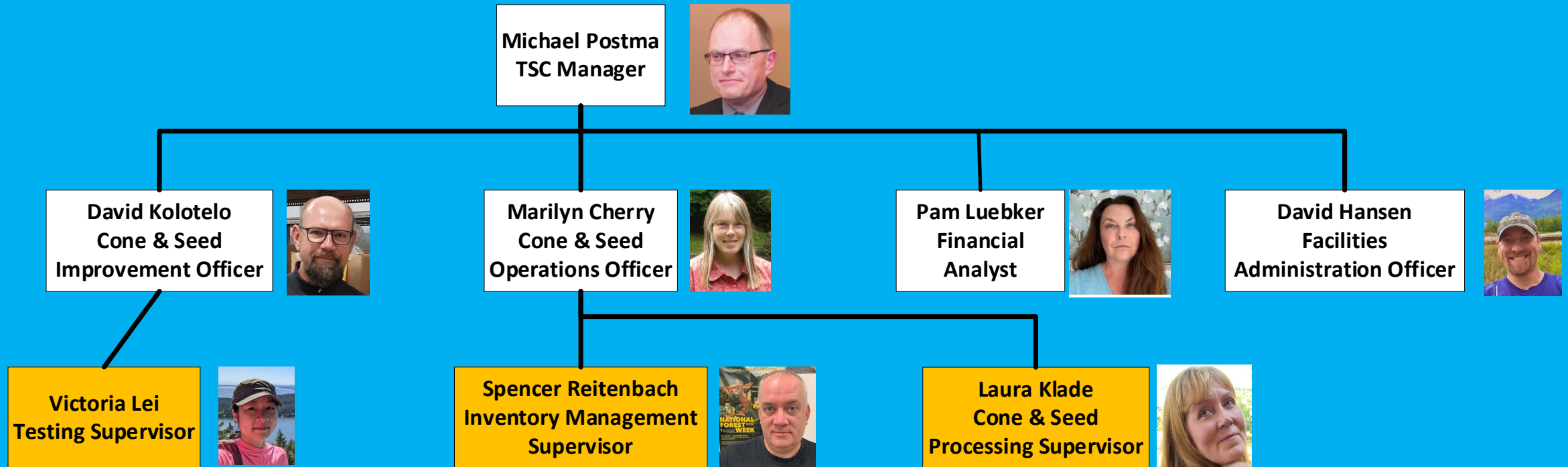


# BC Planting Program



- Bareroot seedlings are long gone
- Styroblocks are the method used
- Direct seeding is currently negligible

# Tree Seed Centre and its Services



- 65<sup>th</sup> year as provincial Tree Seed Centre (since 1956-57)
- “**Excellence in Cone and Seed Services**”
- Continuous improvement mentality
- “fix it if it can be improved, don’t wait until it’s broken”, but also know when to leave it alone





- **Seed Storage** = prime directive, Stewardship mandate
  - Over 71 000 kg of seed enough for 7.6 Billion seedlings!
  - Currently preparing to replace/upgrade our 35 year-old freezers !!!
  - Safeguard the provinces \$105 Million seed inventory



- **Testing** = enabled by regulation, Chief Foresters Standards for Seed Use
  - Standard tests on SPAR, QA program and Research (*part of feedback loop for continuous improvement*)
  - Year round activity, some peak seasonality

