Productivity Effect of Urea Deep Placement Technology: An Empirical Analysis from Irrigation Rice Farmers in the Northern Region of Ghana

Authors : Shaibu Baanni Azumah, Ignatius Tindjina, Stella Obanyi, Tara N. Wood

Abstract : This study examined the effect of Urea Deep Placement (UDP) technology on the output of irrigated rice farmers in the northern region of Ghana. Multi-stage sampling technique was used to select 142 rice farmers from the Golinga and Bontanga irrigation schemes, around Tamale. A treatment effect model was estimated at two stages; firstly, to determine the factors that influenced farmers’ decision to adopt the UDP technology and secondly, to determine the effect of the adoption of the UDP technology on the output of rice farmers. The significant variables that influenced rice farmers’ adoption of the UPD technology were sex of the farmer, land ownership, off-farm activity, extension service, farmer group participation and training. The results also revealed that farm size and the adoption of UDP technology significantly influenced the output of rice farmers in the northern region of Ghana. In addition to the potential of the technology to improve yields, it also presents an employment opportunity for women and youth, who are engaged in the deep placement of Urea Super Granules (USG), as well as in the transplantation of rice. It is recommended that the government of Ghana work closely with the IFDC to embed the UDP technology in the national agricultural programmes and policies. The study also recommends an effective collaboration between the government, through the Ministry of Food and Agriculture (MoFA) and the International Fertilizer Development Center (IFDC) to train agricultural extension agents on UDP technology in the rice producing areas of the country.

Keywords : Northern Ghana, output , irrigation rice farmers, treatment effect model, urea deep placement

Conference Title : ICAES 2017 : International Conference on Agriculture and Environmental Systems

Conference Location : Miami, United States

Conference Dates : March 09-10, 2017