Effecf of Mint Essence And Ultraviolet On thyme Seed Germination

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***Abstract*—**In order to Investigate the allelopathic effects of menthol and different UV radiation as a parameter of the effects of ozone on thyme seed germination. In this research in two separate trials, the effect of menthol (25% -50% -75% and 100%) and 3 ultraviolet spectrum A (nm 400 – 320)and B (nm 320 - 290)and C (nm290-200) and control based on randomized complete block design in three replications were tested in the laboratory of Mylajrd Payam Noor University. According to the results of the phenology of plant growth and seed germination in four levels and five levels of radiation considered and menthol, the highest percentage of germination of seeds and sad at the sad figure of 81% control percentage and germination percentage A has been 81%, respectively, with increasing concentration of menthol in hydroponic culture from 25% to 100% germination decline substantially (71% to 51%) has had. at all between the control treatment of seeds with 25% menthol treatment There was no significant difference between treatments, but treatment with 50%, 75% and 100% difference significant at 1% level according to Duncan test was seen. In examining the results of treatment by ultraviolet light, control treatment has the highest performance with the germination of 81% was a significant difference with treatment UVA did but treatment with the treatment of other (germination 53% and 12%) significant difference at 1% level were based on Duncan test.

Keyword:essence percent-mentha-ltraviolet- thyme

INTRODUCTION

This study was about thyme , one of the oldest medicinal plants. Purslane is one of summer vegetables and medical plants, with a mild, sweet-sour flavor and a chewy texture. Its reddish stem, nearly as thick as a computer cable, creeps along the ground, rarely getting taller than a pint of milk Blooming in the summer, the 5-petaled, tiny yellow flowers hide between the base of the leaf and the stem (3). The stalkless leaves are paddle shaped, about as long as a small paper clip. The tiny black seeds are hardly larger than grains of salt. If you look very carefully at the end of summer, you may be able to find them pouring out of tiny capsules smaller than a filling in a tooth. thyme comes from India, where it was a food crop centuries ago. It was Gandhi's favorite food. Now it also grows across America, and around the world. It has a wonderful survival tactic: The succulent (juicy) stem, keeps it from drying out. If someone decides purslane is a "weed" and uproots it, it uses the water in the stem to make seeds before it dies, and soon there'll be even more thyme.

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MATERIALS AND METHODS

The project laboratory Mylajrd Payam Noor University in the fall of 2008 was carried out. . The project includes three stages of the general:

1 - Collect the information

2 - experimental stage and planting seeds and putting menthol solution and exposed to ultraviolet radiation in the hydro-soluble food Production of hydroponic culture:

In this case the first seeds are placed in the environment, fungicides and seed culture and then disinfected using a dilute solution of distilled water is then constructed using oligo-soluble material that includes materials necessary and unnecessary to some extent the plant 4 leaf stage to be able to absorb materials hydroponic solution was made and marked with the number of seeds (20 pieces) for the initial germination was hydroponic environment.

Environments resulting in 25% -50% menthol solution -75% ppm unit was formed in hydroponic solution without menthol was considered as a witness.

Ultraviolet light in, planted seeds of the second day of planting the standard amount, 25% higher than the standard 50% higher than the standard 75% higher than the standard UV type A (environmentally safe) type UV B (low risk for the Environment) UV type C (high risk to the environment) to simulate the possible destruction of the ozone layer in areas where they have been done without the control and radiation treatments were considered.

3 - phase of laboratory analysis results and design by sas software .

Results and Discussion:

Table design based on data obtained following analysis of variance indicating the effects of menthol and ultraviolet hollyhock plants have a significant impact on the level of 1% are likely.

Table 1: Analysis of variance the effects of menthol and Ultraviolet on thyme seed germination

Mean Squares (Ms)	SS	Degree of freedom	SOV	
50123/521 ns	101567/042	2	Replication	1
87056/917**	265843/75	3	Menthol(A)	2
63121/083**	145682/25	3	Error	3
14563/769**	129652/917	9	UV	4
2658/365	86532/958	30	Interaction	5
	63256/917	47	Total	6
17.53		Coefficient of variation cv%		

Table design based on data obtained following analysis of variance as to which the effects of menthol and ultraviolet hollyhock plant and thyme in a significant effect on levels are 1%.

Table 1 - percentage of the amount of seed on the third day squeeze the different values of menthol

٪100 menthol	٪75 menthol	٪50 menthol	٪25 menthol	Controlled 0%	plant
٪41d	٪ 60c	٪ 70b	٪ 77 a	٪81a	thyme

According to Table 1 menthol has been effected to absorb water for germination to be effective and control the process of reduction to 100% menthol continues. In the process control table to 100% menthol 50% over the control treatment in sad decline Menthol 100 %, we observed that using the variance analysis table 1% probability level is significant. In this table the highest percentage with 81% in control dewatering and dewatering in the lowest 41%in 100% menthol has seen in Figure 1 can process investigation.