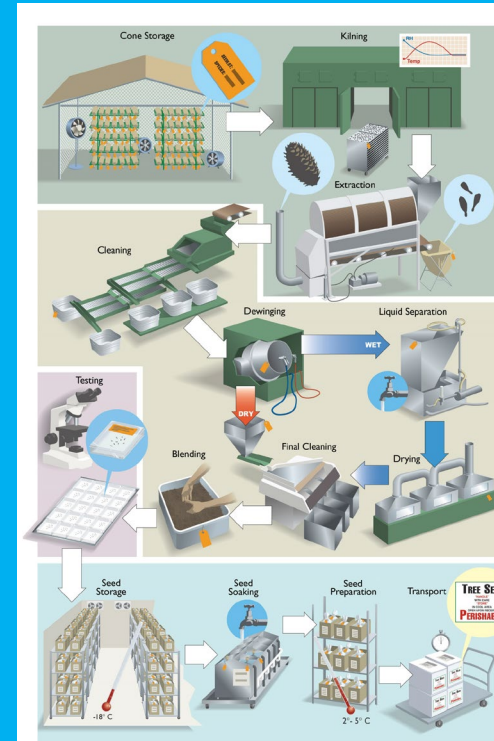


## • Cone and Seed Processing

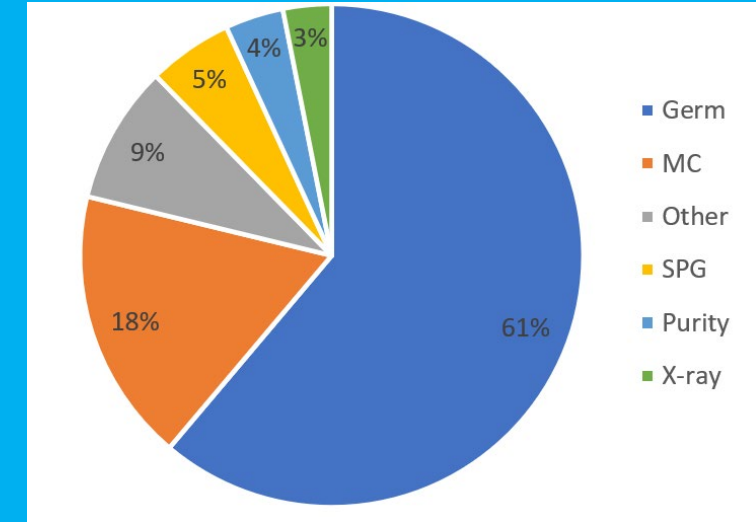
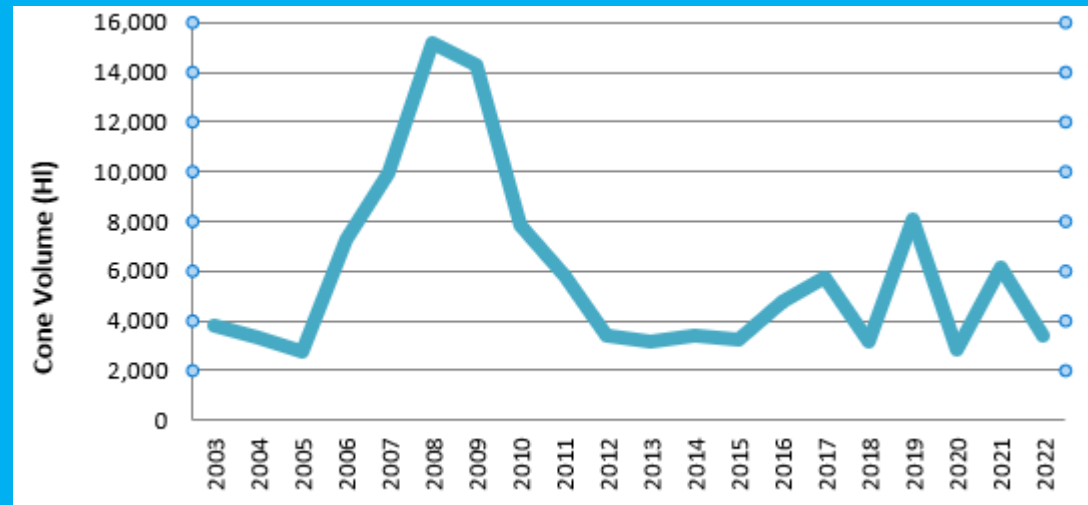
- Process seedlots on a cost recovery basis \$
- Most new seedlots are from seed orchards → 80% goal (PLI, FDI deficits)

## • Seed preparation

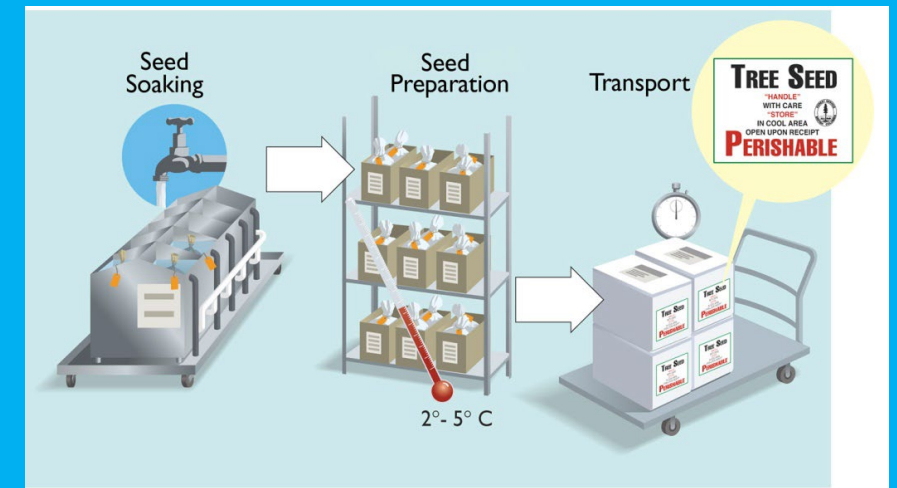
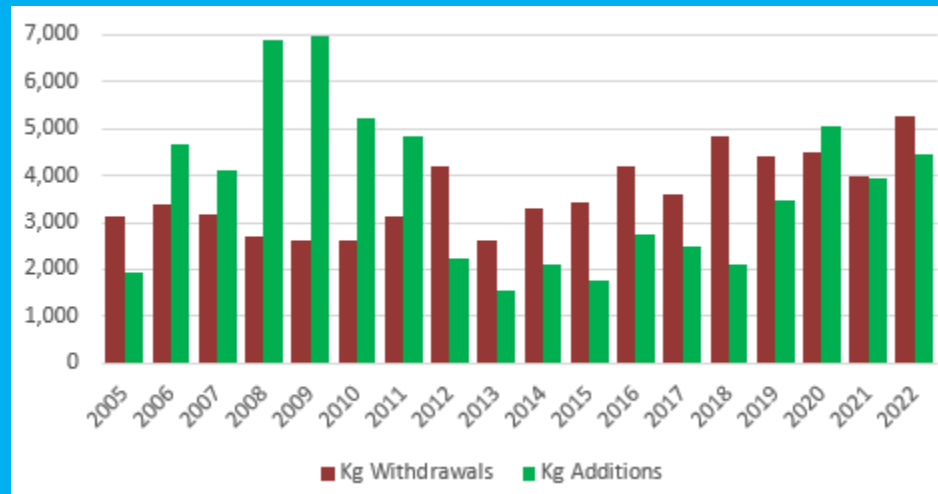
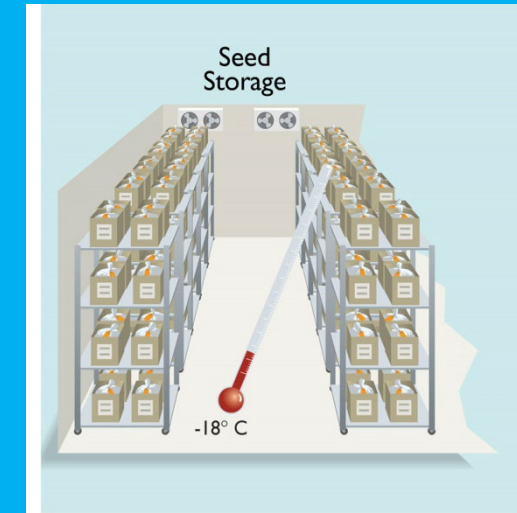
- Withdrawal, stratification/ QA, pelleting on a contract management
- Services performed on a cost recovery basis \$



