

Selecting a Site for a New Greenhouse

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Planning for a new greenhouse is one of the most important steps a grower will have to take. Proper site selection and location with relation to markets, labor, utilities and future expansion may make the difference in how much profit is realized.

If this is your first greenhouse, you have an advantage over the grower who already has a range started. Many of the present operations are obsolete. Some growers wish that they could take a bulldozer to their present facilities and start over again to take advantage of new materials and technologies that have developed during the past few years.

Certain decisions need to be made before a plan is developed, such as:

- (1) Crop to be grown (bedding plants, potted plants, cut flowers, woody ornamentals, vegetables or other),
- (2) Growing period (year-round, part year),
- (3) Growing containers to be used (pots, flats, beds or other),
- (4) Growing system (floor, fixed benches, movable benches, beds),
- (5) Annual production volume,
- (6) Growing media (soilless mix, soil mix, hydroponic),
- (7) Marketing system (wholesale only, wholesale/retail, retail only),
- (8) Marketing period (all year, seasonal) and
- (9) Investment capital available. These will influence the location, type and size of greenhouses that are built.

Although a greenhouse can be built on almost any site, some sites offer major advantages over others. Consider the following:

Space: The area needed depends on the type of business, wholesale or retail. A minimum area should be about two acres to allow for the greenhouse; parking for customers and employees; access driveway for deliveries; storage and future growth. A wholesale operation generally requires more area because of more greenhouse space.

Zoning: These regulations control the use of land and promote the health, safety and welfare of a community. Greenhouse operations can only be located in certain zones. Frontage, side yard distances, signs and number of parking spaces are frequently specified. A check with the zoning enforcement officer should be one of the first steps to take. At the same time inquire about building codes to see if a permit is needed.

Highway Access: Location with respect to highways should also be considered. For a retail operation a location on a high traffic count road or near a large residential area can increase business. For a wholesale business, access to an interstate highway is desirable to handle heavy truck traffic.

Property Values: The cost of a piece of land can add a significant debt load to the business. Location for retail purposes is more important than for a wholesale operation. Inspect several sites before making a choice.

Environmental Concerns: Care should be taken to pick a site away from industrial pollution. Besides plant injury from pollutants, light levels may be lower in these areas. Locations near sensitive aquifer areas should be carefully considered as runoff control may significantly add to operating costs.

Climate: Areas with temperature extremes should be avoided. Because plant growth in the winter is directly related to the amount of light received, avoid areas that are noted for their cloudy weather. The potential for high winds, heavy snow and hail should be determined before site selection is made.

Slope: The functional and environmental operation of a greenhouse can be affected by the building site selected. Ground slope for drainage of water is important. Greenhouses should be placed on a gravel base, 6 to 12 inches above grade. Swales between greenhouses are necessary to direct the water from the area.

Drainage: If possible, obtain a topographic map of the area to see where the water will drain. A permit may be needed to

drain onto neighboring property. In larger installations, culverts downstream may have to be enlarged to handle the extra water collected from greenhouse roof surfaces and parking areas.

Orientation: The ideal greenhouse site would have a slight southerly facing slope for good winter light and protection from northerly winds. The area for the greenhouses should be level to reduce materials handling costs. It generally pays in the long run to spend a little extra on site preparation to get the site level.

Water: Plants require an adequate supply of moisture for optimum growth and maximum flower production. The amount of water needed will depend on the area to be watered, crop grown, weather conditions, time of year and whether the heating or ventilating system is operating. For most of the U.S., the maximum requirement is about 400 gallons per 1,000 sq ft per watering.

All water from natural sources contains some impurities. Some of these adversely affect the growth of plants. Chemical tests should be made by an approved testing laboratory and the results analyzed by the Cooperative Extension specialist.

Electricity: An adequate electric supply and distribution system should be provided to serve the environmental control and mechanization needs of the greenhouse. Early in the development plans, contact the local supplier to determine availability and cost of power and the best location for the service drop. Once this is done, a plan for the distribution system can be developed.

Expansion: Most greenhouse ranges just evolve, often with little thought as to what they will look like in five to 10 years. All through the planning process, provisions should be made for expansion. Land should be open for additional greenhouses and headhouse area. Water, electrical and environmental control systems should be installed with the thought that expansion will take place in the next few years.

Labor Supply: Additional labor is usually not needed when starting a new operation, but as the business grows, part or full time help may be needed. The location can influence the size of the labor force from which it can draw and the type of skills local employees may possess.