

## ECONOMICS

# Carry capacity influences leased land value

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### Profits from

grain and livestock enterprises generally impact the rental rates on lands that are used to grow these commodities.

During highly profitable times, rental rates for land usually trend higher. Likewise, when profits are lower, rental rates will trend lower. How quickly rental rates adjust depends to a certain degree on how fast profitability changes for the underlying commodity.

A good example of rental rates adjusting to profitability can be observed for corn. General profitability of growing corn during the period of 2008 to 2013 trended stronger. In the state of Illinois where corn is commonly grown, the University of Illinois reported<sup>1</sup> rental rates moved from an average of \$152.72 per acre in 2008 to an average of \$196.13 in 2013. This is an increase of about 28 percent.

Current projections are for the profitability of the cow-calf sector to set record highs for 2014. These record profits are also having an impact on rental rates for pastureland where cows are grazed.

Pastureland leased for grazing cows is commonly negotiated by the acre. Some consideration is given to

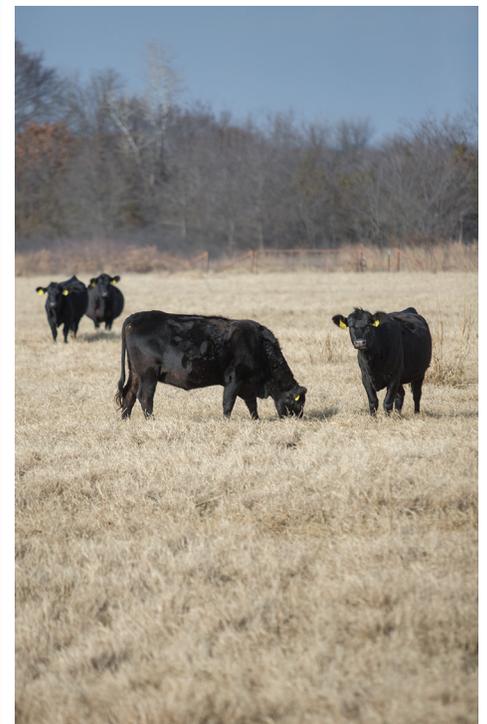
the amount of open ground, type of base grass and condition of the stand. Another factor is the animal unit year (AUY) – the carrying capacity in terms of the number of cows that can be grazed on the property during the growing season or year-round without jeopardizing the integrity of the grass stand. Often, however, AUY capacity is neither estimated nor considered.

An AUY is more specifically defined as the amount of grass needed to sustain a 1,000-pound cow for 12 months and her calf for seven of those months. It is generally accepted that an animal unit will consume an average of 26 pounds of grass per day. Estimating the number of AUYs provides the amount of potential grass or “feed” the property is capable of producing. Knowing the carrying capacity of a property is helpful to the landowner by allowing them to know how much grass or feed they have for sale and, likewise, for the tenant to know what he or she is buying. Not many livestock owners purchase a sack of feed without knowing what it weighs or having an idea of the quality of feed in the sack.

Rental rates that are based on carrying capacity provide information both to the landowner and the tenant concerning the amount of feed being transacted. This knowledge should

allow each party to make a more informed decision, which could lead to a more equitable and long-standing agreement between the two parties.

A variable in carrying capacity for land with improved forages, e.g., bermudagrass, love grass or old world bluestems, is fertilizer. Applying nitrogen fertilizer to these forages can increase carrying capacity considerably. The cost and application of the fertilizer is generally the responsibility of the tenant. Therefore, carry- ▶



## ECONOMICS

ing capacity is normally calculated without any fertilizer added. However, because the potential is there for increased forage production, land with an improved forage base will generally rent for a higher amount than land with a native grass base.

Once carrying capacity is determined, a price can then be negotiated for the lease value of the property. As

mentioned earlier, the lease value is often correlated to the general profitability of the cow-calf sector. An index can be used to capture or indicate profitability. An index used in some leases to stay current on profitability is the price per hundredweight of a 500-pound steer calf the first week of August. August is used because it is often the average price for the year.

The price per hundredweight becomes the annual grass lease fee for the year per animal unit. For example, if a 500-pound steer calf was bringing \$300 per hundredweight, then the annual lease per cow per year would be \$300. This amount would not include care for the animals, only grass. ■

<sup>1</sup>[www.farmdoc.illinois.edu/manage/cash\\_rent\\_illinois.pdf](http://www.farmdoc.illinois.edu/manage/cash_rent_illinois.pdf)