

EFFECT OF WEED COMPETITION AND ITS CONTROL METHODS ON GROWTH, RESIDUES AND YIELDS OF CABBAGE (*Brassica oleracea* var *Capitata*)

By

Fadlallah, A. M.¹ Hassanein, A. M. A.¹ Hatem, M. K.²

1- Central Laboratory for Weed Research, Giza, Egypt.

2- Horticulture Research Institute, Giza, Egypt.

ABSTRACT

Two studies were conducted at Horticulture Research Station, El-Kanater El-Khiria, Kalubia governorate. Firstly, two field experiments were carried out in 2008/09 and 2009/10 winter seasons to evaluate the efficacy of some herbicidal treatments on weed control and yield productivity of cabbage plants. Each experiments including six treatments namely Roundup, Amex, Amex plus hand hoeing one, Fusilade super and hand hoeing as well as the unweeded treatment. Secondly, two field experiments were carried out in 2009/10 and 2010/11 winter seasons to determine the period required for weed free maintenance after cabbage transplanted to produce the maximum yield and/or the weeds infestation period which can be allowed without reducing the yield; beside the bases of the cabbage yield due to weed competition. This study contain ten treatments of weed removal and weed competition which four of them weed free period at 3, 6, 9 and 12 weeks and weed free treatment for all season from cabbage transplants and four treatments of weed competition at 3, 6, 9 and 12 weeks from cabbage transplants and weed competition treatment for all season. The main results revealed that Roundup 48 % herbicide applied at 1 l/fed. gave the highest reduction percentage of the dry weight of the total annual weeds but Fusilade super 12.5 % at 1 l/fed. on reducing the dry weight of annual grassy weeds only. While Amex 48 % at 2.5 l/fed. plus one hand hoeing gave the following significant reduction on both categories weeds. These results reflected on increasing the yield and its components. Also, there was no residues of Amex 48% at 2.5 l/ fed. as soil herbicide and Fusilade super 12.5 % at 1 l/fed. as post emergence herbicide on the tested cabbage leaves.

On the other hand, nine weeks required for kept weed free to obtain the maximum yield and three weeks of weeds infestation without reducing cabbage yield.

Key words: Herbicides – hand hoeing – residues- critical period.