

# The use of Hormone Auxin in the Different Period Growth on Yield Components of Plant Vetch

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**Abstract**—The trial in the city, located 170 kilometers from the Iranian city of Ahvaz was Omidieh. The main factor in this project includes 4 levels in control (without hormones), use of hormones in the seed, vegetative and flowering stage respectively. And sub-plots included 3 varieties of vetch in three levels, with local names, was the jewel in the study of light and Auxin in the vegetative and reproductive different times in different varieties of vetch was investigated. This test has been taken in the plots in a randomized complete block with four replications. In order to study the effects of the hormone Auxin in the growth stages (seed, vegetative and flowering) to control (no hormone Auxin) on three local varieties of vetch, the essence of light and plant height, number of pods per plant, seed number The pods, seeds per plant, grain weight, grain yield, plant dry weight and protein content were measured. Among the vetch varieties for plant height, number of pods per plant, a seed per plant, grain weight, grain yield, and plant dry weight and protein levels of 1 percent of plant and seed number per pod per plant at 5% level of There was no significant difference. Interactions for grain yield per plant, grain yield and protein levels of 1 percent and the number of seeds per pod and seed weight are significant differences in levels 5 and plant height and plant dry weight of the interaction were INFLUENCE There was no significant difference in them.

**Keywords**—Auxin hormones, various periods of growth, production components, vetch

## I. INTRODUCTION

INDOL acetic acid is the most abundant natural Auxin. Plant growth and development in their areas of activity is usually severe, producing the greatest amount of Auxin. Thus Myrstmhay including stem tip meristem, root tip meristem and cambium are rich in Auxin. In addition to the Auxin effect on cell length increase, the falling autumn leaves and fruits in the control, prevention of ectopic roots, flowers and fruits of many plants are involved [3, 5]. This hormone is necessary to trace the root growth and its part of the root growth stops. Auxin causes transcription of DNA and RNA in protein synthesis is increased. Growth of lateral buds was by Auxin. Seasonal activity of vascular cambium and wood development in the inhibition of Auxin also plays a role late. Auxins were a group of plant hormones that are causing the elongation of plant cells. These materials have a wide range of reactions in plants that are growing and growing. The term Auxin is a general

term that refers to a number of natural materials and the most abundant Auxin in plants, Andvl acetic acid (IAA) is [8, 11].

In vascular plants, Auxins, particularly indole acetic acid (IAA) applied to cell division, cell elongation and regulates differentiation of plant tissue. Auxin also, geotropism, growth of flowers, fruits, and the end of dominance are affected. Since the IAA in low concentrations stimulates growth, high Auxin concentrations can be toxic to plants. Determine the exact concentration of IAA for plant development is essential preparation. Although regulators of Auxin for plant growth and development of many aspects of how we are perceived inadequate levels of this hormone [7, 2].

## II. MATERIAL AND METHOD

This plan includes 4 levels were the main factor, seed, vegetative and the flowering. This test has been taken in the plots in a randomized complete block design with 4 replications was.

First of all samples from the plots that were established earlier tally. Harvested by hand and dry them and then separated into pods and seeds and winnow out and finally the weight of each individual using a digital scale we have achieved and compare.

Seed and forage production from the Mesa can be used to compare the effects of the hormone Auxin vetch varieties would be the best present you've.

It should be noted that making the TDW-LDW-LAI have done the following method Sampling was started 2 weeks after planting. The sampling was done every 10-14 days. The line was a margin of sampling with respect. Grain growth in a sample of one or two special lines have stripped and 5-day sample.

## III. RESULT

In order to study the effects of the hormone Auxin in the growth stages (seed, vegetative and flowering) to control (absence of Auxin) on three local varieties of vetch, the essence of light and plant height, number of pods per plant, seed number The pods, seeds per plant, grain weight, grain yield, plant dry weight and protein content were measured and results are discussed below. The results showed that the growth in plant height, number of pods per plant, seeds per pod, seed number per plant, grain weight, grain yield, plant dry weight at the level of 1 percent and 5 percent protein levels. There is a significant percentage. Among the vetch varieties for plant height, number of pods per plant, seeds per plant, grain weight, grain yield, and plant dry weight and protein levels of 1 percent of plant and seed number per pod

