



المركز الوطني للبحوث الزراعية  
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## “Can agroecological farming feed the world? Farmers’ and academia’s views”



## Effect of willow silage ecotypes on carcass characteristics and meat quality of black mountain kids

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### Introduction

Willow silage is been used recently in small ruminant diets as a source of forage. Its newly introduced as non-conventional fresh forages with high protein contents (9.5% as DM basis).



As small ruminant herd is consist of sheep and goat in Jordan, farmers provide the same diet for both sheep and goat.

A recent study were publish on the effect of willow silage on growth performance, carcass characteristics and meat quality of Awassi Sheep. However, a few studies on the effect of willow silage on carcass characteristics and meat quality for goat in Jordan



### The Objective

to study the effect of willow silage from different ecotype on carcass characteristics and meat quality of back mountain kids

### Materials and Methods

- 28 Black mountain does and their kids were randomly assigned to one of the four dietary treatments (7 kids / treatment); Control group where kids were fed wheat straw, and three groups with different ecotype of willow silages, i.e., Shoubak, Madaba and Nazareth, as sole source of roughage.

⇒ Black mountain kids were fed high concentrate diet with 20: 80 F: C ratio *ad libitum* for 90 days.

⇒ Intake and Refusal were measured daily

⇒ Three kids from each group were sacrificed to study the effects of willow silage from different ecotypes on carcass characteristics and meat quality in goat meat.

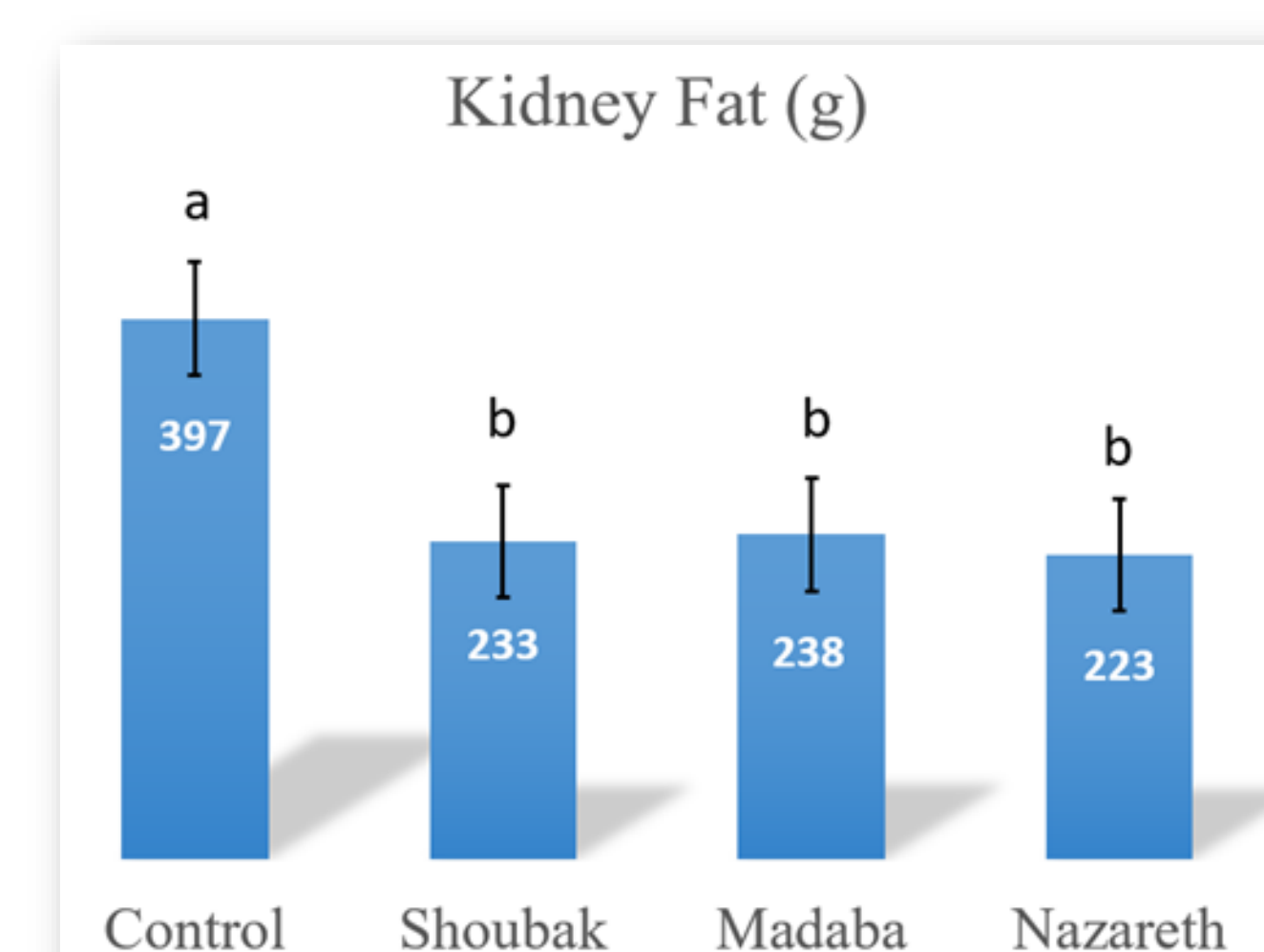
### Results

- Average daily gain were not affected by the diet and ranged from 107 – 133 g/ day.
- Neither wheat straw feeding nor different willow silage ecotype had an effect on hot carcass weight, cold carcass weight, or dressing percentages.
- Weight of internal organs were all unaffected by feeding willow silage from different ecotypes, except for spleen weight that was higher in the Madaba group ( $p < 0.05$ ) compared to Control and Shoubak group, while Nazareth group were intermediate.
- Straw-fed lambs accumulated significantly ( $p < 0.05$ ) more kidney fat than to willow silages groups.

**Table 1. Carcass characteristics of black mountain kids lambs fed different ecotype of Willow silage**

	Control	Shoubak	Madaba	Nazareth	P - Value
Fasting Wt (Kg)	27.5	29.1	29.6	27.8	0.67
Hot Carcass Wt (Kg)	12.7	14.3	14.8	13.4	0.4
Cold Carcass Wt (Kg)	12.4	14.0	14.6	13.0	0.35
Dressing %	0.5	0.5	0.5	0.5	0.87
<b>Carcass Cuts (kg)</b>					
- Shoulders	5477	6322	6612	5857	0.26
- Legs	3630	4162	4117	3855	0.39
- Racks	1088	1245	1345	1147	0.17
- Loins	1412	1382	1587	1455	0.68
- Tail	42	53	57	53	0.13
<b>Internal Organs (g)</b>					
- Heart	140.0	145.0	161.7	173.3	0.38
- Liver	533.3	611.7	593.3	568.3	0.16
- Lungs & Trachea	415.0	465.0	456.7	425.0	0.37
- Spleen	36.7 b	45 b	60 a	50 ab	0.03
- Kidney	95.0	95.0	93.3	91.7	0.97
- Testes	258.3	186.7	240.0	220.0	0.12
- Mesenteric fat	506.7	425.0	600.0	571.7	0.75
- Kidney Fat	396.7 a	233.3 b	238.3 b	223.3 b	0.02

a, ab: means with different superscript were significant  $P < 0.05$  ;



### Conclusions

Feeding willow silage decreased the deposition of kidney fat and produced heavier rack cuts compared to kids fed wheat straw as a source of roughage.

Silages from different ecotypes of willow had similar effects on carcass characteristics of black mountain kids.



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