Effects of Treatments on Fermentation Quality and Nutrition Ingredient of Small Reed

Yusup Yusanjan
Xinjiang Agricultural University, China

Ainiwaer Aishan
Xinjiang Agricultural University, China

Guangwei Zhao
Xinjiang Agricultural University, China

The XXI International Grassland Congress / VIII International Rangeland Congress took place in Hohhot, China from June 29 through July 5, 2008.

Proceedings edited by Organizing Committee of 2008 IGC/IRC Conference

Published by Guangdong People's Publishing House

Effects of treatments on fermentation quality and nutrition ingredient of small reed

Yusanjan· Yusup , Ainiwaer· Aishan ,ZHAO Guang Wei
College of Animal Sciences ,Xinjiang Agricultural University ,Urumqi 830052 ,China .E-mail :xiniwaru@126 .com

Key words : phragmites australis ,growth of period ,ensiling ,fermentation quality ,nutrition ingredient

Introduction Xinjiang small reed is a large perennial rhizomatous grass ,it growing especially in alkaline and brackish environments .Ruminants graze this grass as energy a source ,but maturity is unpalatable .Reed Ensiling may be increase digestibility .The objective of this study was to analysis to its quality and its ingredients in the treatments .

Materials and methods The experiment was conducted in the Urumqi ,Xinjiang of China .Time :2006 .5～2007 .7 .period of growing heading period ,florescence ,form seed period as tests the material ,each of growing period reed was being used five kind of treatments(fresh grass ensilage ,fresh grass +10 .0g(15 .0g)molasses/kg， fresh grass +2 .0 ml (3 .0ml) formic acid /kg .)It cut at about 1cm length ,ensiled in a 1 liter silo ,respectively .additives were sprayed mixed with ensiling materials .for 50d .Tests humidity ,the pH ,DM ,CP ,NDF ,ADF .Used SPSS software .

Results and discussion

Table 1 *The chemical composition of Xinjiang Small Reed fresh grass and silage ;(ABC $P<0.01$;abcd $P<0.05$)*

item / ingredient	Fresh grass (Comparing group)	Fresh grass ensilage	Fresh grass+ molasses		Fresh grass + formic acid	
			10g/kg	15g/kg	2ml/kg	3ml/kg
pH heading		5 .91±0 .19^{a}	5 .21±0 .1^{a}	4 .95±0 .01^{b}	4 .53±0 .71^{b}	4 .82±1 .31^{b}
florescence		5 .77±0 .03^{a}	5 .49±0 .02^{b}	5 .33±0 .04^{b}	4 .43±0 .03^{c}	4 .41±0 .17^{c}
form seed		5 .17±0 .02^{a}	5 .27±0 .06^{a}	5 .18±0 .03^{a}	4 .77±0 .07^{c}	4 .29±0 .01^{b}
DM% heading	29 .17±0 .73^{B}	45 .19±0 .07^{A}	47 .09±0 .34^{A}	44 .73±0 .53^{A}	45 .92±3 .16^{A}	45 .09±1 .03^{A}
florescence	40 .10±0 .61^{B}	47 .85±1 .00^{A}	47 .32±0 .21^{A}	47 .43±0 .04^{A}	48 .06±1 .20^{A}	47 .25±1 .76^{A}
form seed	45 .59±0 .42^{C}	58 .64±1 .77^{AB}	57 .73±0 .15^{AB}	56 .49±0 .35^{B}	60 .34±0 .12^{A}	60 .39±0 .27^{A}
CP% heading	8 .28±0 .14^{b}	8 .73±08^{b}	9 .25±043^{ab}	10 .33±1 .37^{ab}	10 .81±1 .2^{a}	9 .76±0 .51^{ab}
florescence	6 .81±0 .14^{b}	8 .09±0 .15^{a}	8 .43±0 .22^{a}	8 .68±0 .28^{a}	8 .53±0 .22^{a}	8 .37±0 .12^{a}
form seed	6 .39±0 .15^{A}	5 .42±0 .14^{ACD}	6 .29±0 .36^{AB}	5 .67±0 .08^{BC}	4 .80±0 .01^{D}	4 .85±0 .08^{D}
NDF% heading	71 .78±0 .19^{Ab}	72 .75±0 .48^{Aa}	71 .13±0 .24^{AB}	70 .6±0 .02^{ABb}	71 .6±1 .20^{AB}	68 .7±0 .84^{Bc}
florescence	72 .97±0 .13	73 .41±1 .25	73 .10±1 .51	73 .96±0 .12	74 .45±1 .12	74 .97±1 .16
form seed	73 .73±0 .46	75 .99±1 .59	74 .75±0 .28	75 .94±0 .19	75 .41±1 .53	75 .28±0 .28
ADF% heading	51 .19±0 .21	51 .79±1 .08	51 .76±1 .02	50 .80±0 .95	52 .25±0 .81	52 .22±0 .01
florescence	52 .25±1 .20	52 .21±0 .63	51 .24±1 .19	52 .43±1 .34	50 .31±0 .64	52 .20±0 .44
form seed	57 .01±0 .14	52 .99±0 .78	53 .80±1 .51	56 .05±2 .87	53 .71±1 .23	57 .08±2 .61

In this experiment was used in two chemical additives(molasses and formic acid) .The pH of formic acid treated silage was reduced($P<0.05$) than the molasses treated silage .Therefore ,fresh grass adds 3 .0ml formic acid /kg is the most best treatment .In the period of growing of Reed ,the trending of CP is that heading period >florescence>form seed period .As far as CP is concerned heading period should be optimal harvesting time to ensiling .

References

Baran M .Z .Varadyov .(2002) .The *Common Reed (Phragmites australis)* as a Source of Roughage in Ruminant Nutrition ,(J) Acta Vet .Brno ,7 I :445- 449 .
Nai Ran .Cui .(1990) .The main feedstuff in Flora Xin jiang .The first vol[M] .Xin jiang people's press .Urumqi ,4-6 .