It is common knowledge that beef cattle either inherit or develop an adaptability to climates in which they were produced over many generations. This is why Brahman cattle perform well in tropical and subtropical climates around the world, and perform less well in temperate climates. The reverse is true for cattle produced in temperate regions (Angus, Hereford, Charolais, and others).

Adaptability of cattle to a specific environment is even more refined than that expressed above. Years ago many cattle operations existed on the muck or organic soils around lake Okeechobee. Cattlemen often stated that one could move breeding cattle from sand-land pastures to the muck, but not visa-versa. For some reason breeding cattle produced on muck-land for several generations lost their adaptability to sand-land pastures, even in Florida. The reason for this change could be related to the better year-round availability of higher quality forage grown on muck-soil pastures, or the absence of liver flukes on muck soil pastures.

In a classical experiment to study environmental/genetic interactions in beef cattle Dr. Marvin Koger and co-workers transferred Florida Hereford cows to Montana with similar cattle kept in Florida. Like wise, Montana Hereford cows were transferred to Florida with similar cows kept in Montana.

The results of this study showed that when cows of the same breed are removed from their native environment they perform less well than counterparts that remained in their native environment. The negative response caused by this change in environment was much more drastic for Montana Herefords moved to Florida than Florida Herefords moved to Montana.
Although the above study compared climatic extremes that demonstrated environment/genetic interactions in beef cattle, similar responses can occur with cattle a lot closer to home. This is especially true for bulls used in subtropical south Florida. There are several problems encountered. The first being that non-adapted bulls do not hold up under our hot weather. Often those bulls last only a couple of years of breeding. Secondly, if non-adapted bulls are used over several generations it will affect the adaptability of the cow herd if replacement heifers are retained.

An excellent example of European cattle that were adapted to Florida's climate is the Charolais herd developed by Henry Douglas in Zephyrhills over a 50 year period. This herd produces slick haired Charolais cattle proven to be very productive as straightbreds and especially as crossbreds (Brahman x Charolais) when used in a breeding project conducted by Mac Peacock at the Range Cattle Research and Education Center.

Adaptability is one trait needed in Florida cattle, but it has to be compromised to some degree to make improvements in other important traits like feedlot performance and carcass quality. So in closing let's say Florida cattlemen should buy bulls as close to home as possible and still obtain the genetics essential to improving economically important production traits.

For questions or comments regarding this publication contact Findlay Pate