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Industry and Firm Strategies for Good Agricultural Practices and Good Handling Practices

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In the 1990s retailers began to consider procurement practices with respect to concerns over consumer safety, reducing liability, and market retention. In 1999 the first major U.S. retailer started calling for audits, and shippers, packers, and producers nationwide asked for help from the Federal/State Inspection Service to develop audit programs. In 2000 Oregon, along with several other states, worked with the federal government to create a standardized, nationally uniform audit program that would provide unbiased and professional third-party certification with a systems-based approach to minimizing risk of microbial contamination of fresh fruits and vegetables. In 2002 the State of Oregon Department of Agriculture (ODA) was the first state to implement official Good Agricultural Practices (GAP) and Good Handling Practices (GHP) certification under the federal/state audit program. In 2006 auditors performed more than 70 audits on 24,000 acres. By 2009 there were 192 GAP (51,660 acres) and twenty-six GHP certifications for Oregon producers and handlers. The ODA auditors (inspectors from ODA Commodity Inspection Division), make evaluations according to other public or private programs as well as USDA GAP/GHP: currently these include USDA organic and product identification.

This study conducts an exploratory analysis of farmers' perceptions of certification programs. By examining the attitudes, actions, and comments of farmers, we came to better understand the incentive structure they face. Our conclusions ultimately could be utilized by those who seek to foster an environment where farms and intermediate firms deliver to consumers the higher levels of safety, traceability, and social responsibility which they

would be willing to fund, if their information were perfect and bargaining power organized.

Producers and handlers currently certified under USDA programs for GAP and GHP are recorded at the USDA Agricultural Marketing Service website (USDA-AMS 2010) organized by state or by commodity group. Certifications are for one year, with pages listing the month of expiration. When examined in September 2010, Oregon had approximately 244 farms/handlers listed as certified. For comparison we sampled states that might have been heavy users during the same period. Michigan and Idaho also appeared to have over 200 USDA GAP and GHP certifications, with Michigan nearly as varied in commodities certified as Oregon, while in Idaho almost all certifications are for potatoes. New York has well over 100 certifications, largely in apples, as does Washington, with approximately 177 certifications listed. South Carolina had 18, Texas 33, and Wisconsin 47. Somewhat surprisingly, California only had 75 certifications listed, but it was found that two commodity groups that have been impacted by food safety scares—leafy greens and strawberries—have independently developed GAP protocols and certify separately from the USDA program. There were 99 leafy vegetable certifications and over 200 for small fruit (mostly blueberries). Root crops (mostly potatoes) and tree fruit (led by apples) had the highest numbers.

Oregon appears to have had one of the highest levels of adoption of the USDA GAP program. The high number is likely due to several factors, including the large number of specialty crops produced in the state, the ease of access to certification within the state, and several commodities that are exported. Several states have large numbers of producers in specific commodity groups that are handled by distributors who may have product shipped overseas. Buyers in Europe and Japan frequently demand GAP and GHP certification. Another influence on food handlers or processors toward requiring GAP certification from their suppliers is the requirement that commodities sold into USDA commodity

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purchasing programs “must pass a yearly plant or packing facility audit that ensures that the vendor produces products in a clean, sanitary environment in accordance with the Food and Drug Administration’s Good Manufacturing Practices” (USDA-AMS 2009). Noted specifically is that “fresh fruit and vegetable suppliers must also pass yearly Good Handling Practices and Good Agricultural Practices Audits” (USDA-AMS 2009).

The evolution of agricultural certifications has become a major multidisciplinary focus, fueled internationally by increasingly liberal global trade, greater awareness of food-borne illness outbreaks, globalization of the agri-food system, vertical integration in the food industry, concerns over genetically modified (GM) food products, and the formation of the World Trade Organization in 1995 (Giovannucci and Ponte 2005; Giovannucci and Reardon 2000; Hatanaka, Bain, and Busch 2005; Hatanaka and Busch 2008; Hobbs 2003). Standards may be designed or (more often) facilitated by government entities (such as the USDA), private market organizations (first-, second-, or third-party), or a hybrid of the two (Giovannucci and Ponte 2005; Hatanaka, Bain, and Busch 2005; Hatanaka and Busch 2008). In this sense, agreements on certifications and standards may be seen as social contracts between producers, retailers, consumers, and governments, in place of traditional publically authored and administered regulation (Giovannucci et al. 2005). This could be a particularly promising market solution to changes in demand and supply, since national-level government-only regulation has been determined to frequently fail to adapt to quickly emerging industry practices (Hatanaka, Bain, and Busch 2005; Reardon, Timmer and Berdegue 2008). However, this solution can only be promising if it results in an incentive structure for firms that leads to levels of consumer information, traceability, cleanliness, and social responsibility consistent with prevailing normative standards.

