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HOW DO FARMERS CAPITALIZE ON CARBON MARKETS?

In recent years, the scientific community has increased its warnings on the effects of global warming, and the looming disasters that will occur if individuals, businesses, and governments do not act. Consumers are responding with changes to their consumption habits, and the agricultural industry will need to respond to meet these markets.

Trends in Today's Society

When grocery shopping, consumers have historically looked for the best available product at the best price. While saving money is generally a primary goal, shoppers are increasingly willing to spend more for a product that they perceive to be better in some way. These improved items are considered "value-added" products. Usually, the increase in value is derived from an intangible quality, not an improvement in quality or nutritional value. As value-added products become increasingly popular, a store will often devote less space to selling the original base commodity, and the more profitable value-added products take precedence. For example, a grocery store that once sold eggs produced by conventional, inexpensive methods, may only start offering "organic, cage-free" eggs in response to market demands. These eggs are more expensive to produce but have a value-added property that consumer's demand. If that standard becomes the only option, either the agricultural industry is forced to supply them at a loss, or the consumer will be forced to spend more on eggs.

Many agriculture markets and producers are addressing carbon emissions and global warming through a voluntary system. With this model, the producer voluntary implements the added environmental value in anticipation of the customer paying more for the value-added products, just as the consumer pays for the added cost of an organic egg. However, some states, like California, have decided that voluntary efforts are not moving quickly enough, and have begun to implement regulations to mandate the State's priorities and values upon agricultural producers. California now requires laying hens to be housed in a cage free design, for all eggs sold in the state of California, even those produced in other states. This has removed consumer choice from stores and resulted in rising egg prices.

Reducing Global Warming

The State of California has been aggressive in addressing global warming in agriculture. The California dairy industry is now required by the state, to reduce their greenhouse gas emissions by 40% by 2030 under Senate Bill 1383. The dairy industry is investing millions of dollars to comply with these regulations, but not receiving an increase in price as a result. When a localized law and cost is incurred, it is very difficult to pass this cost to the market.

International corporations have been leading the way in private sector investment to address climate change. They usually are the first to be regulated by federal and state laws, and efforts to quantify and reduce their greenhouse gas emissions prior to heavy regulations have been occurring for several years. Many private sector companies have chosen to pledge carbon neutrality voluntarily, both to be compliant with impending regulations and to create a value-added product or service. This allows them to market the product while its value can be maximized before it becomes a regulatory standard. Carbon neutral products are a hot topic, and to meet these goals, most large companies have focused on reducing their own emissions before buying voluntary carbon credits.

Quantifying global warming on a local and global scale has been a huge challenge, yet most of the scientific community attributes increases in global temperatures to increased atmospheric carbon dioxide levels. The measurement used to estimate the effects of an activity on climate change is the mTCO2E: one metric ton of CO2 gas (or its equivalent). Consequently, carbon credits represent the same units and represent activities that can either remove CO2 from the atmosphere or avoid its release. Establishing carbon credit is very technically challenging because CO2 has a global effect. It is the same across the globe and must meet international standards. These standards are maintained by prominent carbon credit registries, like the Climate Action Reserve, Gold Standard, and Verra.

Government Investment

Last year, the United States Department of Agriculture (USDA) allocated over $3 billion to various entities under the Climate Smart Commodities Program. In addition, the USDA is funding many other environmental incentive programs through the Natural Resource Conservation Services and the Farm Service Agency.

The focus of the federal government has shifted from production goals to environmental goals and is attempting to create additional value-added standards around carbon neutrality. Some states have been working ahead of the federal government on these sorts of programs; California has been at the forefront of the environmental value-added movement. The California Department of Food and Agriculture (CDFA) has allocated over $1 billion of investments through the Office of Environmental Farm & Innovation over the past five years, largely to address global warming.

Current Carbon Market Programs

The market for Carbon Credits is increasing, and agricultural is well positioned to be the supplier. Crop production is the result of photosynthesis, by which a plant uses the sun's energy to remove CO2 from the atmosphere and create sugars and tissues. These activities sequester CO2 in the soil and can result in greater sequestration, than released by farming activities. There are several approved protocols that allow farmers to generate carbon credits on the international registries, most of these opportunities are based on the large cropping systems found in the Midwest. Protocols and markets are being developed to include wider variety of carbon credits that agriculture can provide, and producers will need to

consider the potential revenue stream that their operations can generate from voluntary carbon credits in the future.

The value-added proposition of producing these climate smart commodities should be of great interest to farmers. To capitalize on that market, they will need to work with their buyers and industry associations to get their commodity recognized as climate smart and sold for a higher value. There is not a current standard for a 'climate smart commodity', but the $3 billion dollars in funding from the USDA is expected to expedite this soon. The USDA's approach to this is like the organic label, yet there is a much larger market for a climate smart commodity. If an organic labeled commodity can demand a 20% higher price, what price will a climate smart commodity demand?

Next Steps

So, how does agriculture move forward with these developments? A critical step will be in evaluating the farming operation and quantifying the grower's carbon footprint. The USDA and other organizations are developing international standards to quantify footprints. There will soon be funding to help farmers generate a carbon farm plan that does just that. Growers should be proactive on this front, but do it in conjunction with their commodity buyer or industry group. Most importantly, when creating a carbon farm plan, growers must remember that the financial incentive is regarding improvement, so the initial carbon farm plan should reflect current operating methods – not an ideal or future methods.

Farmers should also evaluate production practices that would result in carbon emission reduction and an earned carbon credit. Ideally, this would be done without decreased yield or increased operating costs. Farmers should ensure that these changes result in a higher value commodity or a carbon credit that outweighs the opportunity cost. It is also important to ensure that the changes implemented are approved by an international registry for the crop. Without that accreditation, carbon credit buyers will be hesitant to purchase any claimed carbon credit.

Ultimately, with the amount of money that the Federal Government, state governments, and private industry have invested into addressing greenhouse gas emissions, we expect massive changes in 2023 and the years to come. We encourage farmers to be proactive and discuss this within their management team, buyers, marketing, and industry associations to ensure that they are not missing any opportunities.

Sources:

https://www.usda.gov/climate-solutions/climate-smart-commodities

https://ww2.arb.ca.gov/resources/documents/dairy-livestock-sb1383-analysis