STUDIES ON BAGASSE AS ADSORBENT MATERIAL FOR AFLATOXINS IN RABBITS FEED

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ABSTRACT

A study using fifty four of males growing White New Zealand (WNZ) rabbits of aged 4 weeks with initial mean weight (750±50g), divided into 9 equal groups and were kept under the same conditions and conducted to determine the effect of feeding dietary bagasse as a source of natural dietary fiber and as adsorbent for aflatoxins or natural contamination in rabbit diets and to evaluate the using of dietary bagasse on growth performance parameters rabbits.The final of experimental period, LBW of tested rabbit groups cleared insignificantly, group fed basal diet supplemented with bagasse at level 6% (T_5) recorded the best LBW (**2279.2**g) followed by group fed diet supplemented low dose of AFs+ bagasse at level 3% **(T_7)** being **(2220.80 g)**.TG cleared insignificant differences among the experimental groups which cleared that group supplemented with dietary bagasse at level 6% **(T_5)** achieved the highest LBWG value (1532.0) followed by group fed dietary bagasse at level 6% and low dose of AFs (75ppb) (T_8) (1478.33g), compared with control basal diet(T_1) . FI (g) total feed intake than rabbit groups fed low dose of AFs+ detary bagasse at level 3%(**T_6**) and rabbit group dietary bagasse at level 6%(**T_4**) which significantly ($P<0.05$) consumed the lowest amount of total feed intake (4899.2 and 4411.5 g) compared with control and other perimental groups. FCR (g feed/g gain) was observed with group fed 6% bagasse (T_5) (3.65) followed by rabbit group fed 3% bagasse with low aflatoxin dose (75µg total AFs/kg diet) (T_6) being (3.67) and rabbit group fed 6% bagasse with low aflatoxin dose (75µg total AFs/kg diet) (T_7) (3.86) compared with other experimental groups. These results means that different levels of dietary bagasse up to 3 or 6 % adsorb aflatoxin dose up to 150µg total AFs/kg diet and improved feed efficiency . No mortality until the end of the week4 of experimental period. During the week 6, two growing rabbits died from treatment T_3 (which fed a high dose of aflatoxin). During week 8, one growing rabbit died in the T_2 (which fed a low dose of aflatoxin)..The best Economic Efficiency high aflatoxin dose +6% bagasse (T_9)(55.99 ; 2.36 and 125.53 ,respectively).after that , high aflatoxin dose +6% bagasse diet (T_9) recorded the best relative economic efficiency % from control diet (2.36 and 125.53) followed by the 6% bagasse diet (T_5) (2.27 and 120.74 %) followed by low aflatoxin dose +3% bagasse diet (T_6) (2.26 and 120.21 %) compared with basal diet (T_1) (1.88 and 100%) and other groups.Rabbits fed on TAF with low and high concentration showed a significant increase in serum ALT,AST, and ALP activity comparing with Basal diet control group (T_1) .The highest activity value for ALT, AST, and ALP were 43.67, 58.33 and 637.67 **(U/L)**, respectively, detected with the group treated with highest concentration of TAF alone (T_3).Total protein (TP), and albumin (ALb) of rabbits treated with two doses low, and high aflatoxins (T_2 , T_3) caused a significant decrease in both value when compared with control group T_1The data showed that significant increase in values of serum creatinine and urea of rabbits fed on low and high doses of aflatoxins (T_2 , and T_3) when compared with control group T_1 . Rabbit groups treated with low and high doses of aflatoxins (T_2 , and T_3) significant increase in liver , and kidney weight mainly at the end of the experimental period , compared with control rabbits had basal diet(T_1) .

Key words: Growing rabbits- aflatoxin - Adsorption - bagasse - growth performance

LIST OF ABBREVIATIONS

Abbreviation	Description
AFs	Aflatoxins
AFB_1	Aflatoxin B_1
AFB_2	Aflatoxin B_2
AFG_1	Aflatoxin G_1
AFG_2	Aflatoxin G_2
ALPh	Alkaline phasphatase
ALBU	Albumin
ALT	Alanine amino tranferase
AST	Aspartate aminotranferase
CF	Crud fiber
CP	Crude Protein
Creat	Creatine
Chol	Cholestrol
D	Day
DM	Dry matter
EE	Ether extract
EEF	European efficiency factor
EFf	Economical Efficiency
FC	Feed Cost
FCR	Feed conversion ratio
FI	Feed Intake
H	Hour
LBW	Live Body weight
LBWG	Live body weight gain
L.E.	Egyptian pounds
MR	Mortality rate
NRC	National Research council
OM	Organic matter
TLBW	Total Live Body weight
TLBWG	Total Live body weight gain

Abbreviation	Description
TFCR ……	Feed conversion ratio
TFI ……	Feed Intake
TP ……	Total protin
TAF ……	Total aflatoxin
TRT ……	Treatment
RG ……..	Relative Growth
SE ……	Standard Error

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