Spray Service Provider Project Improves Weed Control in Africa

International Pesticide Benefits Case Study No. 75, November 2012
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Maize is the staple food crop of Zambia, with about 80% of production done by small-scale farmers. While commercial farmers achieve an average of 7.0 MT/ha for maize, small-scale farmers are only realizing 1.5-2.0 MT/ha and have lower yields for other crops as well [1]. One key constraint for small producers is ineffective pest control, especially weeds. Although herbicides could improve their yields, few Zambian farmers have appropriate knowledge of safe pesticide handling and use. Furthermore, they must be able to distinguish legitimate pesticides from potentially dangerous formulations.

In 2008, CropLife Zambia and PROFIT/USAID began sponsoring a Spray Service Provider training program [2]. Over 3,200 spray service providers were trained and another 1,700 participants became certified trainers [3].

CARE Zambia subsequently evaluated the program’s impact on small-scale farmers. Spray service providers trained on herbicide application agreed they could cover 3 hectares in one day, or 78 hectares per growing season. The current Zambian weed control method of hand-weeding would require 468 people to weed for one entire month to care for 78 hectares [1]. In the four provinces covered by the study, farmers saw their yields increase from 1.5-2.0 MT/ha to as much as 4.5 MT/ha when using herbicides. Local agrodealers reported a 300% increase in herbicide sales [3]. Additionally, the increased use of herbicides was associated with the adoption of fertilizers, hybrid seeds and environmentally restorative practices, such as conservation farming.

The study reports that small-scale farmers reduced weed control costs by an average of 66% by using herbicides [1]. Most of this reduction was due to diminished labor costs—instead of hiring 6-10 people to weed an acre, farmers now utilize the specialized services of one trained herbicide sprayer. Due to the reduction of labor costs and time spent weeding, farming families reported more time and money for increasing the area of land they cultivate, diversifying crops, tending livestock and allowing school children to focus on their education [1]. These activities improve a farm family’s profitable options and their resilience to economic shocks.

Adoption of herbicide technology is crucial for Zambian women. Hand-weeding, often a woman’s responsibility, can cause permanent damage to the spine. Women in the CARE Zambia study vowed to never again weed their crops with hand hoes. They also indicated they were able to enjoy a better quality of life and had more time for other family responsibilities.

References