# Cone Crop Variability

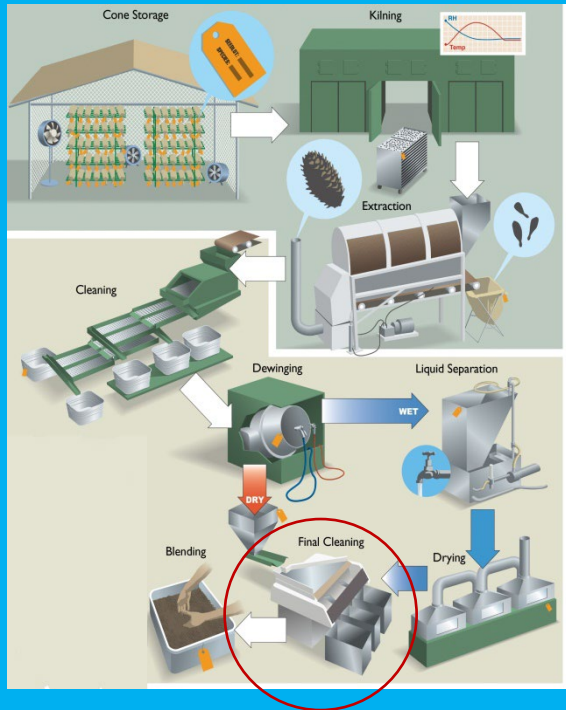


# Inputs and Outputs



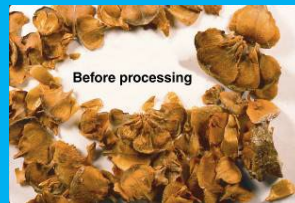


# Importance of Cone & Seed Processing (CSP)



- **CSP is the largest single determinant of seedlot germination potential !**
- It is often overlooked, taken for granted, not a variable
- Current processing efficiency is meant to maximize seedling potential
- It's an optimization of the product of germination and seed yield, **NOT** a maximization of germination
- Acceptance of some non-viable seed to increase yield
- Throw away some viable seed to increase germination

Balanced by  
decisions on  
fractions  
produced at  
final cleaning



- Status quo seems reasonable when we have orchard seed deficits or are in a “just-in-time” seed production model. What happens when we have overproduction?
- Is it acceptable to throw away good seed to raise GC? What are the real economics?

***Swedish expectation is 98% germination - willing to throw out lots of seed to get there***

**What can we do?**

**How can our various groups help each other and develop synergies?**

**Can we somehow sustain the enthusiasm and effort once we all go back to our jobs?**

**How do we expand our scope beyond the “have” nations?**

# ***I had a dream***

To develop a simple two page white paper that could be easily translated and used to develop better awareness for the importance of tree seed, the lack of investment in the required systems and need for research, education and extension activities on tree seed.

- 1. What is your highest tree seed research priority?**
- 2. What is your biggest concern with tree seeds?**
- 3. What is your biggest tree seed extension/information need?**
- 4. What is your most critical infrastructure need to secure your required tree seed supply?**
- 5. What tree seed information is critical to have in courses dealing with trees/forestry?**