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Abstract

The objective of this article is to promote the adoption of farmland preservation strategies that minimize the conflicts between urban land uses and dairy agriculture land use. In order to accomplish this, a survey was developed and implemented which contributes knowledge and understanding of dairy farmers' perceptions. Farm consultants can use the results to develop strategies to address urban/agriculture conflicts.

Strategies for Dairy Farm Preservation

By Nathan de Boom, Jon C. Phillips, and Gwen Urey

Introduction

As residential areas expand, more land is being drawn into what the Farmland Trust calls the "zone of conflict," an area within a third of a mile of urban development. According to a study by the Washington-based American Farmland Trust (1990), out of all the agricultural products produced in the U.S., milk is increasingly the most threatened by the loss of farmland to "sprawling development." Some 63 percent of milk produced in the United States is produced on land threatened by urban development. This zone puts more dairy farmers on the edge of development, a sometimes-perilous state that can hinder their ability to operate. Urbanization of farmland is not a new pattern in the U.S., but today the geographical divisions are more blurred than ever as residential and commercial growth penetrates rural landscapes.

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Conflict tends to occur in three geographical areas: (1) at the edges of expanding cities, (2) at the edges of growing unincorporated communities, and (3) on land zoned for agriculture when incompatible land uses are allowed. Increasing residential growth in rural areas impacts dairy agricultural industries in a number of ways. The threat of pollutants from the manure potentially impacting the local water table, unpleasant odors, increased quantities of particulate dust, and concentration of flies combine to motivate nearby and newly arriving urban residents to complain and seek the removal of dairying activity from the local area. The dairy-urban clash has led to stricter dairy laws and regulations, soaring permit fees to build or expand dairies, proposed moratoriums on new dairy construction, and legal battles that have lasted for years.

Dairy farmers, like all farmers, want to operate with a minimum of interference from residents complaining about odors, chemical sprays, and other impacts from modern dairy farming operations. A book titled, *Holding Our Ground: Protecting America's Farms and Farmland* (Daniels and Bowers 1997), discusses the development pressures that farmers face in terms of the economics of farming. The conflicts created by non-farm neighbors, property taxes, and the "Impermanence Syndrome," result in a reduction in investments into their operations as they concede the inevitability of development. Farmers tend to conclude that there is no future for agriculture in a community transitioning from agriculture to urbanization. This mindset can persuade farmers not to invest in their farm equipment and infrastructure, resulting in less profitable farms and more complaints from surrounding residents. Changing land uses around a dairy can diminish the usefulness of their investments and, in some cases, lead to the complete termination of dairy communities. It does not matter who was there first. If the character of an area changes from agriculture to residential or some other use, the new use will likely be given priority over the old.

Another facet of this conflict concerns public services, public finance, and regulation of agricultural practice. The new suburbanites, although living in a distinctly rural setting, often begin to demand suburban rather than rural levels of public service (e.g., increased fire protection, sanitary or storm sewers, snow removal, street cleaning, etc.). Service increases are then translated into increased property taxes, which disproportionately impact the dairy farmers. Suburbanites may

also succeed in getting ordinances passed limiting the times or nature of agricultural operations. Historically, dairy farms near the edge of growing cities undergoing a combination of urbanizing forces have conceded to urban growth.

The protection of dairy farms and associated farmland, therefore, is receiving increasing attention from not only the dairy community but local government as well. In many communities across California, dairy farms and farmland operations are subject to more stringent protection from incompatible uses than ever before. Such lands were formerly viewed as urban reserves or unrestricted districts in which most uses were permitted regardless of their impact on agriculture. Communities are starting to protect their agricultural resources not only to protect dairy farms and their operations, but also to promote compact development, to reduce service costs, to safeguard environmental resources, and to maintain the agricultural economic base. This public purpose is broader than merely protecting the operation of any one patch of farmland.

Historically, the concern over the rising number of complaints by non-farm neighbors against farm operators was addressed through state-enacted right-to-farm laws. Right-to-farm laws widely adopted around the country seek to offset nuisance complaints from non-farming neighbors by statutorily declaring that standard farming practices are reasonable land uses despite their perceived adverse impacts on neighboring lands. Right-to-farm laws take the courts out of the farm management business and protect farmers from the nuisance laws that apply to non-farming neighbors. Right-to-farm laws, although they vary in content in different localities and states, generally attempt to supersede the common law of nuisance and favor agricultural uses of land above all others. Right-to-farm laws do not give farmers complete freedom to do as they please. Farmers must operate in a legal and reasonable manner. California right-to-farm laws can take several different forms. Some counties in California list specific annoyances that are not considered a legal nuisance to neighbors. The lists include odor, noise, dust and the use of pesticides. Other counties require sellers, rural or urban, to give the buyers disclosure forms that list any neighboring problems including noise, odors, and dust. A few counties have adopted local right-to-farm laws requiring sellers to disclose facts about nearby farming operations (Nolo's Legal Encyclopedia 1998).

