



t in cotton in India

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It suffers severely from weeds growth. Broadleaf weeds and stages, later on irrigation or eral flushes. Pre-emergence soil moisture at sowing time, There are no major POST ls. Several field studies were effective weed management. ethalin (PRE) provided good c-sodium (PRE) was effective ation was also not effective on imilarly, trifloxysulfuron alone me dry hoeing was effective at ontrolling several weed species effective when integrated with .5 DAS. Protected spray of h pendimethalin or trifluralin weeds. Tank mix application of iobac 45 DAS provided good n cotton. Application of PRE ad spectrum POST herbicide or e operation 45 DAS for season-

, inter-culture, tank mix



(20) Status on physical and cultural weed control methods for field crops in Europe

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European research in physical and cultural weed control methods has largely been driven by national pesticide policies and an increasing conversion to organic farming. This paper reviews some of the major results achieved with non-chemical methods and strategies, especially adapted for row crops and small grain cereals and pulses. It also highlights some of the future directions. Intra-row weeds in row crops constitute a major challenge, and research has mainly aimed at replacing laborious hand weeding with mechanization. Investigations have focussed on optimising the usage of physical methods, often in combination with preventive and cultural methods, against intra-row weeds. Although the need for hand weeding has been reduced markedly, partly thanks to the achievements in research, new research is now aimed at eliminating the need. Robotic weeding and GPS-technology are investigated for row crops with abundant spacing between individual plants. For row crops developing dense stands in the rows, band-steaming prior to sowing show effective and prolonged control. In small grain cereals and pulses, mechanical weed control methods, such as weed harrowing and inter-row hoeing, has played a significant role. Both methods provide the best results when they become part of a strategy that also involves preventive and cultural methods. However, physical weed control has made less progress in broad sown crops as compared to row crops. The European work on physical and cultural weed control is based in the working group: *Physical and Cultural Weed Control* (www.ewrs.org/pwc) under the *European Weed Research Society*.

Key words: Mechanical control, thermal control, non-chemical control, advanced technologies