

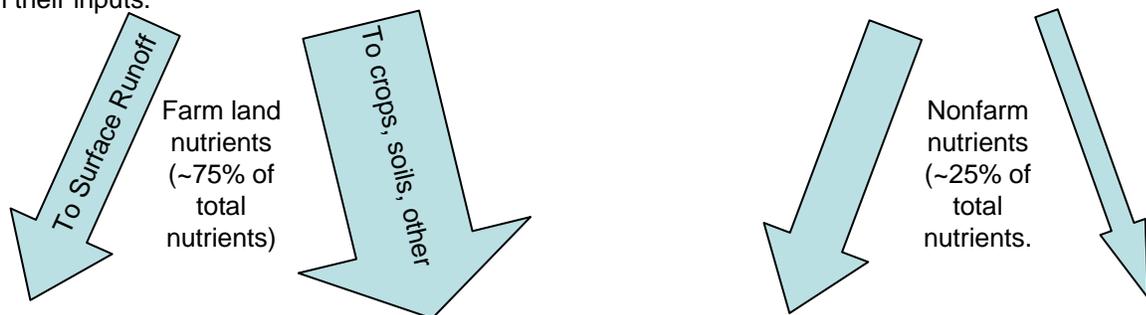
A Flow Chart of Fertilizer Inputs for Ohio and Related Cash Flows and Taxes

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Ohio's farmers purchased about 1,500,000 tons of fertilizer nutrients in 2006. The estimated current dollar value (2008) of this amount of fertilizer is about \$1,350,000,000. The total current taxes paid for the portion of fertilizer products going to farmers would be about \$375,000, representing a tax rate of 0.028%, relative to current fertilizer prices. Farmers do not pay state sales tax on their inputs.

The Ohio tax (fee) on fertilizer products (including amended soils) entering Ohio is currently \$0.25 per ton. This tax generates about \$700,000 per year for the Ohio Department of Agriculture (source - Kevin Elder, ODA). The total tonnage of products entering Ohio per year is about 2,800,000 tons. Approximately 2,000,000 tons are in the form of fertilizer nutrients and 800,000 tons are other materials (potting soils, etc.) containing nutrients.

Fertilizer products (including amended soils) going to non-farm use is estimated to be 1,300,000 tons. This would account for \$325,000 of the fertilizer "import" tax. Nonfarm consumers pay 6% state sales tax on these materials. We have no estimate of total sales of these materials in Ohio or the tax revenue generated.



The total value of nitrogen and phosphorus exported from Ohio's rivers is about \$250,000,000 per year (2008 prices). Much more than 50% of this comes from cropland runoff. These nutrients cause environmental damages that increase water treatment costs and impair recreational uses.

Most added fertilizer nutrients go into harvested crops. Some accumulates in the soil, and some is lost to the atmosphere (nitrogen). Some fertilizer nutrients are lost to surface water or impact ground water. These losses could be reduced through improved nutrient management.

About 25% of the fertilizer nutrient inputs go to non-farm uses (lawns, home gardens, shrubbery, etc.). It is likely that smaller proportions of these nutrients reach streams than the nutrients applied to cropland.

Nutrient runoff from non-farm uses likely forms a small fraction of total nutrient losses to streams, but, in local areas, runoff from non-farm sources can cause significant environmental problems.

THE BOTTOM LINE

Nutrient losses from cropland runoff represent both significant losses to some farmers and cause significant environmental damages. Both the losses for farmers and the damages to the environment could be reduced through improved nutrient management on Ohio's farms. This could be achieved through programs operated by Ohio's state and local agencies and Ohio's research and education community. The cost of improved management would more than pay for itself in terms of improved profits for Ohio's farmers and reduced environmental damages. Increased fees on fertilizer imports into Ohio could provide a major source of funds to support needed improvements in fertilizer management in Ohio. For example, a 10-fold increase in fertilizer tonnage fees would provide a major increment in support for Ohio's agencies and institutions involved in nutrient management, but that amount would remain very small relative to the funds flowing through the fertilizer component of Ohio's agricultural economy. (For more information on the above estimates, contact Dave Baker at dbaker@heidelberg.edu.)