

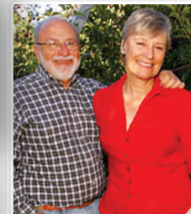
Food & Energy

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Pacific Coast Producers



A California Grower-Owned Cooperative

Grower-Owners consist of:
152 Peach Growers
31 Pear Growers
8 Apricot Growers
1 Grape Grower
16 Tomato Growers



About Us

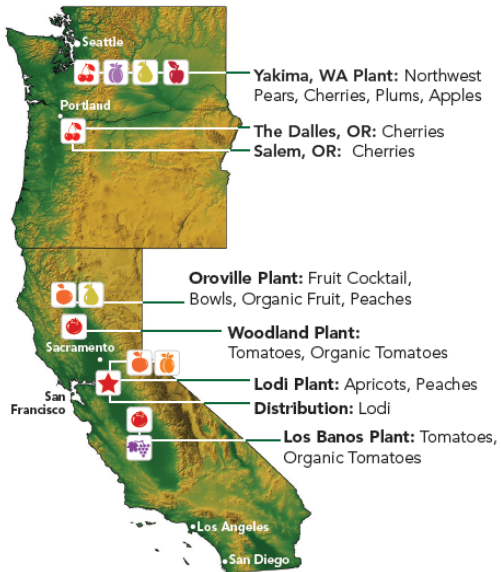
PCP is an Agricultural Cooperative, owned by over 160 family-farms located in Central and Northern California. Hundreds of third and fourth generation family farmers partner with us to provide the ripest tomatoes, peaches, apricots, grapes, and pears each and every harvest. Picked at the peak of flavor and packed under strict United States food safety regulations, our products deliver many promises.

Our farms are strategically placed near our Production Plants. For example, conventional tomatoes are grown & picked within a 16-mile radius of our Woodland tomato facility — making the trip from the field to can in less than 4 hours!



Pacific Coast Producers Crops By Geography

We are proud to have our headquarters in the beautiful state of California.



Apricots: Patterson, CA



Peaches: Modesto, Madera, Yuba City, CA



Pears: Ukiah, Finley, Walnut Grove, CA; Yakima, WA



Tomatoes: Woodland, CA
Organic & Pear Tomatoes: Near Patterson, Woodland, CA



Apples: Yakima, WA



Grapes: Fresno, Madera, Bakersfield, CA



Plums: Yakima, WA



Cherries: Yakima, WA; The Dalles, Salem, OR

Pacific Coast Producers is a Global Supplier

We have sourcing capabilities in Thailand, the Philippines, Mexico, Indonesia, Chile, Greece, and China.

We source many fine foods globally including, oysters, fruit squeezies, mandarin oranges, pineapple, tropical fruits, and mango.



Woodland Tomato Plant



- Purchased in 2001 – From Del Monte – Contadina.
- PCP's largest plant.
- Organic and Conventional production
- Driving efficiency through innovation and technology:
 - New Boiler – Back pressure turbine
 - 2.5 MW power
 - Converted all retail to steam peeled.



Tomato Production and Energy

- The Basics:
 - Tomatoes are approximately 95% water.
 - Our tomato finished products have three main production processes that utilize large quantities of steam and electricity.
 - Formulated – These products are made by evaporating the water content of the tomato away and concentrating the product. (Sauce, spaghetti sauce, can paste etc.)
 - Peeled – We steam peel these tomatoes and produce diced and whole peel product lines.
 - Industrial Bin and Drum Paste.

Energy Challenge

- Our processes require a significant amount of steam.
 - All of our steam derives from natural gas fired boilers.
- Why does this matter?
 - Reducing energy usage in steam generation is difficult as we rely on a heating process for both food safety and as a production technique.
 - Steam production techniques have not changed much in the last 50 years. Regardless of fuel type, boilers put pollution in the air. Many food operations require steam and thus far technology has not developed economical and efficient methods of large scale steam production.

Accomplishments

- Low hanging fruit – Steam trap upgrades, insulation and improved pressure vessels.
- High Hanging Fruit - New state of the art boilers/low pressure steam headers.
- With these upgrades Pacific Coast Producers reduced our Greenhouse Gas (GHG) emissions by nearly 20% between 2012 and 2017.

New Boiler



- New 218 MMBtu/hr boiler.
- Reduced total on-site NOx emissions by 54%
- Reduced VOC's emissions by 69.5%
- Reduced CO by 35.8%
- Reduced SOx emissions by 12.6%

Now What?

- Success was followed by questions and an analysis.
 - We replaced a 1972 boiler with a 2017 unit. After the addition of emission controls the new boiler only improved efficiency by about 8%. If boilers cannot or will not become more efficient, than what?
 - The remainder of our listed efforts resulted in significant reductions in Tier I emissions, but those efforts are now completed and cannot be repeated.
 - What now? Tier II electrical emissions reductions are our new goal.

The Problem

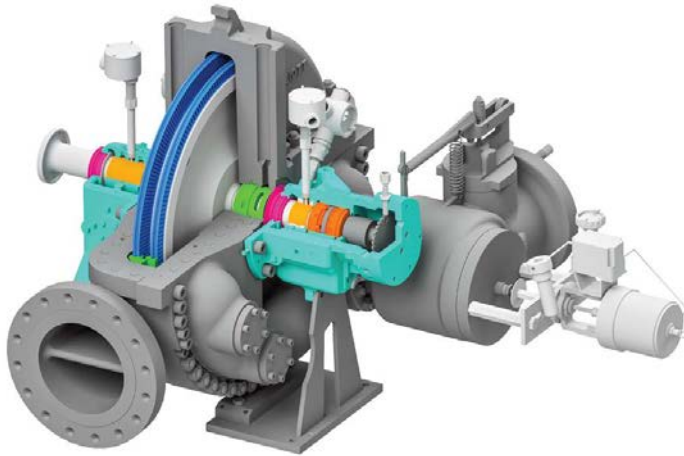
- Problem: Our steam system has been improved to a point that the law of diminishing returns is now in effect.
 - Tomatoes processing needs steam and electricity.
 - Industry has not come up with a new technology that can meet our current steam needs in a sustainable manner.
 - Our answer: Self-Generation utilizing our existing production footprint.

New Boiler and New Opportunities

- Our newest boiler has the capability to produce steam at 420 psi.
- Problem: We need steam loads of 150 and 30 psi for our production processes.
- Answer: a pressure reduction turbine with generator.
- Our 400 psi is run through a pressure reduction turbine and during the psi reduction process provides enough generation to reduce our electrical demand and generation from the grid by nearly 45%.

Pressure Reduction Turbine

PRT



Effect

- Using existing steam loads the PRT will produce approx. 4.6 million kWh per season.
- This amount represents 45% of our annual seasonal electrical usage at our Woodland Tomato Facility.
- The pressure reduction will also allow us to feed low pressure steam headers, which will allow more steam usage and less venting.
- We predict a 40-45% reduction in overall Tier II emissions.

What is the challenge to the technology field?

- Find a scalable technology that produces steam at an economical cost and reduces or eliminates greenhouse gases.

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