Hemp Defoliation Technology and Management before Harvesting

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Abstract : Hemp (Cannabis sativa L. ssp. Sativa) cultivation for fiber is limited by extremely high labor cost, especially for the removal of the leaves before harvest. This study evaluated chemical defoliants as a means to remove the leaves of hemp before harvest, in an effort to reduce labor expenditures in the production on hemp fiber. This study was conducted by spraying the leaves of hemp with five different treatments: saline solution, Urea (CH4N2O), Ethephon, copper Sulphate (CuSO4) and water (control) before harvesting. The largest percentage of leaf loss 6 days after spraying was with saline solution (43%), followed by Ethephon (32%). However, saline solution also caused drying of the stems but Ethephon did not. Thus, Ethephon was evaluated in the second experiment by spraying with Ethephon concentrations of 0, 10, 15 and 20 ml per 1 liter of water at 7 days before harvest. Spraying with 0.5% Ethephon resulted in 13.6% leaf fall. Spraying with 1.5% and 2% Ethephon resulted in 82.2% and 82.3 % leaf fall, respectively. In addition, using Ethephon to defoliate hemp had no detrimental effect the yield. Therefore, Ethephon concentration at 15 ml per 1 liter of water will be recommended for use in removing hemp leaves by spraying at 7 days before harvest to lower labor cost.

Keywords : defoliation technology, ethephon, hemp cultivation, saline solution

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