Several studies have shown that the rationale for most of these laws - urban expansion into agricultural lands - may have been based on faulty assumptions. Size and type of farm and the community characteristics of the neighboring areas are more predictive of nuisance complaints and concerns than actual population density or rate of population growth. Larger dairy operations located near areas that can be characterized as "suburban" are more vulnerable to nuisance complaints. (Lisansky et al 1988).

The issues surrounding nuisance and right-to-farm laws are difficult to reconcile. Some producers have difficulty understanding the legitimacy of their neighbor's concern about the unwanted, but unintentional effects of their farming practices. Simultaneously, farm neighbors may not respect the practical needs of farmers to use certain practices that are necessary to make a living. For this reason, most right-to-farm statutes could use improvement in definition of terminology and in clarity of purpose and language. For example, do current large confined animal feeding operations qualify as agricultural operations according to the framers' intentions? The agricultural community is still not well versed in the mechanism for usage of a right-to-farm statute, preferring to think of the statutes as a general blanket protection for all agricultural activities while the statutes never were intended to be applied in that manner.

It is likely that there will be challenges to the constitutionality of right-to-farm laws. Farm consultants must watch for the effects of these court decisions on their local farming communities and around the country. Unfortunately, problems between agricultural operations and their neighbors are not always resolved well within the court system. Consultants advocating dairy farm preservation, therefore, must examine the use of other means short of litigation to resolve conflicts among neighbors.

The solution offered by open space advocates is to discourage commercial and residential development in rural areas and encourage conventional farmland preservation techniques. The land base must be preserved and protected in order to protect agricultural industries. Land tends to move from extensive uses like farming to higher per acre returns like residential, business, or industrial use in a free enterprise system. Land outside the central cities is virtually unprotected in many counties. In fact, it is simply awaiting development at some future time.

Difficulties can be created for other people when anyone is allowed to do whatever they like with land. One farmer selling off land for development purposes can create problems for neighboring dairy farmers who want to continue farming. Rural non-farm residences may not be compatible with dairy farms and buyers may find their investment in a home in the country was an economic mistake. There is competition, and in some cases even conflict, over land use in certain locations. There can be adverse impacts of particular land use upon the rest of the community. Farmland preservation is therefore an important objective because it presents many benefits to the dairy farmer as well.

Preventing suburban development patterns helps to reduce land use conflicts or nuisances. Preservation techniques would not only minimize the potential land use conflict between dairy agriculture and urban uses but it would also preserve open space (Sargent 2001). Dairy agriculture is taking on a new role in its relationship to urban areas. Housing the growing human population, in a manner that causes a decrease of open space, is causing many cities and counties to look to dairy and other agricultural industries as key and major elements in a system for preserving open space (Hinckle 1987).

Survey Methodology

The objective of this article is to promote the adoption of farmland preservation strategies that minimize the conflicts between urban land uses and dairy agriculture land use. In order to accomplish this, a survey was developed. The outcome of this survey is designed to contribute knowledge and understanding of dairy farmers' perceptions and goals and how they relate to consulting strategies. Farm consultants need such knowledge to develop strategies to address urban/agriculture conflict.

To gauge respondents' level of interest about farmland preservation a questionnaire was developed. The concept of farmland preservation awareness was defined through variables such as the respondent's belief, interest, and knowledge of farmland preservation.

Once the basic topics and specific variables for a questionnaire were identified, they were integrated into a survey design. In the survey, the respondents disclosed their understanding of, attitude toward, and desire to cooperate in farmland

preservation along with their suggestions for how dairy farmers and municipalities can collaborate and best target efforts in these areas. With several questions used to measure one concept, survey questions were developed utilizing indexes and/or scales. The scales were organized into subsets of ranges that were characteristic of the dairy industry.

To provide useful information, a sample survey was designed to collect data from a representative sample of the population. If the sample is a random one drawn from a complete list of identifiers for the full target population, the results will be reasonably reliable and can be used to draw conclusions about the entire target population. The population for this paper involves all the dairy producers in the state of California (approximately 2,000). The sampling frame came from the California Department of Food and Agriculture (CDFA), which keeps names and addresses of every dairy farm in the state. Even though the population is relatively small, a random sample was generated to produce helpful data, while eliminating the difficulty of a full census. Using a simple random sampling technique, we were able to generate a representative sample after reaching 10 percent of the dairy farm population.

