Re-Building Sustainably in the Rogue Valley

Focus on Regenerative Agriculture and Addressing Climate Issues

Jerry Allen, 2021

For those concerned about climate change, growing food, having oxygen to breathe, and our children's future, it has become clear that regenerative agriculture can play a major role in protecting us from climate change and helping grow food. Regenerative agriculture can help us rebuild the Rogue Valley sustainably.

Climate Change and Carbon Sequestration

Background: The buildup of greenhouse gases, like CO2 and methane in the atmosphere, is causing the earth's atmosphere to heat up, leading to more severe fires, more severe weather, rapid extinctions, ocean acidification and the eventual extinction of human beings. Our ocean and forest sources of oxygen to breathe, and our ability to grow food are at risk. On a scale of 1 to 10, this is a class 10 emergency. We must drive less, stop puffing carbon dioxide and methane into the atmosphere and we need to massively sequester CO2 back into the ground and back into trees & other plants. These acts will lower the temperature, repair the ocean acid balance, & reverse climate change. Humans have never excelled at recognizing a mortal threat that is more than three months in the future. This cannot wait. Below are ways we, locally, can play a big part.

Recycling of Plant Waste and Food Waste

There are thousands of hemp stalks being burned or hauled to the dump by farmers. In addition, other food and yard waste is being burned or hauled away. By saving yard/farm waste from being burned up, the huge carbon sequestration that exists in plant stalks can be preserved for a hundred years, and methane out-gassing from landfills can be reduced. By reducing food waste, feeding it to chickens and pigs, and composting we can seriously reduce methane out-gassing plus make garden soil. Keeping chickens is legal in many cities. We feed all our food waste to our chickens and none is wasted. They make our eggs out of it. It is not hard to set up a chicken coop and get a few hens. I have done that for many years.

Some of us are going to be requesting that either Southern Oregon Sanitation or Southern Oregon Compost set up a dumpster operation to accept and compost plant waste here in the Illinois Valley and elsewhere. That material can be turned into compost and mulch and re-used. In addition, plant stalks can be burned part way into biochar which is of great value on gardens. Diversion of plant stalks for biochar can be done. Folks in other areas are already implementing these strategies.

Mulching of Soil, Cover Crops, No-Till Beds & Wise Water Use

When land is bare and lies uncovered, carbon dioxide out-gasses into the atmosphere, making climate change worse, & run-off of topsoil also happens. However, if land is covered by cover crops like favas, peas, & other nitrogen fixers, or is covered by mulch, the carbon loss can largely be avoided. This addresses both carbon sequestration and soil conditioning and fertility. An option to address this and avoid disturbing the beneficial insect and microbe life in the soil is to use no-till raised beds, mulch the garden and then plant directly into the beds. Paul Kaiser, of Singing Frog Farm in Sebastopol, has used this method to deepen his top soil by nine inches. Use of pest remedies to avoid infestations can help make this work. No-till beds incorporating Hugel-Kulture of branches buried in the no-till beds and buried clay pipes can greatly save on water use. Our water is a scarce resource. We need to be water thrifty.

Remineralization with Rock Dust

Over the last 40 years books and articles have been written about the potential to use ground up rock dust, like basalt, spread on gardens, farms and forests to re-mineralize the soil. Here is a link to an article about it: https://www.remineralize.org/2020/06/basalt-rock-dust-found-to-increase-carbon-capture-fourfold/ And another article: https://www.ecofarmingdaily.com/build-soil/soil-inputs/minerals-nutrients/rock-dust-can-improve-soils/

In addition to massively sequestering carbon, this technique boosts soil yields for farmers and gardeners. This is "**Low Hanging Fruit**" in the arena of climate repair. As an example, Cascade Remineralizing Soil Booster costs $31 for a 44 lb. bag delivered. Use 10 lbs of Remineralizing Soil Booster per 100 square feet and mix in at the time of planting. Use 5 lbs of Remineralizing Soil Booster per 100 square feet as a top dressing

during the growing season. Lightly rake in and water thoroughly. You probably won't need to do it every year.

As part of regional planning we need to enlist farmers and community planners to work together to support our local farmers and feed our residents.