Literature Review

While many of the macroeconomic repercussions of certification programs have been discussed in the literature, and large private firms such as supermarkets invest in their own research, too little investigation has examined outcomes specific to producers, laborers, and consumers. Some useful

analysis has been conducted, such as those informing the U.N.’s Food and Agricultural Organization (FAO), which spent many years developing its Good Agricultural Practices (GAP). This work included a report on GAP incentives (Hobbs 2003) that found that GAP certification provided “value-adding diversification opportunities” for producers in addition to the intended positive impact on food quality and the environment. In the same analysis, Hobbs (2003) outlined ways in which GAP standards could potentially mitigate or repair market failures, most notably by promoting consumer information (such as origin, growing conditions, inspection, etc). The study determined that farmers have strong incentives to adopt GAP guidelines from higher price premiums for their produce, increased access to markets upon certification, and a theoretical stabilization of revenue, in addition to many less influential but positive incentives. Simultaneously, farmers also were found to face strong disincentives to the adoption of GAP, including increased variable (e.g., labor) costs, increased direct (e.g., equipment) costs, reduced output, increased average unit cost, and investments in the human capital necessary to both perform and record compliance.

This conflict underscores the difficulty of finding a solution that increases quality, reduces environmental impact, and does not unfairly burden players such as small- and medium-sized farms, which were identified in many studies in the literature as being typically the most negatively impacted group, particularly smaller and impoverished producers in developing nations. These firms face the same mixed incentives as larger farms as described by Hobbs (2003), but as size declines the costs become greater than expected returns, which may lead smaller farms to fail to adopt certification programs, violate existing standards agreements, or simply fail to enter the market as a result of increased barriers (Hobbs 2003; Reardon, Timmer, and Berdegue 2008). Even in the U.S. adoption costs are much more of a concern for small than for large producers. Woods and Thornsbury (2005) examined costs of adopting GAP practices for strawberry production. They estimate that the cost of GAP adoption per pound of strawberries produced would vary from over eight cents per pound in New York to 0.1 cents per pound in California. Most of the variation appears to be due to spreading the more fixed costs of adoption (training, additional labor, personal hygiene facilities, etc.)

and certification itself across production, and thus both farm size and yield per acre play a role.

Researchers have identified several instances where private retailers may come together to agree on certifications that are less stringent than government alternatives and as a result are more affordable for smaller farms and their laborers. Policy analysts note that overall economies should benefit from certifications such as GAP, ISO 22000, HACCP, and GlobalGAP (Hatanaka, Bain, and Busch 2005; Hobbs 2003). The overall increase in economic efficiency affords several potential responses to mitigate the small-farm “losers” of certain policies or certification programs. Economic “winners,” such as consumers, could compensate the small farms from their gains. This, in a way, has occurred naturally as some third-party certification (TPC) groups have incorporated small-farm assistance along with other social measures into their programs, which are funded from the increase in exports as demonstrated in the Sri Lankan seafood market’s adoption of HACCP and the UK’s experience with ISO standards in animal based foods (De Silva and Yamao 2010; Hatanaka, Bain, and Busch 2005; Hatanaka and Busch 2008; Zaibet and Bredahl 1997). Still, the natural advantage for larger producers in terms of cost has given rise to a serious debate in the WTO over subsidies, various taxes or tariffs, and other trade interventions (Paarlberg, Bredahl, and Lee 2002). On the other hand, some investigators have suggested that a key to designing effective and responsible agricultural standards is to utilize only policies that deter the most developed nations from providing farm subsidies at the expense of small and medium producers abroad. Some authors have suggested policies which shift small farms out of these most demanding markets (Humphrey 2006, 2007; Humphrey and Schmitz 2008). Small farms may be exempted from certain regulations contained in the U.S. food safety modernization bill.

