



BARC Sustainable Operations “Leading by Example”

Overview: The Beltsville Agricultural Research Center (BARC) is the only federal facility to win three consecutive Closing the Circle Awards from the Office of the Federal Environmental Executive: 2001 “Biodiesel Demonstration-A Biobased Alternative Fuel”, 2002 “Environmental Management Systems at BARC”, and 2003 “Leadership in Federal Stewardship-Biobased Products Program.”

Biodiesel: In addition to the BARC Biodiesel Demonstration Project which started August 1, 1999 and continues today, BARC early on saw the need to have the DoD Defense Energy Supply Center (DESC) become a player in biodiesel utilization. In 2001, DESC became a biodiesel supplier for civilian federal fleets. Other agencies now use that supply contract when converting to biodiesel. BARC now uses about 66,000 gallons of B20 annually in its diesel fleet as well as in backup building generators. Biodiesel is also used as a heating fuel oil substitute when dictated by market prices.



BioPreferred Products: BARC has been leading by example in the use of BioPreferred products. BARCs Facilities Service and Research Support Service staffs regularly use a wide range of biobased oils and greases from bar and chain saw oil to hydraulic fluids

and universal tractor fluid. BARC was probably one of the first federal fleets to use BioPreferred motor oils in both gasoline and diesel engines.

BARC was the first federal facility to require the janitorial contractor to use BioPreferred products. This arrangement has been utilized by the Department and other agencies.

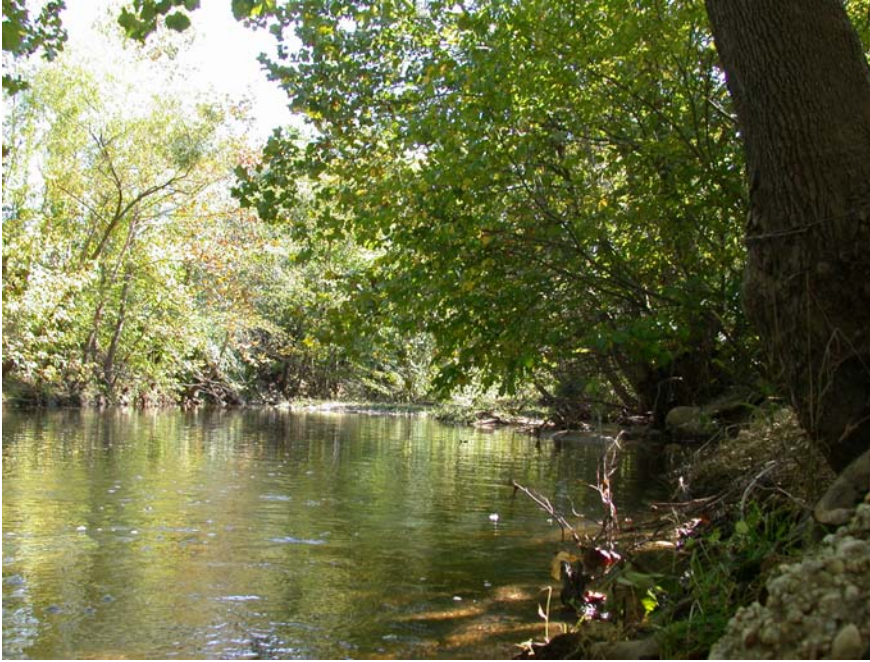


Energy Conservation: From FY04 through FY06 BARC reduced its electrical demand by ~2 million kilowatt hours, a 4.5% reduction, and reduced its total utility bill by ~ \$1 million during the last year. These reductions were obtained by a facility-wide awareness program and use of an ESPC. In addition to powering-down electronics when not in use major changes were incorporated such as grouping plants that require similar environmental conditions within the 100,000+ square feet of greenhouse space at BARC.

Environmental Management: Federal facilities need to be good environmental stewards. BARC has been the recipient of two Business for the Bay awards sponsored by the Chesapeake Bay Program and the Alliance for the Chesapeake Bay. The 2002 award was for “Excellence for Significant Achievement in Environmental Management” and for “Outstanding Achievement for Nutrient Reduction by the Federal Government” in 2006. About 2,200 acres of land at BARC are cropped and under Maryland Department of Agriculture Nutrient Management Plans. Our Research Compost Facility and anaerobic digestion system at the dairy handle organic wastes that are returned to the fields as part of the nutrient management plan. There are about 100 acres of meadows which were designed to minimize the need for mowing and serve as a refuge for wildlife.

The size of a facilities environmental footprint could be measured by its impact on waterways. Among the 30 miles of streams at BARC a section of the Upper Beaver Dam Creek was selected by the Maryland Department of the Environment as a reference Coastal Plain stream for the development of Maryland’s Anacostia Total Maximum Daily Load. Recently, in collaboration with the Metropolitan Washington Council of

Governments (COG) a river herring release was conducted at BARC as part of an on-going effort to restore anadromous fish in the Anacostia watershed.



The Future: BARC and the US National Arboretum in DC will be moving ahead with evaluating LID (low impact development) technologies and green landscapes to reduce stormwater runoff. BARC will be a key player in the use and collection of compostable BioPreferred cafeteria-ware and the collection of cafeteria wastes to be used as a bioenergy source which will result in a full-cycle use of these materials.

BARC is also working with DoE on a hybrid gasification unit that will be able to accept a range of feedstocks from switchgrass (currently being grown at BARC) to animal wastes.