



User Guide for the 4-H Livestock Weight Calculators

Cody Zesiger, Joshua Dallin, Matthew Garcia, Nicole Reed

USU Extension created the livestock weight calculators to assist youth and their leaders. The web URL is <https://extension.usu.edu/4H-Livestock-Calculator>. The calculators can be used to reliably predict a market animal's weight as well as the average daily weight gain. The calculators' design includes examples for bovines (beef), porcines (swine), ovines (sheep), and caprines (goats), but they are useful for calculating the values described above for many other species. Additionally, the calculators work well when environmental conditions remain relatively constant, e.g., housing, rations, exercise, etc. If a market animal's living conditions change, then the accuracy of the calculators may be diminished. Before you use the calculators you will need the following information:

- Two separate weight measurements for the market animal.
- The number of days in between the two measurements.
- The number of days until the fair.
- The date of the most current weight measurement.

How to Use the 4-H Livestock Calculators

1. Go to <https://extension.usu.edu/4H-Livestock-Calculator> from any internet-connected device. The website works well on major browsers, including mobile versions.
2. Select your animal's species by clicking on the corresponding image. For example, if you

wanted to predict a steer's final weight, the image of the steer would be selected.

3. If the average daily weight gain is already known, use the predicted fair weight calculator, see Image 1. If the average daily weight gain is unknown, use the average daily gain calculator to calculate it first, see Image 2.
4. Enter the information for each of the fillable fields into the correct calculator.

Example: A youth is going to use the calculators to predict the final weight of his/her market steer. The youth doesn't have the average daily gain (ADG) calculated yet so that the youth will use the average daily gain calculator first. They have two weight measurements. The first weight (624 lbs) was obtained 100 days before the second weight (870 lbs). The youth inputs the weights and days, as seen in Image 2. The calculator automatically calculates the steer's ADG of 2.46 lbs/day, as seen in Image 2. The youth then enters that ADG, the animal's second weight, and the number of days until the fair from the date of the second weight as seen in Image 1. The predicted weight will automatically be calculated and displayed (1228 lbs) as seen in Image 1.

5. After recording the results, click the reset button to calculate the values for a new animal.

Predicted Fair Weight Calculator

Use this calculator to predict a steer's final weight for your Junior Livestock Show.

How it works:

The number of Days until the fair are multiplied by the average daily weight gain and then added to the animal's current weight.

Example:

(Days until the fair [146 days] x average gain [2.45 lbs/day]) + current weight [870 lbs] = Predicted Weight [1228 lbs]

Starting Weight:

Days Until Fair:

Average Daily Gain:

Predicted Weight =

Reset

Image 1. The predicted fair weight calculator with values for the example detailed in step 4.

Average Daily Gain Calculator

Use this calculator to estimate a steer's daily gain.

How it works:

The animal's initial weight is subtracted from its current weight. The difference in weight is divided by the number of days that occurred between weights.

Example:

(Current weight [870 lbs] - initial weight [624 lbs]) / days [100] = 2.46 lbs/day

Current Weight:

Initial Weight:

Days:

Average Daily Gain =

Reset

Image 2. The average daily gain calculator with values for the example detailed in step 4.

Utah State University is committed to providing an environment free from harassment and other forms of illegal discrimination based on race, color, religion, sex, national origin, age (40 and older), disability, and veteran's status. USU's policy also prohibits discrimination on the basis of sexual orientation in employment and academic related practices and decisions. Utah State University employees and students cannot, because of race, color, religion, sex, national origin, age, disability, or veteran's status, refuse to hire; discharge; promote; demote; terminate; discriminate in compensation; or discriminate regarding terms, privileges, or conditions of employment, against any person otherwise qualified. Employees and students also cannot discriminate in the classroom, residence halls, or in on/off campus, USU-sponsored events and activities. This publication is issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Kenneth L. White, Vice President for Extension and Agriculture, Utah State University.