Interim BMP: Nursey Capture and Reuse Management
Chesapeake Bay Program Phase 6.0 Modeling Tools

Agriculture Workgroup
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BMP Name: Nursery Capture and Reuse Management
The following definition and efficiency values will replace the previous interim BMP definition and efficiency values for the Phase 6 partnership modeling tools.

BMP Definition: This BMP represents the management of nursery capture and reuse associated with greenhouses and container production systems on specialty crops land use areas through practices that reduce nutrient and sediment pollutant loads. Nursery capture and reuse is defined as involving: the collection of runoff water from container nursery operations where runoff of stormwater, irrigation water, and leachate from plant containers grown on plastic or in greenhouses is routed to lined return ditches or piped to lined holding ponds. Ponds would be designed to retain all excess irrigation water runoff or leachate and capture the first one-half to one-inch of stormwater runoff. Water would be recirculated for irrigation in nursery and greenhouse operations or irrigated at the proper times of year on other vegetation capable of trapping nutrients at agronomic rates, such as cool season grasses.

Measurement Names to be submitted: acres under nursery capture

Model Simulation: An efficiency value is a percentage of a pollutant that is removed when the BMP is applied. For example, Dry Extended Detention Ponds remove 20% of nitrogen that would have been delivered without the Detention Ponds. A pass-through value for a BMP is calculated and is simply 100% minus the efficiency value. In this case, the pass-through value for Dry Extended Detention Ponds is 80%. Efficiency values of practices can vary across hydrogeomorphic region and load source.

Default conservative efficiency values of 25% for nitrogen, 4% for phosphorus and 40% for sediment will be applied for acreage under nursery capture and reuse management, based on data sourced from a recent literature review of research regarding water treatment in container-grown specialty crops (Majsztrik et al., 2017).

States will submit acres under nursery capture treated in a way consistent with the interim BMP definition. Acres reported on an annual basis will be associated with default pounds of N and P in the Phase 6.0 Model for representative specialty crops. The Agricultural Modeling Subcommittee (AMS) has defined the pounds of N and P per acre of specialty crops based on available literature values. The AMS recommendations have been reviewed and approved by the Agriculture Workgroup (AgWG) for use in the Phase 6.0 modeling tools.

The Chesapeake Bay Program Office will create an interim BMP for Phase 6.0 that will be listed as "DRAFT" in the NEIEN Appendix. This will allow states to use the interim BMP for planning purposes, and to report subsequent implementation information to NEIEN. However, the interim BMP will not receive credit through annual progress reporting until the availability of a partnership approved BMP Expert Panel recommendation report.

References Cited:

Chesapeake Bay Program. June 1, 2017. Chesapeake Bay Program Phase 6 Watershed Model DRAFT. Section 6-BMPs. http://cast.chesapeakebay.net/Home/SourceData (accessed 13 Oct 2017).

Majsztrik, J.C, T.R. Fernandez, P.R. Fisher, D.R. Hitchcock, J. Lea-Cox, J. S. Owen, Jr., L.R. Oki, and S.A. White. 2017. Water Use and Treatment in Container-Grown Specialty Crop Production: A Review. Water Air Soil Pollut. 228:151.