

Vetch Hay

by S. Zemach

in collaboration with H. Saluszer, M. Zevi, A. Krampner.

The principal fodder grown in Palestine on non-irrigated lands is the Common Vetch (*Vicia sativa*). This vetch was sown by the ancient Jewish farmer of Palestine at the time of the Mishna and was called by him „Bikia“, as mentioned by E. Loew in his book „Die Flora der Juden“.

The primitive Arab Farmer does not engage in fodder growing, and only the modern Jewish and German farmers allot large tracts for this culture. The Arab peasant sows *Vicia Ervilia* and feeds his cattle with its grains. In the northern parts of the country he grows also the Common Vetch for this purpose.

Soil. Vetch is grown in Palestine in all kinds of soil. We find in the lands of the Jordan Valley, which are very rich in lime, in the heavy soil of the Plain of Esdraelon (containing more than 40% of loam) and in the light soil of the environs of Jaffa (80% sand) which are poor in lime (1—2%). In all the above mentioned places it produces high yields. As regards the preparation of the soil, the Vetch is not too exacting. It does not require well loosened land but quite firm soil.

Manure. In most soils vetch does not produce a good yield without being manured. It responds very well to the Arab Manure applied to it; in one case it yielded 6—7 tons of hay per hectare. Of chemical fertilizers it is influenced in heavy soils particularly by superphosphate, while nitrogen has an effect on the vetch only in its first stage of development (see table). In light soils it requires a larger ration of nitrogen as well as potash.

Demonstration Fields Results for Vetch-Hay

Yield in Kgs. Dry Hay per Hectare. (see diagrams pp. 182—3)

Locality	1925/6			Locality	1926/7		
	Check	N. 15 Kgs.	P. 15 Kg. N. 15 Kg.		Check	P. 15 Kgs.	P. 15 Kg. N. 15 Kg.
Beth Alfa A.	2400	2400	4220	Nahalal	920	3700	4100
Beth Alfa B.	2500	2500	5000	Ganeigar A.	440	2320	2620
Balfuria	2050	3200	3920	Ganeigar B.	940	3120	4000
Zerifin	1450	2830	3450	Hulda	3430	3600	4350
Ganeigar	3200	3550	4359				

Mixture for Vetch Hay. In Palestine vetch is grown with an admixture of grains: barley, oats or wheat. Of the latter three gramineae barley is the least suitable. It ripens early, and is liable, for this reason, to reduce the value of the hay and spoil the field by voluntary grass (its grains falling out easily), when it is harvested late, or to diminish the crop, especially the quality of the vetch, when harvested early. Oats is the most suitable cereal but is mostly unclean; its grains degenerate so that the barley, the grains of which are admixed with the oats, increases more and more in the fields. Wheat is therefore the most suitable mixture, as its grains ripen late.

The desirable mixture is 4:1 (16 Kgs. of vetch to 4 kgs. of wheat.)

Weeds. In heavy soils: *Ranunculus arvensis* L., *Galium tricornis* With., *Geropogon glabrum* L., *Buplevrum protractum*.

In light soils: *Ormenis mixta*, *Arthensis* sps. *Papaver* (lim).

Pests. Field mice and birds are the principal enemies of the young vetch-shoots at the beginning of their development. They sometimes seriously damage the crops.

Diseases. Besides the dodder which is the most dangerous parasite of the vetch, the latter is sometimes affected by the following diseases: *Uromyces*, *Oidium*, *Macrosporium*.

Analysis of vetch hay.

Moisture	Protein total	Protein pure	Crude Fat	Carbon hydrates	Crude Fibre	Crude Ash	P ₂ O ₅
16.36	14.5	9.96	1.58	35.05	22.07	7.70	0.47

This analysis, according to our investigation, has proved that the composition of vetch hay grown together with cereals in this country approximately equals the composition of the hay in other countries (Kellner).

Vetch hay is of a high feeding value for cattle. In the food ration it replaces the chaff which is of low value and a part of the expensive concentrated food, and thus reduces the cost of feeding the animals. This fodder is of special value in summer, when the cattle are fed on green maize and stockbeet which are very poor in Protein.