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Title of Thesis : Comparative study on the nutrition of mulberry silkworm *Bombyx mori* L
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ABSTRACT: The present study was carried out during spring seasons, 2020 and 2021 in Sericulture laboratory Economic Entomology Department Faculty of Agric. Menoufia Univ. The study was conducted to evaluate the effect artificial diet (T1 and T2) in 2020 season and (T1, T2 and T3) in 2021 season, on some biological, technology and physiology characters of silkworm, *Bombyx mori* L.

The results showed that during the 2020 season and by comparing the results of (T1, T2), we can say that the best results were for the larvae that were fed artificially at young ages, treatment 1 and compared to the larvae that were fed. In the old ages, treatment 3, compared to the control and it was found that the first artificial diet T1 gave the best results in the weights of larvae, the duration of the larval instar, and the characteristics of the larvae. The resulting, initial artificial diet is the best and I recommend using it. During the 2021 season and by comparing the results of T1, (T2) and (T3), we can say that the best results were for the larvae that were fed artificially at young ages, treatment 1 and compared to the larvae that were fed at the older ages, treatment of and treated compared to the control by the control and it was found that T1 and T2 gave the best results in the weights of the larvae during the 2020 season, and it was found that the highest average weight Larvae for the first diet (T1) 035.4 g for the first treatment, followed by 3.836 g for the second treatment.

As for the weights of larvae in the different diet (T1), (T2) and (T3) during the 2021 season.

Whereas, the highest average weight of mature larvae (T3) was 4.567 gm recorded in the first treatment, followed by 4.604 gm recorded in the second treatment.

It was found during the 2020 season that the larvae period was the best in (T1), as it was 38.6 days for the fourth treatment, and the lowest larval stage period was 30 days for the first treatment and for the duration of the larval stage between diets (T1) and (T2) and (T3) during the 2021 season

The highest value of the larval instar period (T3) was 39 days for the fourth treatment, and the lowest larvae period (T2) was 26 days for the first treatment.

It was found that feeding the larvae during their large ages, the fourth and fifth ages, led to a significant increase in the duration of the larval stage, which is not required economically in education, because the shorter the larvae period, the better and the characteristics of the resulting thread, where it was found that the length of the thread in the different diet in the 2020 season recorded the highest value for the length of the thread (T1) 1176.6 meters for the first treatment, followed by (T2) 1325 meters for the first treatment, compared to the control 1094.8 meters.

It was found that the thread length in different diet in the 2021 season, where the highest value of the thread length (T2) was 1879 m for the first treatment, and the lowest value was 1045.6 m for the fourth treatment, compared to the control 1063 m.

T1 and T2 are the best and I recommend using them.

Key words: *Bombyx mori*, artificial diet, biological, technological characters.

