

Climate Friendly Nurseries Project

BEST MANAGEMENT PRACTICES

Save Money Save Energy



While reducing water, labor and fertilizer and minimizing runoff

Invest in IRRIGATION EFFICIENCIES

Saving energy associated with irrigation requires: reducing the volume of water pumped, reducing the pressure generated and improving pump efficiency. More efficient, lower pressure water delivery systems, scheduling based on crop requirements and soils, properly sizing pipe and removing flow restrictions and adding variable frequency drives to efficient pumps can help.

Have irrigation improvement projects in mind?

- Upgrade to more efficient sprinklers and consider installing drip irrigation
- Install variable frequency drives (VFD) on pumps
- Ensure pumps are properly sized to meet pressure and flow needs and upgrade to energy efficient motors, where feasible

Example of a grower who's done it

J. Frank Schmidt & Son Co. converted its Canby farm to drip irrigation over a five year period. The return on investment for the infrastructure costs was two years. After installation, three workers could do the work that a crew of up to sixteen did before and there was a 30% reduction in water use. In addition, overall fertilizer use was reduced by 30%.

Potential Savings

Variable Frequency Drive Installation on Irrigation Pumps		
	40-acre Nursery	400-acre Nursery
Cost (before incentives)	\$9,500	\$49,500
Incentives*	\$6,069	\$37,169
Energy Trust of Oregon	\$1,200	\$11,800
Oregon Business Energy Tax Credit	\$2,494	\$12,994
USDA Rural Energy for America Program Grant	\$2,375	\$12,375
Annual Savings	\$755	\$8,706
Payback	~4.5 years	~1.5 years

*Examples are based on financial incentives available in Oregon as of March 2011 and are subject to change. Many states have similar programs. Opportunities for efficiency improvements are site specific and vary.

Climate Friendly Nurseries Project

BEST MANAGEMENT PRACTICES

Where do I start?

1. Schedule irrigation early in the day to avoid water loss through evaporation.
2. Check soil moisture to reduce overwatering of plants and nutrient loss.
3. Repair or replace broken sprinkler heads, gaskets and leaking pipes.
4. Perform regular maintenance on pumps.
5. Contact Energy Trust (for PGE and Pacific Power customers) or local utility to understand current irrigation incentives and training opportunities.
6. Find an irrigation specialist near you.
Energy Trust trade allies—
<http://energytrust.org/library/find-a-contractor>
Other public utilities use BPA partner Cascade Pacific RC&D – www.agenerynw.org
7. Schedule onsite assessment. Efficient irrigation begins with good system design.
8. Get quote and understand project cost and available incentives (Energy Trust or utility + State of Oregon’s Conservation Tax Credit (formerly known as the Business Energy Tax Credit)).
9. Talk to someone who’s done it. See case studies at www.climatefriendlynurseries.org
10. Consider applying for additional incentives such as USDA’s Rural Energy for America Program and/or NRCS programs such as EQIP. Apply for applicable incentives BEFORE you begin.
www.rurdev.usda.gov/or/reapee.htm
<http://www.or.nrcs.usda.gov>
11. Set up installation to work with your production cycle.

Climate Friendly Nurseries Project

The Climate Friendly Nurseries Project, a collaborative partnership between the Oregon Association of Nurseries and the Oregon Environmental Council, has developed a guide, Best Management Practices for Climate Friendly Nurseries, to help nurseries reduce operating costs and greenhouse gas emissions. The BMP Guide contains detailed recommendations, Oregon case studies, and low and no-cost efficiency improvements for nurseries.

Learn more at www.climatefriendlynurseries.org

