**AgBiz Logic™: an Economic, Financial and Environmental Decision Tool for Farmers, Ranchers and Land Managers**

**Clark F. Seavert, Laurie Houston, Susan Capalbo, Applied Economics - Oregon State University and Meghan Dalton - Oregon Climate Change Research Institute**

**The Problem**

Farmers need a transparent way to incorporate climate information into their management decisions.

**A Solution**

*AgBiz Logic (ABL)* is a cutting-edge web application for agribusinesses under development in Applied Economics at Oregon State University designed to support farm management decisions. OSU researchers are utilizing this software to assist farmers in understanding the opportunities and challenges that climate change and weather variability pose. Through a unique and innovative collaboration with the NOAA RISA project and the Oregon Climate Change Research Institute, growers in the PNW will soon have the capacity to compare the bottom lines for their specific management operations and possible outcomes associated with future climate and market projections.

This unique application is designed to collect, manage, and optimize data from a variety of sources—from balance sheets and weather stations to site-specific zones in the field. The robust data lays the foundation for economic, financial, and environmental decision-support tools, which enable agribusiness professionals to make optimal choices that impact their bottom-line and environmental impacts.

Data is at the heart of ABL. The collection of data is performed either through the user interface, or through the highly automated process of telemetry. Telemetry relies on platforms that align data into a normalized format, which can be exchanged between systems. A company that has developed such a platform and is currently in discussion with ABL is Centricity (www.centricityglobal.com), which has a product named Binder (www.binder.ag). Binder (with the underlying Centricity API framework) connects the dots between field-level data and systems that perform the needed analysis, such as ABL. ABL then completes the cycle by delivering real-time actionable data to a decision-support tool.

Whether the user collects data manually or with telemetry, ABL is the go-to platform for economic, financial, and environmental assessments of their data.

**Components of ABL:**

- **AgBizProfit**: an application that enables the user to make more effective short-, medium-, and long-term capital investment decisions by efficiently measuring the investment’s profitability.
- **AgBizIncome**: an application that allows the user to establish equitable crop and livestock leases.
- **AgBizExpense**: an application that empowers the user to make sound investment decisions based on 19 whole-farm financial ratios and performance measures.
- **AgBizClimate**: an application that provides near-term climate change projections for average weather conditions relevant to agricultural commodities in a specific region.
- **AgBizEnvir**: an application that gives the user the ability to account for environmental impacts when analyzing business decisions. It uses existing environmental models and calculators to measure tradeoffs between economic profits and environmental outcomes at the farm level. It has the capacity to measure greenhouse gas emissions, carbon sequestration, soil erosion, pesticide effects, and nitrogen and irrigation use efficiencies, based on input uses and tillage practices.

**More about AgBizClimate**

*AgBizClimate* allows producers to explore the near-term climate change projections for average weather conditions relevant to commodities (e.g., average precipitation or temperature) in specific areas. Changes in average weather conditions can raise the risk of extreme weather events (e.g., excess heat or precipitation). AgBizClimate allows you to adjust your investments, commodities, and yields based on how you think such changes will affect your production and risk.

**What can you do with AgBizClimate?**

The Earth’s climate is warming and will continue to warm throughout the next century. This has the potential to affect agriculture worldwide both positively (e.g., longer growing seasons) and negatively (e.g., increased heat stress) depending on the commodity (e.g., crop, livestock) and location.

AgBizClimate does not provide weather forecasts for subsequent years. It does, however, allow you to step into the world of 20-30 years from the present and consider how your current enterprises and operations will continue to serve you in the future. Then you can consider if there are any long-range planning decisions you may want to consider in order to maintain profitable operations.

*This material is based upon work that is supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under award number 2011-68002-30191, the Applied Economics Department at Oregon State University, and the Pacific Northwest Climate Hub.*