Design and Data Collection

To explore farm-level incentives as they actually exist, we conducted a series of exploratory interviews throughout Oregon. Both in-person interviews and telephone surveys were used to maximize the amount of qualitative information extracted from our relatively small sample. We polled the person most involved in decision-making with respect to

practices and certification (and/or its management) on their perceptions, behaviors, anticipated future behaviors, and general conditions as they relate to agricultural certifications. A standardized ballot was read to each respondent and they were encouraged to expand on any point on their experience related to certification. Eleven interviews were completed. We recorded not only perceptions and participation but also measures of crop composition, sales destinations (within state, out of state but domestic, and exports), cash expenditures on certification, time expenditures on certification (record keeping, preparation, etc.) awareness of certifications beyond those currently held, motivations for certification, satisfaction with certifications held (if any), future plans for certification, predictions of any changes in participation if more certificates could be “bundled” into fewer inspections, and economic and demographic characteristics.

Respondents were referred to us primarily by the Oregon Department of Agriculture or commodity commissioners as farms with varying levels of certification, size, and production. Although neither random nor broadly representative of a larger population, this sample was selected on the basis of the utility they provided to this discussion (subject to logistical constraints). Specifically, we sought to maximize information obtained by choosing farms with significantly varying sizes, types of produce, program adoption (if any), and distribution markets (e.g. direct-to-consumer, processors, handlers, retailers, etc.) or downstream integration. The unifying theme of this design is that by non-random sample selection and use of “holistic” (qualitative and quantitative) analysis, this pilot exploration of the farm-level drivers of agricultural certification maximized coverage of farm types and our ability to describe certification phenomena, with a near-zero budget and little directly relevant guiding literature.

Findings

Most of those surveyed had a current or past USDA GAP or GHP certification. Those that no longer hold a USDA certification said they have replaced it with something else as demanded by customers. Three are now certified by the private firm PrimusLabs.com, headquartered in California; one mentioned having been certified under EurepGAP

(now GlobalGAP) along with PrimusLabs.com, but found the latter unnecessary and dropped it. Another indicated having both GlobalGap and USDA GAP currently and another indicated having USDA GAP, PrimusLabs.com, and GlobalGap. A few reported other certifications: two had American Institute of Bakers certification, two had Safeway food handling audits, two had the eco-label Food Alliance, and two had organic certification. One of the latter said he had certified part of his production as organic, which he attributed to the relatively low cost of that certification in an “experiment” to determine if organic sales would justify his efforts. Possibly the low cost of the organic certification was due to a subsidy, since the actual cost is generally higher than that of USDA GAP.

In our sample four respondents were neither USDA GAP nor GHP certified; one of these was primarily a processor and another was one of those firms GAP-certified by Primuslabs.com, which they reported was far more expensive for them than the state-audited USDA certifications. The producers that were neither GAP nor GHP were organic certified. One producer was GHP certified with the USDA but GAP certified with PrimusLabs.com; five had both USDA GAP and GHP certification.

Perceptions of agricultural certifications varied between participants. Five participants had generally positive comments on agricultural certification as a whole, and five had generally negative comments; one respondent felt that state-sponsored certifications were “entirely unnecessary” and that the more rigorous and expensive private certifications were “absolutely necessary” because they were required by overseas customers, and that given those more stringent certifications it should not be necessary to have the USDA program certifications as well. Redundancy was a frequent complaint. Seven participants said that they appreciated current bundling of GAP and GHP offered in the Oregon inspection program and any further bundling of certifications throughout the system would be valuable.

When demonstrating positive perceptions regarding certifications, the most common reason given was that it was important as a means of safety or responsibility; in most cases GAP or GHP was cited as important to maintaining global access. Negative comments were often related to excessive time and paperwork costs and perceptions of ineffectiveness of certifications in affecting quality.

