



Medicago Sativa L.'s Sowing Periods and Biological Characteristics

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Abstract

The foundation of forage base is one of the important measures in the country's agricultural sector and farmers facing workers by raising of livestock. There must be given the special attention by selection of collected and grown forage grasses to legume forage grasses. There are wide used to increase the forage coefficient by legume forage grasses. Therefore the *Medicago Sativa L.* genus species are red and they have specific benefits. By study problems must be taken into account the ecological factors, soil-climate conditions, irrigation, soil salinity and acidity. There are researched the bioecological features of *Medicago Sativa L.* dependence on environmental factors, right definition of the period of sowing, the temperature regime of soil.

Key words: *Medicago Sativa L.*, sowing method, growth, development

Research Methods and Objects

Seeds from 2015 year of *Medicago Sativa L.* species being as the high forage has been sown in advance and there was determined the seed germination percentages. For this purpose has been added in 4 times to 100 pieces of dried seeds 10 ml of pure water and 1ml of Hydrogen Peroxide (in 3% of H_2O_2).

Seeds are kept in solution for 20 minutes and after pouring them they are washed up with distilled water. The supposed pathogenic various fungus, disease eggs and shales are cleaned in seeds. Seeds being 10x10, in Petri bowls above wetted filter paper arranged in rows and was kept in the closet by temperature in 18-22°C, after 72 hours there are observed and noted the germination percentage of the seeds in (90.0-95.0%). Sowing in land areas were held in 18.02.16; 25.02.13; 02.03.16 and 09.03.16, after 7-9 days of sowing time were attracted the attention the seedlings, there are given to 1m² area 5 liters of water.

Discusses

Distinguished from all other alfalfa species the mass of dry grass obtained from *Medicago Sativa L.* is higher livestock supplies mass of proteins, carbohydrates, calcium, existing of insubstituted amino acids is considered as invaluable food source. Its root system by seed-growing grows rapidly, in arid climatic conditions provided by nitrogen and organic compounds promoted to well development. Only in high sour land and in saline acidic soils productivity became low.

Soil planted with *Medicago Sativa L.* is high in fertility and productivity, significantly increasing the enrichment of the soil. Therefore, there are increasing productivity many times by sowing durum wheat, cotton and sunflower in place of collected *Medicago Sativa L.*. Cotton farming didn't sow seeds where not growing *Medicago Sativa L.*. Since it is a very effective crop rotation in Lucerne-cotton sowing, it is very effective to get higher yields, cones in the long fibers, there are sharply reduced soil disease excitors. It has been extensively studied in many areas of the country such planting method [1,2].

Medicago Sativa L. is the widespread leguminous fodder grasses. The fast-growing root system grown from seeds are rich with side roots and sucking ties.

They reach 2-3 m of the soil depth in the first year of growing and then they can grow up to 10 m in the next years. Alfalfa roots are basis of humus forms in our soils. From the neck of the stem on the main body are distributed the side shoots buds, they are ensure the bifurcation of the body.

In the root system has been formed the root tubers by the activity of azotobacteria, they provide 300-400 kg nitrogen stock per 1 ha. There are should be added the hydrogen to enrich the soil by the sowing. Nitrogen accelerates the formation of tubers on the soil roots. Root of *Medicago Sativa L.* is multiple branched, in each shoots are segmented in 10-15 parts. According to the botanical features in the first year of life there are formed 3 shoots, in second year -15-17, in third year is formed -20 shoots.

By botanical features there are formed at the first year of life 3 shoots, at the second year of life 15-17 shoots, at the third year of life 20 shoots. At the first year of life Lucerne is reaching 30-50 cm of height, at the 2-3 years of life they are reaching 1 m or more in height. The speed in body growth is depend on soil fertility and on the timely provision of fertilizers. If the sowing time of *Medicago Sativa L.* in Absheron condition is executed during 25.02.16 and 02.03.16 the body development will be very effective. *Medicago Sativa L.* Leaves are V-shaped, united to the

body through the sheath, leaves have short stalks. For now for not started flowering period there are not given some information. (Table1, Figure1).

