PROGRESS IN THE CLACKAMAS PESTICIDE STEWARDSHIP PARTNERSHIP 2014-2015

A SUMMARY OF THE RIGOROUS PROCESS THAT LED TO SIGNIFICANTLY REDUCED RISKS TO SALMON

Clackamas Basin Technical Working Group

Clackamas Water Environment Services | Clackamas River Basin Council | USGS

Clackamas River Water | Oregon Environment Council | Clackamas SWCD | Oregon DEQ

J. Frank Schmidt & Son Co. | Oregon Department of Agriculture | OSU IPPC

Additional Partners

OSU Extension Service | Hans Nelson and Sons Nursery | Green Valley Christmas Tree Farm

Oregon Association of Nurseries | Wilco | G.K. Machine, Inc. | PNW Christmas Tree Association

IPPC PSP THEORY OF CHANGE

PARTNERSHIP BUILDING TO IDENTIFY KEY SCIENCE NEEDS AND DESIGN THE EDUCATION PROGRAM

- **PARTICIPATORY GOAL SETTING**
- **KEY AUDIENCES TARGETED**
- **CRITICAL UNCERTAINTIES ADDRESSED**
- **STAKEHOLDER CONSULTATION ESTABLISHES LEARNING GOALS**

DELIVERING FOCUSED AND EFFECTIVE EDUCATION

- **EVENTS ADDRESS STAKEHOLDER NEEDS**
- **OUTCOMES ARE DOCUMENTED AT EVENTS**

PARTICIPANTS RESPOND & OTHERS ARE INFORMED

- **AMPLIFICATION OF EDUCATION TAKES PLACE FOLLOWING EVENTS**
- **BEHAVIOR CHANGE IS DOCUMENTED**

OUTCOMES MONITORED INDEPENDENTLY

Funding Sources

OSU Agricultural Experiment Station; USDA NIFA Extension Implementation Program; Oregon Governor's Fund for the Environment; ODA PSP Technical Assistance Program

CLACKAMAS PESTICIDE STEWARDSHIP PARTNERSHIP PROGRAM 2014-2015

THEORY OF CHANGE

GOAL

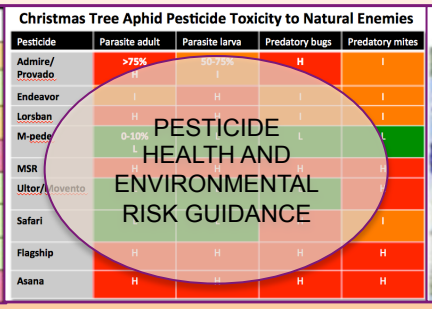
Our goal is to protect the health of people and aquatic species by reducing pesticide losses into our waterways

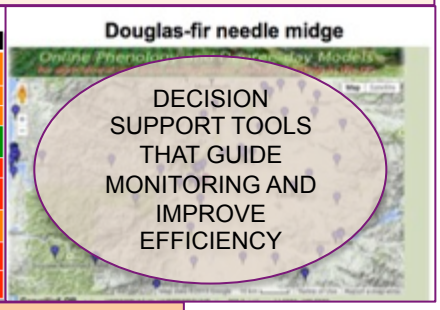
KEY AUDIENCES TARGETED

The program targeted Christmas tree growers and nurseries in the Clackamas watershed via OSU extension, OAN, and other partners that located growers in sensitive areas

CRITICAL UNCERTAINTIES ADDRESSED

Critical uncertainties in application management, pesticide risk and pest phenology were addressed with state-of-the-science models developed by the OSU IPPC





STAKEHOLDER CONSULTATION ESTABLISHES LEARNING GOALS

Outcome-based planning was conducted for **the Christmas tree industry**: 4 outcomes included:- **"Develop methods of long-term planning that enable PAMS IPM tactics to be implemented through locally-adapted processes"** - This includes approaches that ensure pesticides are only used when needed

Similar planning for the **nursery industry** included 9 outcomes which included:- **"Consider pest management options that reduce off target impacts"** – These approaches are termed risk mitigation

EVENTS COVER STAKEHOLDER NEEDS

Education events, participation (N), & skills taught in pesticide use reduction, or in pesticide risk mitigation

