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## SP592-Site Selection Factors for New Poultry Facilities

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# Site Selection Factors for New Poultry Facilities

*Charles Goan, Professor, Animal Science*



Farmers considering building poultry facilities on their farms must give considerable thought to the location of the new structures. Today, poultry farmers must be aware of concerns related to (1) environmental issues like water quality, odors and flies, litter applications on fields and high soil phosphorous levels; (2) nearby neighbors and public areas like churches, parks and businesses; and (3) laws and regulations that affect farming operations.

Future poultry farmers must place greater emphasis on farmstead planning than has been done in the past. Considerations in site selection for buildings must include utilities, roads, topography, prevailing winds, existing buildings, neighbors, public areas, setbacks, and state and federal government laws and regulations.

**Neighbors** – The location of nearby homes should be the number one consideration when evaluating potential locations for poultry facilities. Good neighbors can quickly become enemies if the building site is too close to nearby homes. Some poultry companies require prospective poultry farmers to discuss building plans with their neighbors before construction starts. Even if discussions with neighbors are not required, this practice is recommended. Reaction from neighbors may force alternate sites to be chosen.

**Setbacks** – How far should poultry houses be set back from residences, property lines, public areas, public roads, streams, wells, sinkholes and flood plains?

Suggested setback guidelines that will help to minimize nuisance and water-quality problems :	
	Minimum setback (feet)
Residences other than poultry farm owner	500
Property lines	100
Schools, churches, parks, public areas	1500
Incorporated city limits	1500
Public roadways	150
Streams	100
Private wells	100
Public wells	500
Flood plains, sinkholes, wetlands	100

Currently, Tennessee does not have any laws or regulations that govern setbacks for agricultural building sites.

However, most poultry industry companies have self-imposed setback guidelines that need to be considered. These guidelines will help reduce problems associated with odors, dust, feathers, noise and water quality.

**Topography** – Whether the site is level, gently rolling or hilly will determine the amount of grade work that must be done to get a level area for the buildings. Grade work can add substantially to the total construction cost. Avoid low-lying areas near streams with flooding potential. Preferably, the topography will allow the long axis of the poultry house to be located in an east-west direction. This helps to minimize the amount of direct sunlight that would enter through the sidewalls of the houses.

**Storm Water** – Adequate drainage for storm water control must be considered because of the large amount of roof area. Storm water runoff should not be allowed to create erosion problems around the houses. Grass-covered water run-off ditches will help reduce potential erosion problems. The immediate area outside the buildings must have sufficient slope to keep runoff water out of the buildings.

**Prevailing Wind** – Prevailing wind direction must be considered when wind currents flow from the chicken house toward any residence. Odors from poultry houses must be given adequate time and distance to dissipate before reaching a residence. The distance from the poultry house location to any residence would need to be greater if prevailing winds were toward the residence. Since poultry companies require mechanical ventilation in all poultry houses; locating the poultry house to take advantage of prevailing wind direction for natural ventilation is no longer important.

**Wind Shed** – Wind shed is a term which describes wind flow pattern on the downside of an existing building (Figure 1). To help minimize complaints by neighbors, strong consideration must be given to keep nearby homes out of the windshed area.

**Utilities** – Some questions about utilities must be answered to help determine building site location. Is electricity readily available or will the local electric utility run new lines at a reasonable cost? Is water available from wells or a municipal water system or both? It is important to have a backup water system. Is the quality and quantity of the well water suitable for a poultry operation? Is propane and/or natural gas available at competitive prices?

**Roads** – The condition of public roads must be adequate to allow feed trucks, chick-delivery vehicles and live-haul trucks access to the buildings during all times of the year. Are there any weight limits or bridges that would restrict access to the farm? How much will it cost to construct an access road from the public road to the buildings? Can the heavily loaded trucks travel easily on the access road in all types of weather?

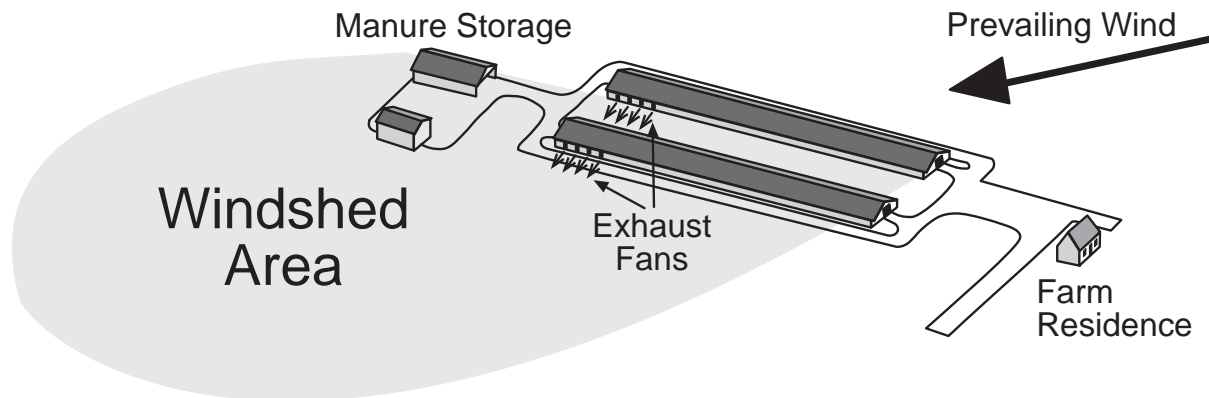
**Future Expansion** – Does the potential building site allow the possibility for further expansion? Often a poultry farmer will start with two houses and want to build an additional two houses at a later time.

**Other Buildings** – The building site needs to have adequate land area available for other buildings, such as dead-bird composting and litter storage. These buildings should be out of public view if possible. The buildings need to be located close enough to the production facilities to minimize travel time, but far enough away to reduce possible disease transmission. A distance of about 100 feet is a reasonable compromise.

**Litter Utilization** – Is there sufficient land available on the farm to properly utilize the litter as fertilizer, or will some of the litter be moved offsite? Approximately 300 tons of litter will be produced each year on a 50,000-bird capacity broiler farm. A nutrient management plan will help determine if adequate land area is available for litter utilization. If not, plans must be made to remove excess litter offsite.

### Summary

Proper siting of new poultry facilities is extremely important. Problems can result if facilities are built in unfavorable locations. The best time to handle potential problems is BEFORE they occur. Proper planning will help prevent environmental problems from occurring, and will save time, money and headaches in the long run.



**Figure 1.** Consider size of the windshed area.

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