



The Economics of Pacific Northwest Greens: Investor Summary

OVERVIEW

Leafy green vegetables are an important source of nutrition, and thus form a vital part of the food system for any region. The Pacific Northwest, while not a major producer of leafy greens nationally, nonetheless possesses a thriving diversified organic farm sector, predominantly on the West side of the Cascades. In general, leafy greens produced in the Pacific Northwest are not competitive commercially with those produced in California, whether conventional or certified organic. The crop category of mixed vegetables is a more significant category of farming in the Pacific Northwest than leafy greens alone. In mixed vegetable farming, producers can combine leafy greens (e.g. lettuce, spinach) with root crops, alliums (e.g. onions), brassicas (e.g. broccoli), herbs, and other crops.



Organic spinach in Philomath, OR - PHOTO BY JASON BRADFORD

SUPPLY DRIVERS

- **Production costs**—Organic leaf lettuce production costs per acre are similar to those of conventional, though yields are lower. Due to price premiums however, organic leaf lettuce can provide farmers with net returns per acre that are competitive with conventional.
- **Crop diversity**—Mixed vegetable farming offers farmers diverse revenue streams and consumers diverse product choices. Rotating mixed vegetables with forage for livestock can restore soil quality while expanding the range of products to meat, eggs, and dairy.
- **Alternative production systems**—such as indoor hydroponics, are emerging as an alternative to field-based agriculture and may play a growing role in the market for leafy greens in the years to come. Not all of these systems are certified organic.
- **Alternative distribution systems**—such as home delivery, can provide consumers with a diverse selection of organically grown vegetables sourced from a variety of farms.
- **Environmental changes**—including California drought and ongoing climate change, are already changing cropping patterns in California and, to some extent, the Pacific Northwest. These



changes have the potential to become far more dramatic in the years to come; however, it is not clear whether the leafy greens sector in the Pacific Northwest is best positioned to capitalize on them.

DEMAND DRIVERS

- **Consumer trends**–Leafy greens have tended in recent years to go through fads (kale!).
- **Environmental and social values**–Consumers have revealed general willingness to pay premiums for product attributes including environmentally friendly production methods, local varieties, and socially equitable business practices.
- **Rise of mass market organic**–The increased availability of organic products through mainstream retailers has stimulated consumer awareness and led to increased demand; a significant proportion of which has been met by imports from other countries.

OPPORTUNITIES

The complexity, uncertainty, and poor data quality that characterizes the organic leafy greens sector means that we cannot recommend specific areas to invest, but we can offer some guiding principles for those seeking to make catalytic investments in organic leafy greens and related mixed vegetable crops. The most important thing to remember for a prospective impact investor seeking to move the market in organic leafy greens – or organic vegetables in general -- is: pay attention. There is no clear, dominant trend in organic leafy green vegetable agriculture, so sustained attention to the details of the market, including emerging crops, new production systems, and alternative methods of distribution, is essential for identifying future profitable opportunities.

Trends to watch:

- **Yields**–organic yields are competitive with conventional in some regions, for some crops, and under conditions of drought and environmental stress.
- **Land transition**–supply of organic farmland lags behind growth in the demand for organic food. In the next decade, millions of acres of farmland will change hands, as the current generation of farmers retires.
- **Organic imports and exports**–are both increasing. The growth of mass market organic means a lot more organic produce is crossing borders than ever before.
- **California is the elephant in the room**–In the face of ongoing drought and climate change it's not clear which direction the elephant is going to fall; most of the evidence says it will fall southward towards Mexico, but commercial blueberries and hazelnuts continue to look strong for the Northwest.
- **Indoor farming**–is emerging and may become more important as arable land near urban areas becomes scarce. Hydroponic greenhouses are an emerging production system that merits attention.
- **Distribution systems matter**–Organic agriculture contains a variety of distribution channels, including organics-focused distributors, community-supported agriculture (CSA), and home delivery. Expanding organic farmers' access to a wider array of distribution channels through supply chain coordination and networking may play a role in shaping the future market.
- **Vegetables grown for processing**–are as important as those grown for the fresh market. In tandem with the growth of mass-market organic, vegetables grown specifically for processing into pre-packaged and frozen foods have emerged as a profitable alternative for organic farmers.

For more detail on the economics of greens production in the Pacific Northwest see the full narrative that accompanies this investor brief.