

Ohio State's 2015 Overholt Drainage School

Ohio has a rich history in providing technology and education to those who work in agriculture and the agricultural drainage area. In fact the Overholt Drainage School and its predecessors, have been taught by Ohio State for over 50 years. The School is an intensive week-long program designed and taught to provide continuing education for land improvement contractors, soil and water conservation technicians, farmers, engineers, crop consultants, educators and others interested in advancing their knowledge of basic concepts, principles, and skills related to the purpose, design, layout, construction, and management of Soil and Water Conservation Systems. The 2015 program includes three sessions: 1) Agricultural subsurface drainage; 2) Drainage water management; and 3) Concepts in Water Table Management. Each is summarized below.

Session 1, Agricultural subsurface drainage, provides basic, practical information on the following topics: agricultural drainage concepts; soils; benefits and economics; and environmental impacts and considerations. In addition to these basics, Session 1 provides extensive hands-on works sessions on design concepts and procedures, system layout, sizing laterals and mains, etc. One part of the Session 1 program focuses on a real world design problem, where the participants work in small teams to provide a workable drainage design. We end this session with an overview of installation basics, methods and research. Session 1 lays the foundation for the next two sessions. Some experience with agricultural drainage is strongly suggested.

Session 2 builds on the knowledge gained in Session 1. The practice of Drainage Water Management (controlled drainage) is primarily focused on reducing water quality impacts of traditional subsurface drainage practices. This session is designed to provide the participants with a package of innovative tools that have been proven to reduce nitrate-nitrogen discharges from agricultural drainage systems, and with application to reducing phosphate-phosphorus losses as well. In fact, research and demonstration from all across the Midwest has shown that the practice can reduce nitrate loads by up to 50%, while providing small yield increases under some conditions. Ohio research shows an average annual increase in crop yields of 3 to 6%. In Session 2 we provide useful, practical information on new and retrofitted systems; hands-on exercises with layout of mains and laterals, and details on water table control structures; installation; and system operation and management. Several new or improved related practices will be presented: drain spacing/depth alternatives; buffers with controlled drainage; wood-chip bioreactors and phosphorus filters; and drainage water harvesting.

Water table management systems have three interconnected components: subsurface drainage, controlled drainage, and subirrigation. Session 3 is a follow up to the full subirrigation design session from 2014. This year we will present a useful, practical overview of concepts in water table management, system design objectives, benefits for water quality and crop yields, soil considerations, water management zones, differences in lateral spacings and mains compared to traditional subsurface drainage, water supply considerations, installation considerations, and how to operate and manage subirrigation systems.

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The 2015 Overholt will be held March 16-20 at the Defiance County Emergency Management Agency (**EMA**) Building on St Rt 15 Northwest of Defiance (22491 Mill Street, Defiance, OH 43512). The Drainage School brochure and registration can be downloaded from the *Soil & Water Management section of the Agronomic Crops Team website*: <http://agcrops.osu.edu/specialists/soil-and-water-management>. Space is limited so register early. Registration includes tuition, lunches, refreshments, materials, supplies, manuals, guides, design notebooks and certificate of completion. Participants should bring a calculator (and warm clothes and work boots in case we conduct a few field trips). If you have any questions, please contact Larry at brown.59@osu.edu or 614-292-3826.

The Overholt Drainage School is sponsored by the Overholt Drainage Education and Research Program, Food, Agricultural and Biological Engineering, OSU Extension, OARDC, The Ohio State University in cooperation with the USDA-NRCS, USDA-ARS, Soil and Water Conservation Districts, Ohio Land Improvement Contractors and Associates, and others. Excellent drainage workshops are also conducted in Illinois, Iowa, Missouri, Minnesota, South and North Dakota. Email Larry for contact information.

Professor Larry C. Brown can be reached at 614-292-3826 or brown.59@osu.edu. This summary is provided by the OSU Department of Food, Agricultural and Biological Engineering, OSU Extension, Ohio Agricultural Research and Development Center, and the College of Food, Agricultural, and Environmental Sciences.



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