

What Factors Determine Prices of Semen?

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Artificial insemination (A.I.) and progeny testing have made available to farmers genetic resources of superior quality enabling them to make rapid genetic improvement at reasonable costs. With new, economical and effective means of estrus synchronization, the use of A.I. in the beef industry should increase dramatically.

What items of information do farmers consider in deciding the value of the genetic resources offered by A.I. studs? The items

of information can be thought of as components of semen price. Semen prices of Angus and Polled Hereford bulls available from three A.I. studs were studied to determine the relative importance of the components influencing beef semen prices. Only bulls with complete progeny test results were included in the study. Bulls with limited semen supplies were excluded. The information studied consisted of semen price, breed of bull, expected progeny differences (EPD) for birth weight, weaning weight, yearling weight, maternal breeding value and the

accuracy value for each of these estimates. If buyers and sellers of genetic resources consider individual traits, then a regression analysis should reveal the relationship between semen price and genetic traits. The primary interest in this study was to look at the effects of growth traits and maternal breeding value on semen price.

Yearling weight and weaning weight are highly and positively correlated. Increases in one generally result in increases in the other. However, yearling weight is usually the trait emphasized by animal breeders. In this study, traits had a very significant positive relationship to semen price. It appeared from these results, though, that farmers paid more attention to the EPD for weaning weight.

Weaning weight and maternal breeding value have the highest positive relationships with price of any of the traits considered.

Since birth weight is also positively correlated with weaning and yearling weight and calving difficulties, it seemed reasonable to expect that birth weight would have a negative effect on price. The results confirmed that, in fact, such a negative relationship does exist between birth weight and semen price. However, the relationship was not a very strong one indicating that farmers are clearly trying to choose bulls with high EPDs for weaning and yearling weights while trying to avoid excessive birth weights.

Another trait that had a large influence on semen price of bulls in these three studs was maternal breeding value. It appears that cattlemen buying semen look for bulls that are growthy and that will sire daughters that will milk.

If the beef producer is a "risk averse profit maximizer," then the price of semen would be positively related to the accuracy of the EPDs. In other words, he would pay more for semen from a bull that has a more accurate evaluation. In this study, accuracy was not important. However, it cannot be concluded that farmers are not risk averse or do not consider the amount of information available for evaluating a bull for a given trait, because the range for the accuracy values included in this sample was very small.

Although a larger, more complete study would be required to draw any definite conclusions, it certainly appears that buyers are considering the genetic evaluations of bulls when making semen purchases. Weaning weight and maternal breeding value have the highest positive relationships with price of any of the traits considered while birth weight has a small negative effect on semen price.

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