The quantity of water applied per dunam was 850 m3 during the first season and 1200 m3 during the second season.

Fall sowing is not advisable on account of the danger of Agrotis attacks.

2) Berseem (Egyptian Clover) under irrigation gave 8 cuttings from October till the end of May. The yield per cutting reached 765 to 2226 kgs per dunam, and averaged 1403 kgs. The total yield of green mass for 8 cuttings was 11 1/4 tons per dunam (see Table IV p. 9).

Berseem and Alfalfa are liable to supplement one another for the supply of green fodder throughout the year. Both are well adapted to the soil of the Emek, where irrigation is available.

3) Irrigated Green Maize. Two American Ensilage varieties "Orange County Prolific" and "Eureka Ensilage Corn" proved superior to the local variety; they are ten days later than the local Maize and gave 20% and 18% more than it, when cut at the proper time, but produced also by 12—10,7% more when cut at the same time as the local variety (see Table V p. 10).

Notes on the Fertilization of Vetch Hay

by **S. Zemach.**

Demonstration Fields 1928/29.

The demonstration fields were laid out for the purpose of elucidating two problems:

1) The quality and influence of nitrogenous fertilizers like Chilean Nitrate of Soda, Sulfate of Ammonia, Nitrochalk.

2) The most economical application of fertilizers.

Five kgs of Sulfate of Ammonia given in two applications to the field at Merhavia, brought about an increase in the yield of up to 151%, and a profit of 389 mils per dunam. An application of 15 kgs of Chilean Nitrate of Soda increased the yield by 97% and gave a profit of 79 mils per dunam.

The soils of Merhavia are apparently very poor and readily respond to heavy applications of nitrogenous fertilizers, as the

amount of Sulfate of Ammonia of 10 kgs and that of Nitrate of Soda of 15 kgs, which are both nearly equal in regard to their nitrogenous value, did not give the desirable results.

At Merhavia the application of phosphorus also had a great influence on the crop. This fertilizer alone increased the yield by 93% and gave a profit of 254 mils per dunam.

At Ganeigar Nitrate of Soda and Sulfate of Ammonia proved to be of equal value as to their influence on the yield, but Sulfate of Ammonia gave a somewhat higher profit. The plot which was given 10 kgs of Nitrate of Soda per dunam realized a profit of 502 mils, while that fertilized with 7,5 kgs of Ammonia gave a profit of 529 mils per dunam.

The demonstration field at Ain Hai was fertilized with 15 kgs of Nitrochalk, 30 kgs of Thomas meal and 10 kgs of Potash. These fertilizers caused a high increase in the yield, up to 255%, 132% of which is to be credited to the influence of Nitrochalk. This fertilizer combination gave a profit of 396 mils per dunam.

By applying to this field 10 kgs of Nitrate of Soda, 15 kgs Double Superphosphate and 10 kgs of Potash the yield per dunam was increased by 278% as compared with the non-fertilized area, and gave a profit of 1099 mils per dunam.

At the demonstration field at Zerifin half of the Vetch field was fertilized with Nitrochalk and the other half with Chilian Nitrate of Soda, for the purpose of comparing these two fertilizers. Here the Nitrate of Soda had a much greater influence, as in comparison with the Nitrochalk, it increased the yield up to 15,5 and gave a profit of 230 mils per dunam.

All these are good evidence that the following fertilizer amounts fixed by us are the desirable formular required for Vetch Hay and these should also be applied in the future.

15 kgs of Double Superphosphate or 30 kgs Thomas meal, 10 kgs Potash, 10—15 kgs Chilian Nitrate of Soda or Nitrochalk per dunam in two applications in light soils.

15—20 kgs Double Superphosphate, 7,5 kgs Sulfate of Ammonia or Chilian Nitrate of Soda or Nitrochalk per dunam in two applications in heavy soils.