Best Management Practices for Vegetable Production: An Overview

Best Management Practices (BMPs) are a set of voluntary practices designed to minimize negative effects of vegetable production upon the environment and water resources. BMPs are those farm operations which promote efficient use of resources, safety for consumers and farm workers, and economic viability of farms. The definition of what is best will vary from farm to farm and BMPs should be viewed as a collection of choices. BMP considerations for vegetable production include soil conservation, water management and irrigation, pest management, pesticide use and storage, nutrient management, organic and inorganic waste management, and energy use and conservation. A separate consideration for vegetable production is food safety from microbial contamination. Good Agricultural practices (GAPs) are designed to enhance the safety of vegetables by the implementation of safer harvesting, handling, production and packing practices. The goal is the prevention of contamination of fresh produce either in the natural environment or in the handling, packing, and selling of vegetables. A necessary component is the provision of necessary education and training to workers at all levels on farms. Adoption of these measures by vegetable producers will help prevent contamination of water resources, improve public perception of the industry, and perhaps eliminate the need for mandatory regulations.

Best Management Practices are recommended methods, structures, and practices designed to prevent or reduce water pollution while maintaining economic profitability for growers. BMPs can be classified as source, structural, cultural, or managerial controls. Source controls include restriction or removal particular pesticide or nutrient source. Structural controls are physical measures designed to prevent water and sediment movement. Cultural controls are cropping and tillage practices that minimize pest problems and maximize nutrient use efficiency by soil conservation and crop rotations. Managerial controls are strategies and tools adopted by growers that consider both environmental and economic impacts.

Good Agricultural Practices consist of practices that prevent risks in the field and greenhouse, irrigation waters, from workers, and crop production practices. GAPs include harvesting operations, equipment, general packing facility operation, removal of damaged produce, sanitation of produce, transportation, and record keeping. It is the goal of these practices to meet the objectives of the U. S. Food and Drug Administration Produce Safety Action Plan as outlined in their “Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables.”