

Communication

Relationship Between Chest Girth and Live Weight in Tankasa Sheep and Red Sokoto Goats -Validation Tests of Prediction Equations

ISAAC SAMMANI RABO BUTSWAT

Animal Production Program

Abubakar Tafawa Balewa University

P.M.B. 0248, Bauchi, Nigeria

Small ruminants (sheep and goats) constitute the bulk of the meat supply (second only to cattle) and hide in Nigeria (Bukar *et al.* 1997). They are a ready source of funds in times of need and are readily affordable by even the low-income earners. The most numerous and well distributed breed of sheep in Nigeria is the Yankasa, while that of goats is the Red Sokoto. These breeds of small ruminants are sold at the market and at the site of slaughter slabs. One of the problems with the purchase of these animals is the subjective assessment of weight. Both buyers and sellers use the rather subjective method of sight and touch at the lumbar vertebrae.

While the use of weighing scales is common in the developed countries, the cost of a set of scales makes it impossible for the local dealers to procure one. Even though weigh bands are used in cattle, pigs and horses in these countries at a low cost, these tools are not readily available in Negeria. However, Osinowo *et al.* (1989) attempted to adopt this approach. Since animals may vary in size and shape with ecological niche, this study was undertaken as a validation test of their prediction equations.

One hundred and thirty one yankasa sheep and 109 Red Sokoto goats of live weight ranging from 2 - 53 and to 10 - 42 kg, respectively were used in this study. In both groups, the relationship between chest girth (x, cm) and live weight (y, kg) was clearly curvilinear and was well de-

finied by the following geometric regression equations (Osinowo *et al.* 1989).

1. Yankasa sheep: $Y = 0.00016x^{2.78}$, $r^2 = 0.99$
2. Red Sokoto goat: $Y = 0.0000658x^{3.038}$, $r^2 = 0.98$

Verification of both prediction equations showed close agreement between expected and actual live wight of goats ($r = 0.85$, $n = 109$) and sheep ($r = 0.97$, $n = 131$). The verification was carried out by taking the chest girth (cm) of the study animals, fixing the value into the regression equation and thus obtaining the expected weight. The expected values were then compared with actual weights of the same study animals using a weighing scale. Since there were close agreements between expected and the actual live weights, the prediction equations could be used for future estimation of bodyweight for these sheep and goats.

REFERENCES

- BUKAR S., A. ADAMU and J.S. BAKSHI. 1997. In *Nigeria National Agricultural Research Strategy Plan. 1996-2010*, p. 144.
- OSINOWO, O.A., S.A.S. OLORUNJU, E.O. OTCHERE, and L.A. ARIGI. 1992. Relationship between chest girth and live weight in Yankasa sheep and Red Sokoto goats. *Journal of Animal Production Research* 12(2): 69-71.

(Received 9 April 98)

(Accepted 15 January 99)

Author Index for Volume 21, 1998

A. Zaidon see Zaidon Ashaari
 Abdul Latif Mohmod 73-81

Burnham, C. P. 99-111
 Butswat, I. S. R. 129

Emran, A. K. 123-128

Gaffer, M. a. 123-128

Hamdan, J. 99-111
 Idris, A. B. 93-98

Mimi Linda Isa 113-122
 Mohd Hamami Sahri 73-81

Nor Yuziah, M. y. 83-92

Paridah, M. T. 83-92

Rayehan, H. 83-92
 Razali Abdul Kader 73-81
 Ruhana, B. 99-111

Sayed M. Zain Hasan 113-122

Tariful, M. I. 123-128

Zaidon Ashaari 73-81, 83-92

Subject Index for Volume 21 1998

- Acacia mangium 73-75, 78-80
Acacia auriculiformis 73-75, 78-80
Australia
 Queensland 73, 75, 79-80

Boric acid 83-85, 87-91
Brassica 93-97
Brassicaceae 93-94, 96
British Standard BS 373 73, 77

Diamondback moth (DBM) see *Plutella xylostella*
Durability 83-86, 91

Fertility 99-100, 104, 107, 109-110
Food plants 93-97

Hevea brasiliensis 83-85

India 94
Indonesia 73-75, 77-78, 80, 109
 Bogor 74
Insecticide-resistant management 93-94

Malaysia 73, 75, 77-78, 84, 94, 97, 99-100, 107, 109
Negeri Sembilan 84
 Pahang 100
 Sabah 74

Selangor 84, 100
Serdang 74
Malaysian Research Development Institute 94

Oil palm cultivation 99-102, 109-110

Papua New Guinea 73, 75, 79-80
Provenance 73-75, 77, 79-80
Plutella xylostella 93-97
Pycnoporous sanguineus 83-85, 90

Retention 83, 85, 87, 91
Rubberwood 83-85, 90

Saprolite 99-110
Specific gravity 73-80
Strength properties 73-74, 78

Thailand 73-75, 77-78, 109

Urea formaldehyde 83-84, 87, 90-91
USA
 Michigan 94

Weathering 99, 101-102, 104, 107-109
White rot fungus ss *Pycnoporous sanguineus*

Acknowledgements

The Editorial Board acknowledges the assistance of the following reviewers in the preparation of Volume Twenty One, Number 1 & 2 of this journal.

Prof. Madya Dr. Aminudin Hussin
Dr. Ani Sulaiman
Prof. Dr. Azizah Hashim
Dr. Baskharan Krishnapillai
Prof. Madya Dr. Dahlan Ismail
Dr. Faezah Abood Harris
Prof. Madya Dr. Halimi Mohd. Said
Dr. Ho Chung Tuck
Prof. Dr. Ho Yin Wan
Prof. Madya Dr. Kamis Awang
Prof. Madya Dr. Khatijah Mohd. Yusof
Prof. Dr. Khoo Khay Chong
Prof. Madya Dr. Lee Chnoong Kheng
Dr. Mohd. Arif Syed

Prof. Madya Dr. Mohd. Khanif Yusof
Dr. Mohd. Noor Yusof
Prof. Madya Dr. Rajan Amartalingam
Dr. Rashid Malik
Dr. Rokiah Hashim
Prof. Dr. Rosli Mohamad
Dr. Salmah Idris
Dr. Gary J. Samuels
Dr. Suhaimi Mohamed
Dr. Syed Sahar Syed Barakbah
Dr. B.J. Wood
Prof. Dr. Yusoff Hussein
Prof. Madya Dr. Zaharah Abd. Rahman
Prof. Madya Dr. Zainal Aznam M. Jalan