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Farming conference zeros in on climate change

By **KATIE MURDOCH**

Most of us don't like change, but farmers need to accept that there will be radical changes in the future, keynote speaker Fred Kirschenmann said during the Snohomish County Focus on Farming Conference.

"People would rather be comfortable than adapt," he said. "Unfortunately that's not the way the world works."

More than 600 people from Whatcom County to Pierce County attended the fourth annual farming conference, "From Soils to Sales."

The conference is a component of County Executive Aaron Reardon's Farming Initiative.

"This is no longer an initiative because initiatives begin and trail off," Reardon said during his opening speech. "It's an engrained policy."

Kirschenmann's message to audience members is that changes in farming are on the way and farmers should get a head start on adapting.

"I'm often accused of being an alarmist," he said. "But we all have to figure out how to maintain for the future."

Kirschenmann adapted by switching to organic methods 40 years ago to improve the quality of the soil on his 3,500-acre farm in North Dakota. He was chosen to give the lunchtime keynote, "Meeting Agriculture's Challenges in a Rapidly Changing World," because of his work with farmers

across the country.

The three most critical changes farmers will have to deal with are a lack of energy, drastic climate changes and conserving water, Kirschenmann said.

"The real change is we're going to have to move to dispersed energy from concentrated energy," he said.

The industry is now at a point where it's producing as much oil per day as it will ever use, and the industry is using it at a rate which farmers won't be able to keep up with because of the rising cost of oil, he said.

Farmers rely on petroleum found in pesticides and fuel to run their farms. As the cost of oil, particularly petroleum, increases, the cost of supplies such as pesticides, will increase too.

"Things are based on a petroleum economy," Kirschenmann said. "We'll fall quickly as the cost of a barrel of oil increases."

Kirschenmann suggests researchers need to invest in technology to find alternative energy sources while energy is still cheap enough to experiment with.

"We should not dilute ourselves to believing life can continue as it has from fossil fuels to alternative energy," he said.

The second issue farmers will face are changes to the climate.

In the past, a stable climate and cheap fossil fuel energy has allowed farmers to increase food production and improve their technology, Kirschenmann said.

"In agriculture, farms are bio-

logical organisms that have more unpredictability connected to them," he said.

A computer model in Iowa predicts that by 2040, there will be a 20 percent increase in precipitation that will appear in violent rain storms.

It's predicted that there will be heavier rainfall in Iowa followed by periods of drought. The drastic change in weather will destroy crops and make it difficult for farmers to plan when to plant their crops.

Specialty crops in Iowa such as soybeans and corn, need consistent climates and that industry will be wiped out when the climate becomes unstable, Kirschenmann said.

The final critical change farmers should plan for involves water.

"We've been drawing at a rate that's unstable," Kirschenmann said. "We're going faster than we can recharge."

Kirschenmann advised conserving water today to cushion the possibility of a lack of it in the future and restoring the health of soils.

When you restore the health of the soil you can get by with half as much water.

"Healthy soil is one of the most precious resources we have and we've been ignoring it for years," he said.

Morning keynote speaker Chad Kruger is a biology and agriculture educator for Washington State University's (WSU) Center

for Sustaining Agriculture and National Resources. He used his expertise to explain to audience members the effect the climate has on farmlands in his speech, "Climate Change Impacts on Regional Agriculture."

Kruger warned that the climate in the Puget Sound is changing because the average temperatures have risen over the last 20 years.

The rise in average temperatures have resulted in three less frost days per year in the Pacific Northwest since the 1950s, and it's predicted there will be two less by the end of the century, he said.

Three days doesn't sound like much, but the rise in temperature impacts the amount of packed snow in the mountains, including Snoqualmie Pass.

Kruger explained scientists measure the amount of packed snow in the mountains on April 1 of each year to see if there will be a sufficient amount of water to fulfill people's needs.

When temperatures were lower, snow fell in the mountains. As temperatures rise, rain falls in the mountains, which hurts farmers because it causes more floods and clogs land that could've been used for crops to make money.

Kruger covered climate-regulated problems most farmers face and will most likely intensify as the climate changes due to rising temperatures.

Cold winters kill off pests, but with a lack of snow, there will be more pests that will destroy crops.

Farmers respond to conference speakers

By KATIE MURDOCH

Many farmers won't spread pesticide on their crops because they run organic farms, so they're left defenseless against increasing pests. Farmers are paid once a year, so losing a crop means farmers won't get paid for an entire year.

The other problem involves diseases such as powdery mildew and late blight. These diseases harm specialty crops such as wine grapes.

"We're likely to see disease problems get worse," Kruger said. "There will be new diseases."

His advice for preparing for impending climate changes involves conserving carbon and nitrogen in the soil, increasing biodiversity that was lost when small processing organizations left the area and increasing agriculture systems to deal with pests and diseases.

Kruger also advises improving technology to help farmers recover from changes in the climate. At WSU, Kruger and his colleagues developed AgWeatherNet, a Web site designed to help farmers make management and time specific decisions. The Web site shows weather stations across Washington state, and farmers can use this data to decide when to plant crops based off current weather and temperature conditions.

Snohomish County's Focus on Farming conference focused this year on sustainability and what issues farmers will have to address in regards to climate change, energy alternatives and water conservation in order to cushion themselves from major changes in the future.

Speakers like Fred Kirschenmann and Chad Kruger warmed farmers about increasing temperatures, which will cause heavier rainfalls and flooding.

Local farmers responded to their messages.

Darrington farm owner, Valerie Wall agrees with Kirschenmann's stance on using organic methods to improve the quality of the soil used for crops.

Wall and her husband own Whitehorse Meadows Farm where they grow organic crops of blueberries. The Walls have an abandoned field on their farm that they plan to utilize in the near future to stop wasting natural resources.

"We'll more actively rehab it and remove grass that's killing the soil and amend it," she said. "You have to rehab it to keep it healthy."

The issues covered during the conference concerning conservation, alternative energy and drastic changes to the earth's climate are issues that should've been addressed a long time ago, Wall said.

"This is something we should've been worried about a decade ago," she said. "But it feels like people are talking about it more now."

Their goal is to conserve energy by replacing light bulbs sooner and keeping a buffer zone of biodiverse vegetation around their fields to sustain the habitat of insects that eat crop-destroying pests.

"A number of insects are helpful because we can't use pesticides," Wall said.

Wall also believes farmers would benefit from solar and wind power, and more people should invest time and money into those energy alternatives

in addition to reducing carbon emissions.

"I wish people developing technologies would do it," she said. "It's feasible."

Snohomish farmer Neil Landaas and his wife, Dorothea, own a green house tomato farm called Flying Tomato Farm. The portion of Kirschenmann's speech about exploring energy alternatives and addressing how rising fuel costs will hurt farmers because they rely heavily on petroleum to run their farms stood out to the Landaas'.

"It's nice to hear people talk about energy issues," he said. "Fuel plays a big part of what we do."

They too have joined many other farmers, like the Walls, who have switched to organic to improve their soil and quality of their crops.

"We're trying to be proactive," Dorothea Landaas said. "We're not certified organic but we're improving the quality of our soil."