Out of the three basic survey methods (mail, telephone, and in-person), a mail survey was used. Mail survey was preferred in order to reach a widely dispersed population. Mail surveys are the most common of all approaches and their familiarity is also their drawback. Recipients tend to ignore them, and without a great deal of follow-up effort, a 15 percent response rate is average. In the mail survey administered for this project, we obtained a 29 percent response rate (58/200) without follow up. Several techniques were used to encourage recipients to respond.

Survey Findings and Resulting Strategies

One researcher compared trying to protect dairy agriculture against an encroaching urban frontier to "trying to protect beaches from a relentless ocean." It is ultimately futile, yet a short-run measure that buys time for the depreciation of fixed assets can allow instantaneous and smooth adjustments to changing markets. If they cannot stop a process, it still may be to their advantage to slow it down and exercise a measure of control over urban expansion. A strategy of buying time by buffering incentives for land conversion may be the only

feasible option open to those who have an interest in maintaining dairy agriculture. According to the survey, most dairy farmers believed that farmland preservation programs were a viable option regardless of how many years they presently plan to dairy. (See Figure 1.)

Table 1 presents responses to six key questions from the producer survey.

Although a small percentage of dairy farmers who responded are participating in farmland preservation programs, they generally believe that farmland preservation programs present a viable option to urban encroachment (60.4%).

Even though dairy farmers are somewhat knowledgeable about farmland preservation programs (39.7%), more are interested than not in participating. When asked who should take the initiative in participating in farmland preservation, dairy farmers (55.1%) generally believed that local governmental agencies should take the initiative in implementing farmland preservation programs.

Conclusion

Preservation policies and programs that are strictly resource oriented (seeking the preservation of farmland above all else) ignore the reality that land is the farmer's prime asset. Farmers understand all too well that land is a commodity; it may in fact be their retirement fund. This commodity can also be used to finance capital equipment or additional land acquisition investment as well as to purchase farm supplies. The key to success for any agricultural preservation program is working directly with the farmer to strike an acceptable balance between the two values. Without dairy farm property owner support of selected preservation strategies, there will be little chance of program success.

Preservation, therefore, becomes a joint responsibility of the dairy farmer and the local municipality who must work together to develop policies and programs that benefit both parties without hindering a farmer's ability to participate in a program. That is why it is important for a farm consultant to work with the dairy farmer and planning officials to develop a program that strikes an acceptable balance between these two opposing social views (Abdalla and Kelsey 1996).

Two different and distinctive social views have emerged concerning land use that tend to confound efforts to preserve farmland. The first view holds land to be a commodity to be owned, bought, or sold for profit. Land ownership under this premise implies that because land is considered a commodity or personal property, it can be disposed of in any legal way the owner deems reasonable to make a profit. The real estate market in this case determines the value of the commodity and for all practical purposes can be realized only once when the farmland is converted to some developed use. The second view, and one that is coming into increasingly popular acceptance, is that land is a resource and, as such, has values that must be measured differently. The political task would be much easier if it were simply a clash between the public interest view of land and commodity interest of speculative developers. Many farmers, however, hold both views simultaneously: on the one hand complaining about the problems of residential development in agricultural areas, while on the other hand citing a need to be able to sell their land for development when necessary. These two views are contradictory. In determining a dairy farmer's interest in farmland preservation, a farm consultant needs to evaluate whether the dairy farmer supports one view or the other or settles on an outcome that falls somewhere in between (Sargent 1978).

Conflicting land uses are formed as farmlands are intruded on and farm operations disturb nearby city residents. The most promising approaches involve structuring farmland preservation techniques that utilize local governments and private developers to encourage methods of preserving open space. There are a number of available options a farm consultant has to preserve farmland, especially in California. The consultant should evaluate the options and determine which method is the most compatible with the dairy farmer's local government. During this process, the consultant should engage the local

municipality. This may entail a simple phone call or additional research. Whatever form it may take, the farm consultant should be prepared to thoroughly explain the options a dairy farmer may have in farmland preservation.

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Table 1. Responses to six key questions from the survey of California dairy producers (n = 58)

Question	Strongly Agree	Mildly Agree	Neither Agree or Disagree	Mildly Disagree	Strongly Disagree
1. I believe that farmland preservation programs present a viable option	27.6%	32.8%	22.4%	3.4%	8.6%
2. I have participated or am presently participating in farmland preservation	8.6%	15.5%	17.2%	12.1%	38%
3. I am interested in participating in a farmland preservation programs	12.1%	22.4%	32.8%	17.2%	8.6%
4. Local government agencies should take the initiative in farmland preservation programs	24.1%	31%	17.2%	6.9%	13.8%
5. Dairy farmers should take the initiative in farmland preservation programs	19%	29.3%	24.1%	15.5%	6.9%
6. I am knowledgeable concerning farmland preservation programs	0%	39.7%	27.6%	17.2%	8.6%

Figure 1. Responses to "I believe that farmland preservation programs present a viable option to urban encroachment."

