Chapter 10

Opportunities for Reducing Chemical Inputs for Weed Control

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“Traditional cropping systems throughout the world are the final result of a series of adaptations made by farmers to conditions within their immediate environments. The systems are complex and dynamic. They evolve constantly, adapting to such changes as improved roads, better storage facilities, guaranteed prices and modern inputs (including better seed, fertilizers, irrigation, and pest and weed control) if the risk factor is acceptable and the incentive is positive” (Plucknett et al., 1976). These comments presented to a 1976 cropping symposium sum up well the dynamic nature of farming. Cropping systems and pest control practices are a direct result of specific historical, economical, social, and technological forces. For example, the current widespread use of herbicides in the developed countries is a product of modern chemical and mechanical technologies, linked with various economic and social forces. Each technological change or advance has built on preceding changes until the use of weed control chemicals has become an ingrained part of the farm scene.

However, the fact remains that life can go on quite well without herbicides. Today, as in the past, some farmers gain a respectable livelihood without their use. Herbicides may provide effective weed control under a variety of conditions and often allow farmers increased flexibility in the selection of crops, cropping practices, and overall farm operations under many of our present circumstances and assumptions. We do suggest, however, that a shift in any of the economic, social, and tech-

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