Crop	Abbreviated title	N	Use reduction	Risk mitigation
Nursery 2/20/14	***Maximize pesticide use efficiency***	49		5
Christmas tree 6/11/14	***Identification and use of beneficial insects***	34	3	2
Nursery 10/13/14	***Sprayer calibration and application assessment***	31		3
Nursery 2/3/15	***Combining IPM and pesticide risk management***	34	5	6
Christmas tree 2/11/15	***Beneficial insects – moving ahead***	27	5	1
Christmas tree 6/17/15	***Farmscaping for predation and parasitism***	12	7	

CLACKAMAS PESTICIDE STEWARDSHIP PARTNERSHIP PROGRAM 2014-20

THEORY OF CHANGE

OUTCOMES RECORDED AT EVENTS

INTENTION TO REDUCE SPRAYING

Intentions to mitigate risks (green), or limit use (blue) (%)	June 2014 (N=12)	Aug 2014 (N=23)	Feb 2015 (N=19)
Calibrate sprayer	N/A	87	N/A
Replace nozzles	N/A	74	N/A
Adjust spray timing	64	N/A	100
Use low risk pesticide	50	N/A	100
Reduce spray frequency	58	N/A	100

AMPLIFICATION OF EDUCATION FOLLOWING EVENTS

PARTNERS REINFORCE OUTCOMES

Clackamas SWCD distributes vehicle mounted windsocks, and enables farmers to obtain a cost share of up to $500 for new sets of nozzles for their sprayers

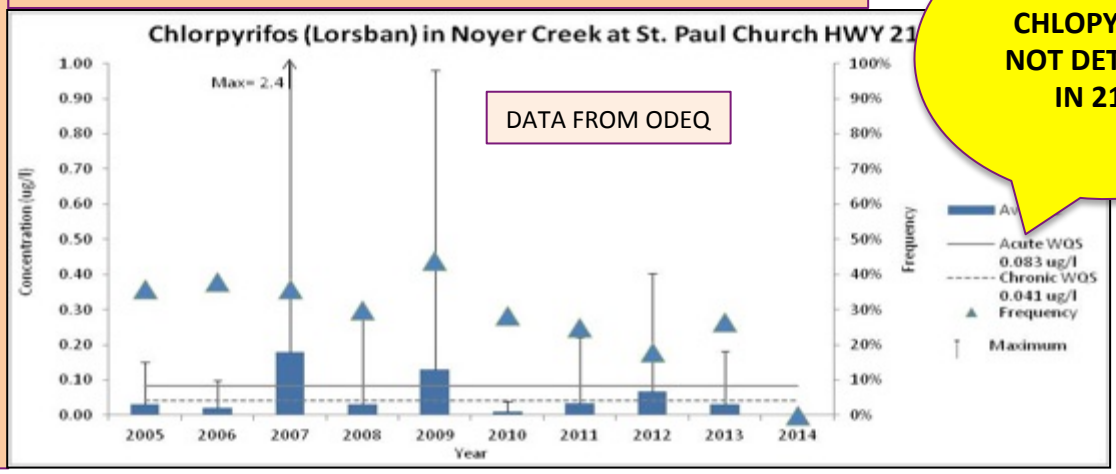
BEHAVIOR CHANGE DOCUMENTED

USES AND RISKS WERE REDUCED

Grower actions 12 months after education events (%)	Christmas tree (N=23)	Nursery (N=20)
Used on-line weather forecasting	50	90
Adjusted application, based on weather	79	95
Adjusted application to protect sensitive site	55	90
Increased time spent scouting	83	N/A
Used less chlorpyrifos	30	58
Lower frequency of aphicide use	48	N/A

OUTCOMES MONITORED INDEPENDENTLY

CHLOPYRIFOS NOT DETECTED IN 2104



IPPC

integrated plant protection center

OSU Oregon State University

Paul Jepson, Mary Halbleib, Len Coop, Chal Landgren, Gwendolyn Ellen, Michael Guzy, Glen Ahrens, Robin Rosetta, Luisa Santa Maria, Amy Grotta

June 26th, 2015

Other partners:

Holiday Tree Farm
Noble Mountain Tree Farm
Trout Creek Farm
BTN of Oregon
Gold Hill Nursery
Tree Frog Nursery
Simnitt Nursery
Joyce Farms

With thanks also to Steve Riley, ODA