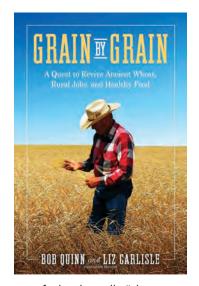
## Grain by Grain: One Farmer's Challenge to Industrial Agriculture and Path to an Organic Future



Grain by Grain: A Quest to Revive Ancient Wheat, Rural Jobs, and Healthy Food, Bob Quinn and Liz Carlisle, Washington: Island Press, 2019.

heap food. Big ag. Big food. Rural job loss and poverty. Soil degradation. Pollution. Health decline. Climate crisis. As a farmer, Bob Quinn has shown that there are solutions. He grew up on a 2,400-acre family farm in Big Sandy, Montana, has taken on these intractable problems related to chemical-intensive production

of what he calls "cheap commodity foods." The book reads like a memoir with well-researched and cited facts to bolster his experiences and clearly stated analysis. With a close association to the Farm Bureau, Mr. Quinn's father became a chemical wheat farmer. Headed down that same road, he pursued undergraduate and graduate degrees in botany at the Montana state land grant university, then completed a PhD at University of California Davis in plant biochemistry. Mr. Quinn grew up in the age of Secretary Earl Butz (Nixon and Ford Administrations), who infamously said to farmers, "Get big or get out." Policies and financing pushed farmers to go with large chemical-intensive monocultures and end diversified operations.

Then there was that fateful field trip to the Central Valley in California during his PhD program in the 70's that, he said "started me questioning the so-called modern trajectory of American agriculture." He continued, "When my professor and the peach farmer started laughing about the way these peaches were 'ripened'—using a petroleum-based spray developed by the professor that changed their color artificially-I was horrified. My disgust only deepened as I realized that the punch line of their joke was how they'd buried the results of their trials in an obscure journal overseas to avoid public scrutiny. This wasn't the science I'd fallen in love with as a youth, the science that endeavored to uncover the inner workings of nature's genius for the benefit of humanity. This was manipulative. Literally tasteless. And potentially harmful. I saw that the agriculture I was being trained in, industrial agriculture, was undermining fundamental human values. Honesty, for one. But also respect for the natural world and for the interconnections among living systems that I was just beginning to grasp. Nutrition, taste, and environmental stewardship were all being sacrificed to an economic logic that I couldn't

understand.... But one thing was patently clear: this new direction was not about meeting human needs; it was about increasing markets and profits—in total disregard of the quality of the end product."

Mr. Quinn has dedicated his life to "moving away from a commodity mentality in favor of products that explicitly assign value to soil quality, rural livelihoods, climate stability and human health." He cites the work of Sir Albert Howard, botanist and organic pioneer, who at the turn of the 20th century said that the health of soil, plants, animals, and people should be studied as one great subject.

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The author explains his path to advance a business model for a profoundly different agricultural economy. This brought him to ancient grains and value-added agriculture, and practices that nurture life in the soil to support more profitable crops and a healthier environment—organic agriculture. So instead of the herbicides that were being pushed in modern agriculture, Mr. Quinn says, "We found diverse rotations, sound soil management, and careful monitoring" to control weeds. He recounts that he asked a chemical rep, "How many weeds do I need to have to make it worthwhile to spray." He never responded. As the author says, "Monsanto wasn't interested in economic thresholds. The company just wanted to sell as much chemical as possible." A local banker in the early 90's told Mr. Quinn that a chemical rep wrote him, "If any of your customers are proposing to abandon the proven methods of modern agriculture for the high-risk niche of organic production, we hope you will not support such a change by lending money to such an ill-conceived enterprise."

Organic offers many lessons drawn from Mr. Quinn's life on the farm and in business—his respect for nature and choice of crops, including ancient grains, orchard crops, vegetables, high oleic safflower oil for food and recycled as fuel, and more. As he says, the agricultural industrial complex and big pharmaceutical companies do not want answers to questions about annual obesity care costs at \$147 billion and diabetes at \$116 billion. Having proven that individuals can take on large economic interests with organic family farms, Mr. Quinn believes that together eaters have tremendous power to bring unresponsive corporations to their knees and force change in those practices that are leading to the destruction of the earth. Read this book for inspiration.