Every month since February 1987 the Olympia Fellowship of Reconciliation has produced one-hour TV programs on issues related to peace, social justice, economics, the environment, and nonviolence.

The Olympia FOR's program airs several times every week for the entire month on Thurston Community Television (TCTV), channel 22 for Thurston County's cable TV subscribers. You can see TCTV's schedule at **www.tctv.net**.

You can also watch the program described below (and more than 90 of our previous interview programs and special programs) at the Olympia FOR's website, **www.olympiafor.org**. Simply click the TV programs link to reach **www.olympiafor.org/tv_programs.htm**, scroll down, and click the program you want to watch.

Many of our website's TV program listings also include a .pdf document describing the program.

OCTOBER 2013

"Dangers of Genetically Modified Food"

by Glen Anderson, producer and host of this TV series

In recent years more and more people have become concerned that giant corporations are doing things to the food we eat that are bad for our human health, bad for agricultural animals, and bad for the environment.

A few giant corporations are tampering with the genetic makeup of food crops such as corn and soy. They are splicing into these food crops some genes from totally different species to kill weeds or insects, or to make the plants grow faster.

The changed crops are referred to as "genetically modified" (GM) or "genetically engineered" (GE).

Scientists are increasingly warning us of the dangers of this. While some aspects of the science are detailed, ordinary people can easily understand the basic facts.

Our guest for this TV program is Sandra Lee, who has a bachelor's degree in chemistry. For several years she has been educating herself about genetically modified organisms. She is skilled at explaining the science clearly in ways that ordinary people can understand. Sandra provides some visual images to illustrate the facts she shares with us during this hour.

Our TV interview begins by debunking the common assumption that any food that the government allows to be sold must be safe. Actually, the Food and Drug Administration (FDA) does not routinely determine whether food is safe. We are largely at the mercy of whatever the food corporations say.

More and more people who are concerned about runaway technology are urging governments and corporations to practice what scientists call the "Precautionary Principle." The "Precautionary Principle" basically says, do no harm. When we consider doing something to the natural world, we stop and first find out what the consequences would be, and we should avoid doing things that would hurt animals, humans, or anything in the natural world. The Precaution-

ary Principle says, don't mess with the natural world in ways that cause unanticipated consequences.

Genetically modifying food is very different from breeding hybrid plants or animals, because hybridizing simply breeds compatible species. In sharp contrast, genetic modification takes DNA or genes from one kind of organism and splices them into totally different kinds of organisms. Examples include splicing DNA from bacteria into food crops, or DNA from fish into foods.

GMOs provide no benefits to humans – only for the business corporations that sell them.

The scientific method is a cautious set of principles and procedures. Companies producing GM foods behave much more recklessly and without a suitable feedback loop.

There has not been enough scientific experimentation to prove whether GM food is safe. But there is research showing that it is very risky and dangerous.

An excellent source of information about GM foods is a non-profit organization called the Institute for Responsible Technology (**www.responsibletechnology.org**), started by Jeffrey Smith. They produced a book titled ***Genetic Roulette***, which – among other things – exposes how the GM industry rigs its own scientific research to distort the results.

The career of Michael Taylor is an example of the "revolving door" where people from the private sector cycle through jobs in governmental agencies that are supposed to regulate the businesses that the people came from. By far the biggest developer and promoter of GM foods worldwide is the US corporation Monsanto. Michael Taylor was a Monsanto attorney and vice president. George Bush put him in charge of FDA policy. Recently President Obama appointed him the federal government's "Food Safety Czar." This is a severe case of "the fox watching the henhouse."

In England, the United Kingdom, the scientist most knowledgeable about genetically modified food was Arpad Pusztai. His experiment showed that rats who ate genetically modified potatoes developed serious health problems in less than four months. He was prevented from speaking out, but Parliament wanted to hear him, so the gag order was lifted. He spoke to Parliament, and now most countries in Europe require labeling of GM foods. The companies that sold GM foods recognized that Europeans would not buy them, so they switched to GM-free for the European Union, but they still sell GM foods <u>without</u> labeling in the US.

A French study of feeding GM food to rats resulted in more than 50% offspring dying in three weeks.