To quote one mid-size farm operator, “Certification is ineffective at improving quality, but effective in shifting more liability on the growers, driving up costs and creating an illusion of safety.” This operator indicated that farms in his area had begun to informally “unionize”—that is, some local farms have begun to pool their bargaining power to resist their customers’ demands for certification.

The primary driver of adoption of GAP and or GHP certification identified by firms was market access (for export sales, government sales, processor, or handler requirements). A number noted that it was good to ensure that proper practices were undertaken to ensure food safety, but many stated they already were doing what was necessary. Some expressed a broader perspective related to the risk to their businesses from health incidents that have harmed several agricultural industries.

Industry-Level Strategies

Food-borne illness incidents not only can affect the source product but generally affect others in the same industry as products are withdrawn by retailers as a precautionary measure or from consumers losing confidence in the product in the short- and sometimes the long-term. Many agri-food industry leaders have taken steps to handle food safety in advance of regulation. Among other things, producers have jointly developed programs for commodity-specific safety precautions and/or to ease the steps to certification. For example, in California the vast majority of leafy greens producers have signed-on to a marketing agreement requiring adoption of GAP and GHP, and strawberry producers have developed specific protocols, training materials, and documentation for GAP. The Oregon Blueberry Commission is subsidizing up to \$150 of the cost of certification for first-time certifiers who are small producers. Oregon’s hazelnut producers are in the process of developing their own GAP program. In some instances, commodity commission activities can lead to a degree of subsidization by large farms to smaller farms since all farms in a commodity group can benefit from the materials developed jointly.

Many state governments also have subsidized specific groups. In Oregon, those farming on 30 acres or less or who have farmed for ten years or less can be reimbursed for 75 percent of the cost of

GAP up to \$250; typical annual certification costs are \$350. The Virginia Department of Agricultural and Consumer Services secured grant funding via USDA's Specialty Crop Block Grant Program to reimburse 50 percent of the cost of the GAP / GHP certification charges. The North Carolina Department of Agriculture & Consumer Services is using a USDA grant to pay up to \$600 of the cost of having a third-party audit to verify a farm's food safety program.

Another interesting issue is the variation in required practices and the related issue of who does the certification. The private firm Primuslabs.com was once involved in the training of inspectors in Oregon and Idaho. However, the State of Oregon now audits for the USDA GAP certification, while Idaho currently offers GAP certification as a contractor for Primuslabs.com as well as under the USDA program. Auditing by PrimusLabs.com does take place in Oregon, but not take through a state agency. Interestingly, the costs being charged in Idaho under their PrimusLabs.com contract appear to be considerably less than those reported in Oregon based on responses of two firms that provided an estimate of the costs. However, we cannot measure how these costs relate to the depth of the auditing required. A conversation with a California producer indicated that one can and should negotiate charges and coverage with private certifiers. Interestingly, that producer split the testing (for example, for water quality) required for certification and general auditing between different private firms that can do both. Possibly this is a strategic approach to keep these providers vying for their business. Producers and agricultural organizations might benefit from more information about charges for auditing services along with the ultimate requirements of buyers in terms of developing strategies to contain costs.

Conclusions

Positive analysis supports the existence of unmet demand for improved quality throughout food distribution systems and indicates that normative values dictate that as scientists we should help consumers and business move through the complexities to attain a higher level of cost-efficient quality in food. This study provides a preliminary exploration of some factors which scientists and policymakers

must impact if this demand for improved quality is to be met. The complexities involved in this process include the larger impact on costs for smaller farms for adoption and certification. Strategies to address this may be market-based, which might entail allowing private demand to gradually raise the level of quality, perhaps driving some smaller firms out of business and rewarding the larger firms that can afford more in-depth and expensive certifications demanded by overseas customers. On the other hand, it may be possible to achieve our goal of higher quality without sacrificing smaller farms if an adequate subsidy regime can be developed.

In addition, broader discussion between producers, handlers, retailers, and manufacturers about which certifications are necessary seems to be called for in light of producers being asked for overlapping certifications by different customers. As noted above, several firms had multiple certifications related to food safety. Producers groups also could collect information on certification costs and represent with buyers on certification issues as they often do in trade.

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