SYMP-03

Integrated nutrient management in Korea, problems and policy approaches

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National monitoring data in 1999-2001 showed that phosphate contents in agricultural lands has been increasing drastically since 1970s, and more than 50% of surveyed agricultural land area were exceeded recommended level. In 2002, soil surface nutrient balance in Korea showed 238 kg N ha^{-1} yr^{-1} and 47 kg P ha^{-1} yr^{-1} respectively. Calculations based on 2002 statistics showed that 43 regions among 165 cities and counties had N surplus higher than 1.5 times. In case of phosphate, 70 regions showed higher than 1.5 times surplus. Relationship between livestock density and nutrient (P) surplus in regions showed significant positive correlation (r^2=0.82). It showed that animal manure is important contributor for nutrient surplus in regions, and need to be managed well by either increasing nutrient efficiency, transferring manure to other regions or reducing livestock numbers.

Now, there are common agreements to reduce nutrient inputs among government organizations. But, many barriers for nutrient management are existed, such as farmer' age (avg. 58), low education level, small farmland (1.46ha), huge number of farm households (1.26 million). Also, policies on chemical fertilizer and animal manure are not integrated. After removing chemical fertilizer subsidy in 2005, use of animal manure as nutrients has been promoted without proper investigation on impacts of animal manure use on environments.

One of policy measures to integrate chemical fertilizer and animal manure nutrients, and to reduce nutrient surplus is applying nutrient quotas for the areas and discriminating subsidy levels on regions depending on surplus level, since local government were subsidized by central government in many ways. Besides such restrictions, regional nutrient quota system will provide information on nutrient to establish regional nutrient management plan for local governments. Also, developing various nutrient indicators are important to monitor nutrient policies and to find problems in nutrient management.