Chromosomes and DNA are the blueprints for all living things. The GM process assumes that it's OK to manipulate DNA as if they were Lego blocks and engineer DNA in various ways without risk. The reality is much more complex because of interactions within the cells of an organism. Many of the interactions are totally unpredictable when the DNA has been re-engineered, resulting in a great many mutations and unpredictable consequences – "collateral damage" in the plant.

A variety of proteins and enzymes that are absolutely crucial for the normal health of animals (including humans) are disrupted when we eat GM foods, because the proteins might end up with different shapes and be unable to interconnect and communicate with various parts of our bodies for normal health.

The vast majority of some common foods are genetically modified – especially corn, soy, cottonseed and canola. Also, many sugar beets have been genetically modified. The federal government recently allowed GM alfalfa and is considering allowing GM salmon to be raised in "fish farms," but would likely escape and interbreed with wild salmon and further endanger them.

The federal government's Food and Drug Administration (FDA) is responsible for protecting us from dangerous food and drugs. But in 1992 the Food and Drug Administration (FDA) said GM foods are basically the same as regular foods, so no testing is necessary. Actually, FDA's own scientists had previously said that some important differences likely existed, and they said more testing was necessary. But in 1992 the FDA yielded to pressure from Monsanto and other corporations, overruled the FDA's own scientists, and imposed the policy that ignores problems. That 1992 policy persists despite more than two decades of additional research elsewhere showing the dangers.

Monsanto makes the herbicide called "Roundup" and owns most of the patents for GM foods. Most GM foods are genetically engineered to be "Roundup ready" – able to grow when the herbicide Roundup is sprayed on them. The food crops drink up the "Roundup" and store it. When animals or humans eat GM foods, we absorb the "Roundup" into our bodies, where it persists and causes damage.

Weeds have evolved to become more resistant to herbicides, so over the years farmers – especially big-scale farmers – have been increasing the amounts of herbicides (such as Monsanto's "Roundup") that they spray on their fields to kill weeds. Farm lands have been inundated with these chemicals, and food crops now have large amounts of herbicide residues on them and inside their cells.

Instead of protecting the public health, the federal government has simply allowed more and more residue of herbicides to be on and in the food we buy and eat.

A huge amount of grain grown with Roundup is fed to livestock, including cows, pigs, chickens, and other animals that people eat. Roundup enters their bodies, and then it enters our own bodies.

Farm animals that have eaten grains grown with Roundup are experiencing failures to get pregnant and failures to bring fetuses to full term.

Farm animals – and human beings – have very complex digestive processes. We rely upon a huge number and variety of bacteria in our guts to digest food and send vital chemical signals to other parts of our bodies. GM foods very likely hurt the vital bacteria in our guts, causing a variety of health problems.

Many vegetarians have replaced meat with protein from soy. Also, soy is a product in a great many processed foods – often under technical names that ordinary consumers don't recognize. More and more people nowadays are allergic to soy. The vast majority of soybean plants are genetically modified nowadays, so it's quite likely that the recent increase in soy allergies has resulted from the genetic modification of our nation's soy crop.

If people want to avoid eating genetically modified foods, they can look for a label saying, "Certified Non-GMO." They can also use the list of safe foods in the shopping guide at **www.nongmoshoppingguide.com**

Washington State's November 2013 ballot will include Initiative 522 ("The People's Right to Know Genetically Engineered Food Act"). We do not advise people how to vote, but we do urge people to read all sides of the issue and make up their own minds.

A mutual friend of Sandra's and Glen's recently visited England and saw that the US food companies made food there without GMOs, and it cost the same as here, not more as the anti-labeling lobby claims.

In recent years, more and more people have become concerned – and better informed – about genetically modified foods.

People can get more information about genetically modified foods from these sources:

- Institute for Responsible Technology **www.responsibletechnology.org** Read information and watch videos at that website.
- Jeffrey Smith's videos and writings, including his book ***Genetic Roulette***.
- **www.nongmoproject.org**
- **www.nongmoshoppingguide.com** Look for their label.

Foods that have had their genes modified or engineered provide huge profits to a few giant business corporations.

They do not provide any benefits to humans, but they do cause huge risks and dangers to our health and to the environment worldwide.

In order for the "free market" to work, consumers need accurate information so they can make informed choices. Labels on food products already provide information about nutrition. Labels could also inform us about whether products contain genetically modified ingredients.