

PROCEEDINGS

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**VITH CONGRESS OF THE
INTERNATIONAL SOCIETY FOR ANIMAL
CLINICAL BIOCHEMISTRY**

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**University of Guelph,
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5-2 Use of Metabolic Profile in Ducks to Test the Fitness of Diets

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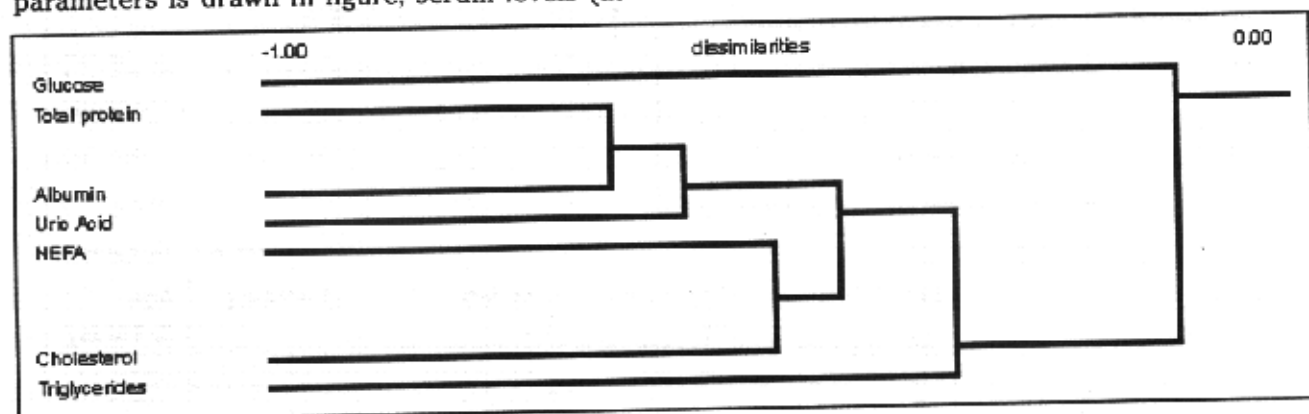
Metabolic profiles were monitored in 24 Muscovy and 24 Common ducks at 35 days and at the characteristic slaughtering age for each species (56 days and 77 days for Common and Muscovy, respectively). Both species of ducks were differently fed (diet A: a commonly used maize-Soya diet; diet B: sorghum in substitution of 50% of maize; diet C: maize completely replaced by sorghum). The tree diagram based on Pearson correlation coefficients between parameters is drawn in figure; serum levels (at

slaughtering) are reported in table (Av±S.D).

The use of multivariate analysis always allowed to differentiate diets and species with very high efficiency while not every parameters, singly analysed, significantly differed in relationship to diets. Cholesterol and triglycerides were higher in diets C than in the other diets (the reduction of M.E. caused by the introduction of sorghum in fact had been compensated by increasing the fat content of the diet).

The absence of significant differences between glucose levels in relationship to diets and the low linkage with the other parameters suggests the need to use other analytes to evaluate energy metabolism in ducks.

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HEMATIC PARAMETERS	Muscovy ducks						Common ducks					
	diet A		diet B		diet C		diet A		diet B		diet C	
Glucose mmol/l	10.9	.86*	10.9	.77	12.1	1.16	11.0	2.27	12.4	1.29	10.5	1.84
Cholesterol mol/l	2.9b**	.33	3.3ab	.35	3.7a	.38	4.1b	.69	4.5b	.56	5.6a	.49
Triglycerides mmol/l	1.4ab	.39	1.3b	.31	2.0a	.30	2.6b	1.64	1.4b	.30	4.4a	1.98
NEFA μEq/l	246b	43	277ab	127	434a	76	658	144	486	151	590	163
Uric Acid mol/l	180	33	197	94	280	69	386	83	329	90	294	67
Total protein g/l	41.2	2.89	38.4	3.49	39.1	4.65	35.3	3.82	34.7	1.71	34.9	2.70
Albumin μmol/l	214	22.6	207	30.9	182	26.0	172	20.2	190	22.9	152	24.1

*Av ± SD **Means bearing different letters differ (p<.05)