



Natural Streamside Buffers Help Safeguard Water Quality

Planting land closest to streams with native species of trees, shrubs and grasses – rather than crops – can help preserve water quality, Agricultural Research Service (ARS) scientists say. Studies have shown that the plantings create highly effective natural riparian buffers that capture field runoff of sediment, fertilizers and other potential pollutants and keep it out of the stream.

In Georgia, ARS scientists recently completed a study tracking herbicide runoff from a corn field into a 150-foot-wide grass and forest buffer. At the edge of the field, the scientists detected chemical concentrations of 34 parts per billion (ppb). But in the buffer, they detected concentrations of only 1 ppb or less.

Elsewhere, ARS scientists are testing various warm- and cool-season grasses farmers can grow to reduce nitrate, another danger to streamwater. The goal: identify grasses that foster a soil environment necessary for converting dissolved nitrate into gaseous forms that enter the atmosphere instead of

streamwater. Research shows up to 50 percent of a riparian zone's dissolved nitrate can be removed this way.

ARS scientists also provide scientific expertise to state and federal action agencies, like USDA's Natural Resources Conservation Service. These agencies help farmers, landowners and others restore or manage riparian buffers to protect water quality.

A more detailed report on the latest ARS buffer research appears in the February issue of *Agricultural Research* magazine. **BC**

Various types of plantings are being studied as buffer areas along streams. Grass and trees between fields and streams serve to trap run-off and protect water quality.

Photo source: ARS/USDA.

