

Evaluation of the nutritive value of some Moroccan *Opuntia ficus indica* ecotypes as a feed for ruminants

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Justification

✓ Cactus is an important feed for ruminants in many arid and semiarid areas of the world especially during the dry season.

The nutritional quality of forage cacti depends on plant species, ecotypes (cultivars), cladode age, growing season and crop

Objectives

✓ Investigate the fodder potentiel of 58 ecotypes of Opuntia ficus indica grown in Morocco.

Assess the variations in nutritional parameters as a function of cladodes

Material and Methods

All the cactus ecotypes in this work were from the genus Opuntia
Forty eight ecotypes were concerned.
The cladodes samples were collected from Melk Zhar experimental station
The nutritionnel parameters were measured for three age classes : 4, 10 and 18 months.
Parameters measured: Dry matter (DM) Organic matter (OM), Crude protein (CP), Neutral detergent fiber (NDF), acid detergent fiber (ADF), acid detergent fiber (ADF), acid detergent lignin (ADL) and In vitro dry matter digestibility (IVDMD).





Results & Discussion

Some morphological data on studied ecotypes

	Number of new cladodes	Number of new fruits	Length cladode at 4 months	Length cladode at 10 months	Length cladode at 18 months	Width cladode at 4 months	Width cladode at 10 months	Width cladode at 18 months
Mean	20	82	25	37	40	15	18	19
Minimum	3	6	30	57	49	20	23	24
Maximum	54	257	22	28	36	14	13	16

Potential nutritive value of 58 ecotypes at young age

	DM (%)	Ash (%DM)	CP (%DM)	NDF (%DM)	ADF (%DM)	ADL (%DM)	IVDMD (%)
Mean	7.56	18.18	5.46	45.04	16.10	2.11	66.18
Minimum	5.28	11.20	3.1	37.98	10.91	0.38	53.26
	11.00	22.00	11.00	17 74	10.04	4.75	70.4



Linear relationship between some parameters





Linear Regression Equations of nutritional parameters on cladode age classes for ten ecotypes and two controls









AGRD-2-00 (Control)	MLKZR-1-01	ZTCHK-1-01	Ola-2-01
TLBGD-1-01	TLUN-1-01	OLDYC-1-01	ATK-1-01
SBGDR-1-01	SKRA-1-01	OZGHT-2-01 (Control)	Olc-1-01

Conclusion

 $\sqrt{}$ Within the fifty eight ecotypes investigated, ten of them showed an interesting crude protein level that exceeded 7% DM at a young age.

✓ Variations in nutritional parameters with cladode age are similar to other fodder sources.

 $\sqrt{}$ The interesting crude protein level of the ten ecotypes could not be maintained with advancing age.

 $\sqrt{\text{This work is in progress to investigate the protocol reproductibility}}$.