

Increasing Cost of Labor in the Philippines Promotes Herbicide Applications in Rice

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Rice growing is the major agricultural enterprise in the Philippines – 16 million tons of rice were produced on 4.4 million hectares by 2 million farmers in 2010. Warm temperatures and high humidity in the Philippines favor year-round growth of almost all weed species. Research in the Philippines has shown that rice production can be reduced to zero if weeds are not controlled [4]. Historically, weeds have been removed by hand weeding, which is often not very thorough because weeding is tedious and time-consuming [1] [3]. For farms of 2–3 hectares, 3–4 workers are needed to work full time weeding for two weeks. Laborers are not always available when needed [3]. Research with the new cultivars demonstrated that weed control had to be improved if the full value of fertilizer use was to be achieved [3]. The combination of weed control and nitrogen use led to a 67% increase in yield compared to nitrogen use without weed control [3].

The proportion of farmers using herbicides increased from 14% in 1966 to 61% in 1974 [3]. Today 96-98% of Philippine rice farmers use herbicides [2]. The majority of farmers supplement herbicide application with hand weeding; 35% perform one additional hand weeding while 45% do two hand weeding. Three additional hand weeding are carried out by 15% of farmers [6].

Wage rates for farm workers in the Philippines have been increasing steadily over the past two decades. In the 1970s the daily wage was US\$0.80/day [3]. Today the average wage is US\$4/day. An important factor contributing to this increase has been the migration of farm workers from agricultural to nonagricultural sectors [5]. In some areas of the country, many farmers are finding it increasingly difficult to hire seasonal workers [5]. Between 100-200% increases in the current labor price are realistic expectations within 5-10 years [5]. Farmers are left with little choice but to reduce labor and production costs, particularly for the most labor-intensive tasks, such as weeding [4]. As a result, herbicides are being substituted widely for manual labor. With increases in the real wage rate, the price of herbicides has fallen over time, providing an incentive to use herbicides. Hand weeding is at least five times more expensive than herbicide applications.

A recent study determined that with increased labor cost, herbicide application is superior to manual weeding even at the lowest weed density by US\$25-\$54/ha. At the highest weed density and highest labor cost, herbicide application is approximately 80% (about US\$200/ha) more profitable than hand weeding [5].



Philippine rice field



Weedy rice field



Transplanting rice

References

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