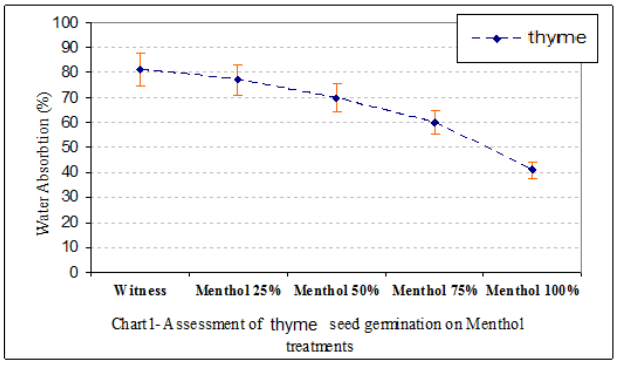

Table 2 - thyme Seed germination in different amounts of menthol

%100 menthol	%75 menthol	%50 menthol	%25 menthol	Controlled 0%	plant
%51d	% 66b	%72b	%77a	%81 a	thyme

According to Table 2 menthol has effected on germinate seeds in 1% probability is control the amount of 100% menthol decreasing trend continues so that over 30% drop compared to control germination in menthol treatment, we observed 100% using the variance analysis table in the 1% level is significant. In this table the highest percentage with 81% in control dewatering and dewatering in the lowest 51% 100% menthol seen in Figure 2 this process can be investigated.

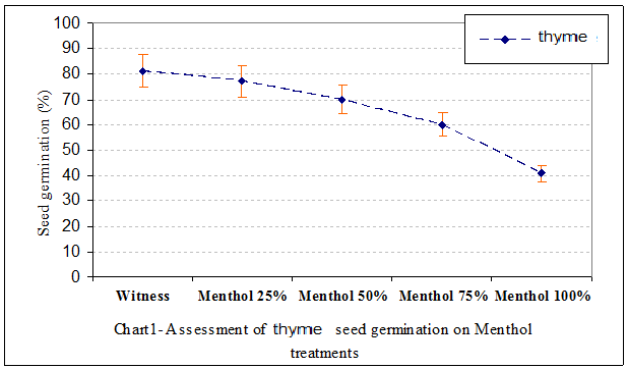

Table 3 - Evaluation of germination in different amounts of Ultraviolet

UV C	UV B	UV A	0%	
٪ 12c	%53b	%77a	%81a	Thyme

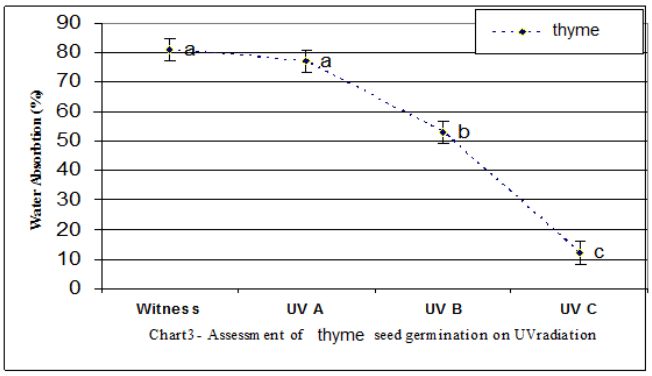

Table 3 based on different values in the ultraviolet can germinate seeds in the probability is 1% effective reduction of process control continues to UVC and the highest germination in the control treatment and lowest with 81% germination in treatments with UV C 12% visible so that more than 70% drop compared to control germination, we observed in the UVC treatments using analysis of variance in Table 1% probability level was significantly Astkh in Figure 3 this process is worthy.

By examining the results of this research is achieved two important results:

1 - thyme power plant germination is good in hydroponic culture, but germination can be affected by environmental conditions and reduce environmental stress that results of this experiment, different concentrations of menthol as an environmental Allvpatyk decreases 50% in dewatering rate and 30% drop in germination was.

2 - One of the major issues discussed at the debate last decade the ozone layer destruction and the consequences resulting from this incident, including direct ultraviolet radiation on the Earth and caused damage that will come. In this debate and its effects on crop plants and medicine, including discussions of the very few studies have been done on it and it is necessary, especially on crops and edible herbs that are used directly as research done to allow the results to better inform human life people of the dangers and destruction of ozone and ultraviolet light used in the study results became clear that Ultraviolet hydroponic environment decreases to 70% germination was seen as a warning that can risks be effective of ultraviolet.

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