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Si Ammar Kadi, A. Mouhous, F. Djellal, Thierry Gidenne. Fattening rabbits with simplified feed made from *Sulla flexuosa* hay, fig-tree leaves and wheat bran. 10. International Symposium on the Nutrition of Herbivores (ISNH 2018), Sep 2018, Clermont-Ferrand, France. hal-02051587

HAL Id: hal-02051587

<https://hal.science/hal-02051587>

Submitted on 4 Jun 2020

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Fattening rabbits with simplified feed made from *Sulla flexuosa* hay, fig-tree leaves and wheat bran

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Take home message Use locally available raw material for feeding rabbits.

Introduction The high price of the feed is one of the factors that slow down the development of rabbit breeding in Algeria. This feed is made from imported raw materials, mainly dehydrated alfalfa and soybean meal. The use of alternative feed sources available locally is then strongly desired. This study aimed to test the possibility of fattening rabbits with a simplified feed composed of only raw materials available locally: wheat bran, sulla hay (*Hedysarum flexuosum*) and fig-tree leaves (*Ficus carica*).

Material & methods Two pelleted diets were formulated to meet requirements of growing rabbits; the first is the commercial diet used as control [Soybean meal (13%), Dehydrated alfalfa (35%), Barley (20%), Wheat bran (30.5%), Sodium chloride (0.5%) and Premix (%)] while the second is the experimental diet which was formulated with the aim to contain minimal and only locally available raw materials especially without Soybean meal and dehydrated alfalfa [Sulla hay (25%), Fig-tree leaves (15%), Wheat bran (58.5%), Sodium chloride (0.5%) and Premix (%)]. Fifty-six Algerian white population rabbits were used. At weaning (35 d, 674±390 g), rabbits were divided in two groups of 28 (individually caged) and received *ad libitum* one of the two diets during six weeks. Control of body weight and feed consumption was weekly while control of mortality was daily. The chemical analyses were performed for experimental diets, fig-tree leaves and sulla hay. Data were subjected to analysis of variance with SAS software in order to evaluate the effect of the diet on rabbits fattening performances.

Results & discussion Ash content in simplified diet was higher due to the appreciable contributions of fig tree leaves and sulla hay (Table 1). In addition, crude protein was the inferior limit of the recommendations for this type of feed.

Table 1. Chemical composition of experimental diets

	Control diet	Simplified diet	Fig-tree leaves	Sulla hay
Dry matter (g/kg brut)	913	882	879	885
Crude ash	73.7	127.3	165.5	142
Crude protein (N×6.25)	169.8	148.7	128.1	165.7
NDF	357.6	421.3	306.0	486.4
ADF	193.5	188.6	172.1	345.3
ADL	43.2	46.6	150.1	90.3
Gross energy, MJ/kg	18.37	18.46	16.40	17.02
Digestible energy, MJ/kg	11.43 ^u	12.63 ^u	-	8.9 [*]
Digestible protein, g/kg	148 [#]	149 [#]	-	71.1 [*]

^u According to Maertens *et al.* (1988); ^{*}According to Kadi *et al.* (2011) [#] According to Villamide and Fraga (1998);

Table 2. Feed intake, growth and feed conversion

	Control diet	Simplified diet	SEM	P
Period 35-56 d				
Body weight at 35 d, g	601	702	75	0.55
Body weight at 56 d, g	1411	1537	85	0.504
Daily weight gain, g/d	39	39.9	0.98	<0.001
Daily feed intake, g/d	102.8	100.3	5.60	0.78
Feed conversion rate, g/g	2.63	2.66	0.12	0.055
Period 56-77 d				
Body weight at 77 d, g	2058	2267	73	0.091
Daily weight gain, g/d	31.4	35.3	1.15	0.034
Daily feed intake, g/d	126.2	133.8	4.15	0.047
Feed conversion rate, g/g	3.92	3.82	0.16	0.35
Period 35-77 d				
Daily weight gain, g/d	35.3	37.67	0.77	<0.001
Daily feed intake, g/d	113.9	123.8	4.98	0.20
Feed conversion rate, g/g	3.23	3.27	0.12	0.067

The daily weight gain obtained in this trial (Table 2) are within the range of what has been recorded in this population of rabbits (Kadi, 2012). Simplified diet permitted performances at the same level that of control one. Moreover, for whole period (35-77d), growth rate permitted by simplified was significantly higher (37.6 vs 35.3 g/d). Feed conversion ratio was in the standards and at the same level in the two groups.

Conclusion The combination of fig-tree leaves with Sulla hay, in replacement of dehydrated alfalfa, soybean meal and barley, permit appreciable performances at the same level of those of the control diet. These results have to be confirmed with a larger number of rabbits under real breeding conditions.

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