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per plant at 5% level of weren't significant difference. Interactions for grain yield per plant, grain yield and protein levels of 1 percent and the number of seeds per pod and seed weight are significant differences in levels 5 and plant height and plant dry weight of the interaction were INFLUENCE. There was no significant difference in them. For more about the growing number of pods per plant with number 67/50 and 17/51 were flowering. These two stages are not significantly different from each other and to witness the lowest number is 17/40. In vegetative and flowering stages, the highest number of seeds per pod, 38/12 and 30/12, respectively, the number is (because it did not show significant differences with each other) and the lowest number of 10.23 is about control. The vegetative and flowering stages, the highest number of seeds per plant, respectively, with 5 / 627 and 6 / 634 had the lowest number of self-control with 8 / 411 was the number. Vegetative and flowering stages, the highest yield with the minimum of 91/58 and 07/59 mg and 03/55 mg group with the highest proportion.

Vegetative stage, with the highest grain yield 1779 kg per ha and 1,416 ha, has the least control them. It is mentioned that the seed and flowering stages, respectively in 1699 and 1675 kg ha with the seed placed in a group and showed no significant difference. Most of the seed and vegetative stages of plant dry weight, respectively, with 29 / 5 and 33 / 5 g and the lowest in the 23 / 4 g were having. Based on these results, it seems that in most of the traits that account for at least the vegetative and flowering stages, respectively, the highest in most traits were included. Number of pods per plant compared with the lowest number 63/42 and 81/52 compared with radiation has the greatest number. The number of seeds per pod compared with the essence of numbers 74/12 and 51/10, local numbers were the highest and lowest. The figure also showed no significant difference in the beam with the other Vrqm. The highest number of seeds per plant compared to the beam with 8 / 619 lowest number of local 1 / 450 the number. I mentioned it is a gem compared with 1 / 595 the number of seeds per plant, no significant difference between the amounts of radiation and are in a group. The weight of the seed varieties Hrar beam with the 47/62 mg and 58/53 mg compared with the lowest were in place. Light yield compared with 2008 kg ha-ha, the highest and lowest figure in 1451 is a local gem. However, it is mentioned that the figure of 1,469 ha with a light figure is in a group and not significantly different from each other. The highest number of plant dry weight of the beam with 73 / 5 g and the least amount of time with 26 / 4 grams. The figure for the number of pods per plant, vegetative and flowering stages, respectively, in the light of the 25/56 and 57 have the highest number was the lowest figure in local control with the highest proportion was 75/34. Number of seeds per pod, seed and flowering stages of the essence in 50/13 and 70/13, respectively, with the greatest number and variety of local control with 63 / 9 had the lowest number. The highest yield in the light of the figure and the lowest figure set pod 60/65 mg 38/51 mg had local control. Yield varieties of seed and vegetative stages of radiation were highest in 2126 and 2096 ha and 1142 ha with local cultivars in the control

group had the lowest. Plant dry weight of seed and vegetative stages, the highest figure in the beam, respectively, with 05 / 6 98 / 5 g minimum amount of local control with 50 / 3 has been heated.

#### IV. DISCUSSION

Local varieties of vetch in the hormone Auxin in the vegetative growth stage was used to produce the highest total dry matter and seed-stage and had the lowest total dry matter production protein [1, 4]. This figure also showed that up to 44 days after planting with a mild slope, but had a similar trend in total dry matter production from day 44 to 72 days after planting with the slope of total dry matter production was very high. The application form can be stated that the hormone Auxin in the vegetative stage of vetch plant has the most effect on yield. To determine the relationship between grain yield and other traits influencing the stepwise regression analysis was used. The analysis of grain yield as dependent variable (dependent) and other traits are the independent variables. The results of this analysis showed regression in the different stages respectively of dry weight per plant; seeds per pod, seed weight and number per plant Pod into the regression model and the model changes to 72/89 percent of the yield are included. In the regression model  $Y = \text{Yield}$ ,  $1\ x = \text{plant dry weight}$ ,  $2\ x = \text{number of seeds per pod}$ ,  $3\ x = 4\ x = \text{seed weight and number of pods per plant}$ . The mathematical model is as follows:

$$Y = -476.27 + 242x_1 - 73x_2 + 22.7x_3 + 9.9x_4$$

The model showed a direct and positive effect on plant dry weight yield and the traits seed number per pod and seed weight as a negative to a positive direct effects were the highest and lowest attribute number of pods per plant The yield has a direct and positive.

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