prohibits burning because of its air polluting effect. However, farmers cannot be stopped in their practices.

We tried to document farmers? practices and replicate it under experimental conditions in order to provide scientific explanations related to environmental, economic and socio-economic implications of the current practice.

Objectives

1.Assess the effect of the rate of application of ricehulls and the subsequent burning to weed population;

2.Determine the contribution of burned ricehulls to soil fertility and production cost in vegetable farming

Methodology

Two separate studies were conducted to document and evaluate farmers practice of ricehull application and the subsequent burning in their farms.

The first study was conducted in 2004 where 15 farmers in San Leonardo Nueva Ecija, Philippines who are growing vegetables throughout the year were the respondents. A guide questionnaire was formulated consisting of questions on the number of years they are adopting the practice, rate of application, number of days from burning to land preparation, frequency of application (whether yearly or every other year), the source of material and the cost of ricehulls per hectare, the reasons for application and subsequent burning and awareness on Clean Air Act of the Philippines..

Based on the responses derived from the survey, a field experiment was conducted in the experiment station of the Central Luzon State University using in Randomized Complete Block Designs with treatments replicated four times. Rate of ricehulls and fertilizer application were combined in four treatments. Plots without ricehull burning but treated with fertilizers were provided for comparison. After harvest of pechay, the same area was utilized in January 2005, a week after the harvest of the first crop. For both croppings weed density, organic matter and exchangeable potassium was determined and analyzed.

Results

Vegetable farmers apply 30 to 45 cm thick of ricehulls in their vegetable farms either once a year or every other year depending on available fam capital. The cost per truckload is US$ 10. It requires 100 truck loads per hectare to attain a 30 cm thickness of ricehull in the field. The ricehull is burned for about two weeks and then cooled for a month before land preparation. On a hectare basis farmers spend about US$ 1000 every one to two years.

Weed density were significantly reduced with burning of ricehulls both during the first and second croppings. The reduction in the weed density improved with increasing rate of ricehulls application but not with fertilizer. On the first crop of pechay, burning of applied 74 t ha-1 ricehulls reduced the weed density by 173% while that of burned 147 t ha-1 ricehulls reduced the weed density by 650%. During the second crop, weed density was reduced by 108 and 733% on plots where 74 and 147 t ha-1 of ricehulls respectively were applied and burned. Clearly, ricehulls the weed control effect of ricehull burning in the vegetable area lasted until the second crop of pechay. In fact, there was no increase in weed density from the first to the second crop or within the three-month period which indicates that burning have killed significant amount of weed seeds, thus the low density. The observable weed density decreased the weeding cost compared to the control plot. The result also suggests the mulching effect of the burned ricehulls.

Conclusion

Burning of ricehulls not only resulted to decreased weed density resulting to decrease cost of herbicide expenses and labor cost in weeding in vegetable farming but likewise in improving soil fertility through increases in organic matter content of the soil and exchangeable potassium. It also serve as a form of soil sterilization. The practice therefore presents a trade-off between the clean air act issue and the use of pesticides.

246. **Effect of Soil Texture and Temperature on Atrazine Degradation.** Ebrahim Izadi[1], Ebrahim Izadi Darbandi[1], Mohammad Hassan Rashed Mohassel[1], Mehdi Nassiri Mohallati[1], Amir Lakzian[1], Karin Müller[2]; [1]Ferdowsi University, Mashhad, Khorassan Razavi, Iran; [2]Ruakura Research Center, Hamilton, New Zealand

In order to study the effects of soil texture and temperature on atrazine degradation, a laboratory degradation experiment was carried out as a factorial arrangement. Experimental factors were two soil textures (Sandy loam, Silty clay), three temperatures (10, 20 and 30°C) and four incubation periods (0, 20, 40 and 60 days) in a completely randomized design with three replications. Results showed that soil texture and temperature had significant effects on the degradation rates of atrazine. Highest and lowest degradation rates occurred in the sandy loam soil (30°C) and the silty clay soil (10°C) with degradation rate coefficients of 0.0077 and 0.001, respectively. The half-life of atrazine in the silty clay was lower than that in the sandy loam. At 10, 20 and 30°C atrazine's half-life was 693, 364.5, 138.6 and 277.2, 157.5, 90 days in the sandy loam and the silty clay, respectively. It seems that atrazine persistence is lower in clay soils and temperate areas.

247. **Bioassay of Imazethapyr Herbicide Residual Quantity in the Soil.** Yuanju Huang[1]; [1]Heilongjiang Academy of Agricultural Sciences, Harbin, Heilongjiang, China (Peoples Republic of)

Imazethapyr is a wide-spectrum herbicide. Now it is mostly applied in Heilongjiang soybean production. But it brought severe problems in crops production in next season due to its high residue. The experiment was carried out in the field of the Institute of Plant Protection of Heilongjiang Academy of Agricultural Sciences in 2003.