

أَعُوذُ بِاللَّهِ مِنَ الشَّيْطَانِ الرَّجِيمِ

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قَالَ تَعَالَى:

﴿الَّذِينَ تَرَى أَنَّ اللَّهَ أَنْزَلَ مِنَ السَّمَاءِ مَاءً فَأَخْرَجْنَا بِهِ ثَمَرَاتٍ مُخْتَلِفًا  
أَلْوَانُهَا وَمِنَ الْجِبَالِ جُدَدٌ بَيْضٌ وَحُمْرٌ مُخْتَلِفٌ أَلْوَانُهَا وَغَرَابِيبُ  
سُودٌ﴾ (٢٧) وَمِنَ النَّاسِ وَالْدَّوَابِّ وَالْأَنْعَامِ مُخْتَلِفٌ أَلْوَانُهُ،  
كَذَلِكَ إِنَّمَا يَخْشَى اللَّهَ مِنْ عِبَادِهِ الْعُلَمَاءُ إِنَّ اللَّهَ عَزِيزٌ غَفُورٌ  
﴿٢٨﴾

صَلَّى اللهُ عَلَيْهِ وَسَلَّمَ

فاطر: ٢٧ - ٢٨

# DEDICATION

*To*

*Those who taught me a word ...*

*To my father ...*

*To my mother ...*

*Brothers ...*

*Sisters ...*

*And all my friends ...*

*With great love and gratitude ...*

*Yassin*

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*Yassin ELamin Ahmed Adam*

## ABSTRACT

There is often a great need for livestock herdsman to know how much their animals weigh. For many reasons that may include, management decision such as how much to feed, when to breed, determination of dosages of various medications and vaccines and most important is when to market, for slaughter. Now it is the most used or easiest as the local farmers the most scientifically in-accurate method of weight determination is visual appraisal. Visual determination of the weight of animals is often faced by errors like using the same estimate for more than one breed of a particular species. The objective of this study was to determine the accuracy of prediction of body weight from some body measurements such as the body lengths (BL), height at withers (HW) and heart girth (HG) for Butana cows. These measurements were obtained from Butana cows (n=34). In the current study three mathematical models, linear, quadratic and cubic were used to estimate the relationship between body weight and body measurements. Cubic model provides the best prediction of these relationships. A significant ( $P < 0.01$ ) correlation was obtained between height at withers and body weight ( $r = 0.757$ ). Also the regression of body weight on height at withers had the highest coefficient of determination ( $r^2 = 0.574$ ) this study suggests that this variable would provide a good estimate for predicting live body weight rather than with the other body measurements for Butana cows. Also the multiple regression of body weight on height at wither and heart girth had high coefficient of determination ( $r^2 = 0.734$ ). However this study suggests that body measurements would provide a good estimate for predicting live body weight in Butana cows with more concentration on the H.W

## ملخص الدراسة

هناك في أغلب الأحيان حاجة عظيمة لرعاة الماشية لمعرفة وزن حيواناتهم للعديد من الأسباب التي قد تتضمن، قرار إداري مثل كمية التغذية، متى يلحق، تحديد الجرعات الدوائية واللقاحات المختلفة والأكثر أهمية متى يُسوّق للذبح. الآن الاستخدام الأكثر أو الأسهل للمزارعين المحليين قد يُصنّفونه علمياً جداً وبطريقة أدق من التقييم البصري. التقييم البصري لوزن الحيوان يُواجه في أغلب الأحيان بالأخطاء مثل استعمال نفس التخمين لأكثر من نوع واحد لجلب معين. هدف هذه الدراسة هو تقدير وزن الحيوان من بعض مقاييس الجسم مثل طول الجسم، الارتفاع عن الكاحل ومحيط الصدر لأبقار البطانة. هذه المقاييس الثلاث اخذت من 34 بقرة بطانة. واستخدمت ثلاثة نماذج رياضية من الدرجة الأولى ومن الدرجة الثانية ومن الدرجة الثالثة لتقدير العلاقة بين وزن الحيوان ومقاييس الجسم، وقد اعطى النموذج الرياضي المكعب افضل تنبؤ لهذه العلاقة باحتمالية اقل من  $(0.01) (P < 0.01)$ . ايضا الارتباط الذي حصل عليه بين وزن الجسم والارتفاع عن الكاحل كان قوي ومعنوى ( $r=0.757$ ). وكذلك انحدار وزن الجسم على الارتفاع عن الكاحل كان عنده التقييم الاعلى ( $r^2 = 0.574$ ). هذا المقياس او المتغير له تخمين جيد لوزن الجسم اكثر من المقاييس الاخرى في ابقار البطانة. ايضا وجد ان الانحدار المتعدد لوزن الجسم على الارتفاع عن الكاحل ومحيط الصدر له معامل تحديد عالي ( $r^2=0.734$ ) علي كل حال هذه الدراسة تقترح أن مقاييس الجسم (الارتفاع عن الكاحل، محيط الصدر) يمكن استخدامها في تقدير وزن الجسم بصورة جيدة وبالتركيز اكثر علي الارتفاع عن الكاحل.

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