

Area 7

Sustaining our Environment and Food Supply for Future Generations

Protecting Kentucky's soil has been a consistent concern for years. Because of these concerns, recent ideas have been brought to the attention to NRCS service employees, along with local farmers, towards taking a step forward to farming and producing crops in a way that resemble nature's way. My goal is to make our local environment cleaner, provide better quality organic foods, and make our farms more productive and profitable. I want to help achieve this by assisting our local farmers, vegetable growers, and citizens with concepts and techniques to improve our soil and to make it function the way nature intended it to. I became interested in this through my efforts as an Earth Team Volunteer with the Natural Resources Conservation Service and as a member of the Future Farmers of America club at Knox Central High School. Also, I have learned a lot from my Dad, Brian Jones, who is the NRCS Supervisory Natural Resources Manager for, the London Work Unit Area

From my experience as an Earth Team Volunteer, FFA, and from what I have read, I have come to realize that the old traditional ways of tillage and plowing can be one of the worse things we can do for the soil. This destroys all of the natural processes that nature carries out if we allow it to. I used to look at a field that was plowed and tilled and think what we were doing, was a good thing, and that it was the best way to grow a crop. However, this is quite the contrary. Tillage actually destroys all of the natural physical and chemical properties of the soil. The process of tillage destroys the soil structure, creates more erosion, destroys the soils microbes or "bugs", and makes the soil less productive and fertile. According to my Dad, soil is a living and breathing thing and needs to be treated that way. He says that a healthy natural soil has a billion microbes in a gram of it. That's a b for billion, and yes that's a teaspoon. It's hard to wrap your head around that.

With all of that being said, how do we protect our soil and farm it in a way that is more in tune with the way nature intended it to be treated? Also, what kind of farming can we apply to this? According to my Dad, we can apply these techniques or principles to all farm or vegetable operations. Examples are large crop farmers that grow corn and soybeans or small family gardens that are grown for home use.

So, I asked my Dad, How exactly do we implement these concepts? He said, the first thing we have to do is educate the people about the benefits to them and the environment. If we don't take a stand and tell them, they may never know. He said, that by going to a system that promotes soil quality you can reduce the use of commercial fertilizer pesticides, you get better quality produce, increased yields, reduced use of fossil fuels (some fertilizer is made out of fossil fuels or is used as a energy source to mine the products) less erosion takes place so less soil is

lost, and an overall cleaner environment is achieved. Also, something else that I am interested in, is the fact that more organic vegetables can be produced.

Additionally, the next thing we have to do is provide trainings of how you can farm this way and the techniques involved in farming this way. According to my Dad, the key concepts are limiting soil disturbance, no longer tilling the soil, and maintaining a vegetative cover or keeping plants growing on the soil all of the time. Also, he and NRCS say that you need to keep live roots in the soil profile at all times. He says that this offers many benefits which include increasing organic material, provides a year around food source for soil microbes or “bugs” that provide food sources for the crop and helps to achieve an ecosystem balance within the soil. This helps reduce crop pests and diseases in our crops. NRCS says that the way to achieve this or to imitate nature is to utilize cover crops with several different species in it. Such as a mixture of rye, clover, sunflowers, and tillage radishes. You would plant a mixture like this after the crop is harvested in the fall with a no till planter. You would allow it to grow all winter and into spring. In the spring, you would kill it with a herbicide and roll it down with a crimper roller or a culti-packer. After this, you would plant the crop into the rolled down cover crop with a no-till planter.

According to the NRCS, yields increase and natural fertility increases in this type of system over time. In some applications, in 5-7 years, fertilizer and chemicals are no longer needed. Think about how much this would improve the environment, as well as the economy if this was widely adapted. Fertilizer and chemicals are at a pretty high cost, and not needing them anymore, would be completely beneficial to any farmer.

However, NRCS says that the concept is catching on but at a slow pace. Traditional practices are hard to overcome and farmers generally are slow to change and adopting new principles. I think these ideas could be promoted effectively through advertising in local newspapers and magazines, setting up field demonstrations, training our youth through programs such as FFA, and through national social media sources such as Twitter, Facebook, and Instagram. This could be a great impact that could help feed the world, reduce our dependency on fossil fuels, and make our soils last and be sustainable for generations to come.

Work cited/sources:

Brian Jones from NRCS

“The Soil Daily Times”...Protect Kentucky’s soil

“The Soil Daily Times”...”We Live here”

“The Soil Daily Times”...”Farmers fight erosion”