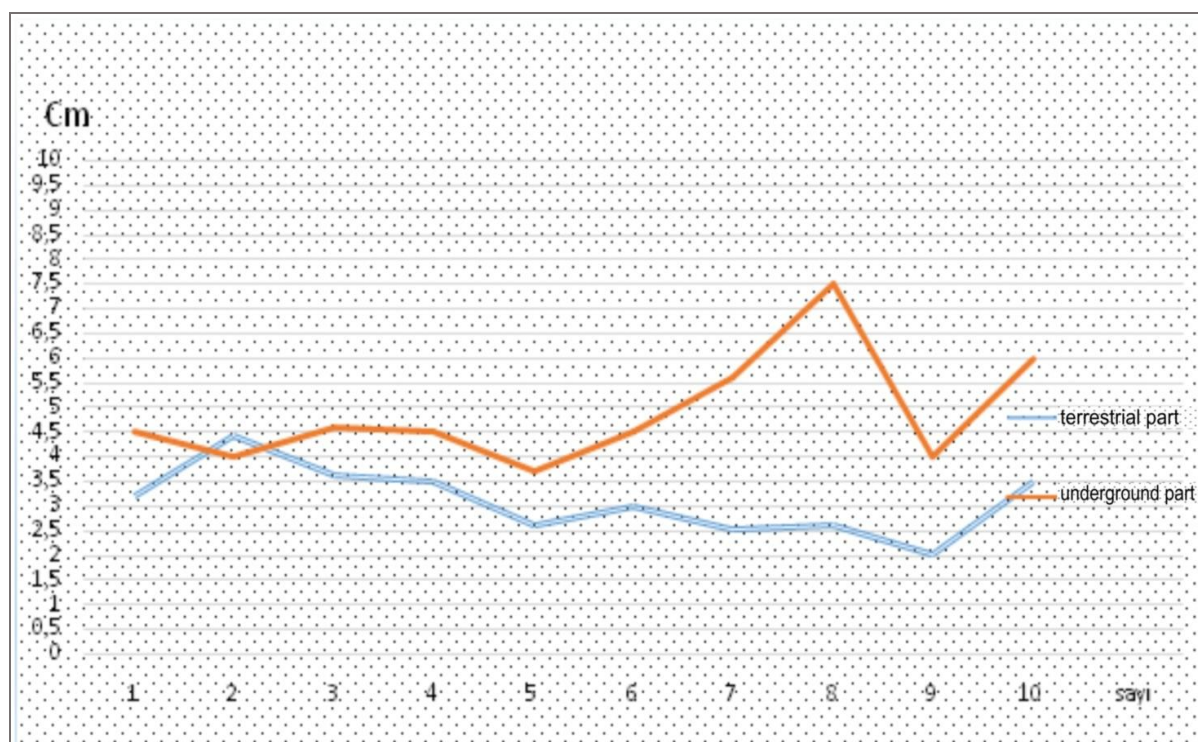
Medicago sativa L. seeds have been germinated when the soil temperature is more than 5°C. In Experiments sown seeds give yield since the soil temperature are below 9.0-10.4°C. In Absheron soil, especially in sandy soil, Lucerne grown is more effective under irrigation. Being drought resistant helps to have well growth in root system and become of the formation of a large number of side roots. (Fig. 2). From proposed schedule is understood that the 1-month-old Medicago Sativa L. growth from the root system is more than rather the terrestrial part. (scheme 1).

Table1: Sowing and germination periods of Medicago Sativa L. seeds

| Variants | Sowing time | Germination, % | The formation of first leaf, time | The formation of trunk, time | The terrestrial part, in cm | The root system, in cm |
|----------|-------------|----------------|-----------------------------------|------------------------------|-----------------------------|------------------------|
| I | 18.02.16 | 92% | 25.02.16 | 02.04.16 | 3.1 | 4.9 |
| II | 25.02.16 | 95% | 01.03.16 | 05.04.16 | 2.9 | 4.3 |
| III | 02.03.16 | 94% | 11.03.16 | 07.04.16 | 2.7 | 4.0 |
| IV | 09.03.16 | 90% | 18.03.16 | 10.04.16 | 2.1 | 3.7 |

Scheme 1

The growth indicators of terrestrial and the root system of 10 piece of mensal Medicago Sativa L., in cm



Medicago Sativa L. as noted in Literature datas [3,4,5] is the spring forage. Based on them Medicago Sativa L. seeds have been sown at first days of spring and there are provided the effective development of these. In Absheron weak saline soils Medicago Sativa L. growing in the spring season is very favorable, farmers are able to achieve high yields.

Results

1. Medicago Sativa L. is advised to cultivate in poor saline soil of Absheron condition.
2. Lucerne seeds should be sown since the end of February and early March.
3. Medicago Sativa L.'s root system is developing faster than terrestrial part.
4. The seeds of Medicago Sativa L. is poorly developed in high salinity and acid soils.

References

1. A. Asgerov "Azerbaijan's higher plants" Vol. II, Baku. "Science". 2006. 131-132p.
2. P.P. Vavilov et.c. "Crop". M. «Spica», 1979. 348-357p.

3. Yunus Serin, Mustafa Tan “Forage plants and pasture-based livestock training” , Ereyes University Publishing №106. Kayseri, Turkey, 2008, 51-69p.
4. T.B. Absattar et.c. “Some questions of Lucerne taxonomy. Journal of Science of Kazakh Agro Technical University by name of S.Seyfullin. №2 (85), 2015.57-69p.
5. O.V. Tome– “Flora von Deutschland, osterreich und der schweiz” internet information, 2015.

