



Best Management Practices and Good Agriculture Practices for Small Vegetable Farms

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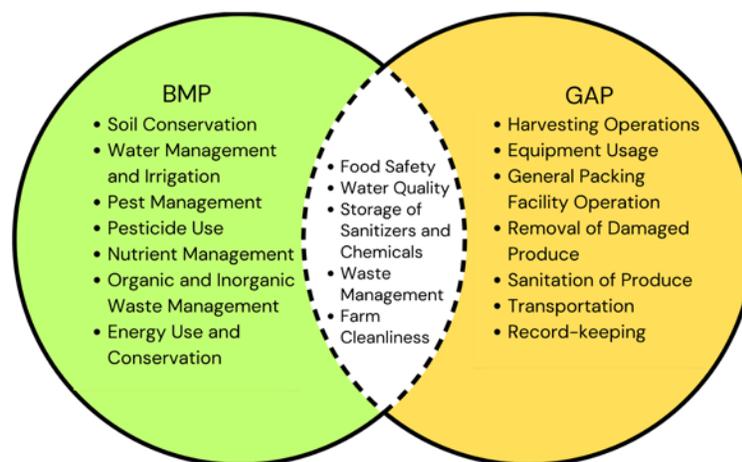


Figure 1. Comparing Vegetable Best Management Practices (BMPs) and Good Agricultural Practices (GAPs)

Introduction

Small and beginning farmers, especially small vegetable farmers, can be daunted by the number of tasks needed to be completed before the start of the growing season. Farmers know certain inputs can cause future problems that can contaminate produce. Incorporating Best Management Practices (BMPs) and Good Agricultural Practices (GAPs) can help with the planning process for the upcoming season.

With different acronyms and comparisons between these two voluntary programs, having to sift through an overwhelming amount of information can discourage farmers from implementing some of these practices. This publication is meant to help small vegetable farmers distinguish between the programs and help them implement these practices. Farmers could also reach out to their local Extension

office to have a conversation about how to incorporate these practices on their farms.

Best Management Practices

Best Management Practices (BMPs) are a voluntary set of practices intended to minimize undesirable effects of vegetable production on the local environment and water resources. BMPs are those farm initiatives that promote the efficient use of resources, safety for consumers and farm workers, and financial practicality of farms (UMass, 2013). They are the practices that can help build a stronger foundation for the produce on the farm. BMP considerations for vegetable production can include:

- Soil conservation
- Water management and irrigation
- Pest management
- Pesticide use and storage
- Nutrient management
- Organic and inorganic waste management
- Energy use and conservation
- Food safety from microbial contamination

BMPs can be classified as source, structural, cultural, or managerial controls. Source controls include limiting or removing particular pesticide or nutrient sources. Structural controls are physical measures designed to prevent water and sediment movement, such as erosion, along with fencing to keep out deer and other vertebrate pests. Cultural controls are cropping and tillage practices that minimize pest problems and maximize nutrient use efficiency through soil conservation and crop rotations. Managerial controls are strategies and tools adopted by farmers that consider both environmental and economic impacts for the farm (UMass Extension, 2013). BMPs are site-specific so it is difficult to create a general checklist of BMPs since each farm and environment is different. However, by using these controls and practices, producers can begin to create a better farm while growing healthier produce.

Good Agricultural Practices

If BMPs are for creating the best possible land, Good Agricultural Practices (GAPs) are the tools to use for growing healthy and safe produce. GAPs consist of voluntary practices that prevent risks in the field, greenhouse, irrigation waters, from workers, and crop production practices GAPs include:

- Harvesting operations
- Equipment usage
- General packing facility operation
- Removal of damaged produce
- Sanitation of produce
- Transportation
- Record-keeping

These practices are designed to minimize the contamination of vegetable produce with microbial pathogens in every step from production to food preparation (Rangarajan, 2000). The goal is

contamination prevention because once contaminated the removal of pathogens from produce is very difficult (Rangarajan, 2000). This is why prevention is strongly favored over treatments to eliminate contamination. Recordkeeping of prevention programs and food safety awareness training for workers are key components of a GAPs program. There are GAP checklists available for producers that will provide a starting point since these practices do not vary from farm to farm.

References

- Andy, *Vegetable wash sinks, tanks, tubs, and basins: Upgrades for efficiency and ergonomics*. UVM Extension AG Engineering. (2019, January 25). <https://blog.uvm.edu/cwcallah/2019/01/25/vegetable-wash-sinks-tanks-tubs-and-basins-upgrades-for-efficiency-and-ergonomics/>
- Rangarajan, A., Bihn, E. A., Gravani, R. B., Scott, D. L., & Pritts, M. P. (2000). *Food Safety Begins on the Farm: A Grower's Guide*. https://ecommons.cornell.edu/bitstream/1813/2209/1/FSBF_Bk_Eng.pdf
- University of Massachusetts Amherst. (2013), *Best Management Practices for Environmental and Water Resources*. Center for Agriculture, Food, and the Environment, UMass Vegetable Program. [https://ag.umass.edu/vegetable/fact-sheets/best-management-practices-for-environmental-water-resources#:~:text=Best%20Management%20Practices%20\(BMPs\)%20are,and%20economic%20viability%20of%20farms.](https://ag.umass.edu/vegetable/fact-sheets/best-management-practices-for-environmental-water-resources#:~:text=Best%20Management%20Practices%20(BMPs)%20are,and%20economic%20viability%20of%20farms.)

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