

are estimates of what the calves would have weighed if they had been raised under the same environmental conditions (i. e., if they were all born the same year, and were of the same sex, and their dams were the same age, etc.). The adjustment of records for environmental factors requires a knowledge of exactly which ones affect weaning weights in that particular herd and also reliable estimates of their magnitudes. Due to the disproportionate nature of beef cattle data, accurate estimates of the magnitudes of these effects are not always easy to obtain. However, if accurate and complete records are available, any beef cattle breeding specialist can calculate them as they are needed.

If appropriate estimates of these factors are available, it is relatively simple to adjust the weaning weight of each calf. Some adjustment factors are multiplicative in nature and some of them are simply additive constants. The following example is an illustration of correcting the weaning weights of two calves to a common basis by using the additive constants shown in Table 2.

Calf 1 had a 205-day weight of 401 pounds and was a steer born in December 1959 to a lactating 7-year-old dam; and calf 2 had a 205-day weight of 313 pounds and was a heifer born in August 1959 to a non-lactating 2-year-old dam. In order to adjust these weights, we add the negative of the appropriate effects to the 205-day weights.

Thus:

	Calf 1 (lbs.)	Calf 2 (lbs.)
205-day weight	401.0	313.0
Year adjustment	30.0	30.0
Sex adjustment	— 3.0	17.3
Age of dam adjustment	— 15.8	30.1
Lactation status adjustment	2.4	— 2.4
Season of birth adjustment	— 8.3	10.1
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Adjusted weight	406.3	398.1

If these correction factors are accurate, we have obtained a more valid estimate of the true production of the dams of the two calves. However, correction factors should not be used indiscriminately. One should always be sure that he has accurate factors for his particular herd.