

How To Select Sires For Greatest Herd Improvement

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Herd improvement really means one thing only, maximizing profits over both the short and long term. Under most economic conditions and on most dairy farms, our best guess from the genetic standpoint is that we should try for maximum genetic increase in milk yield while maintaining milk of legal composition.

Let's first look at several other traits. Reproductive efficiency must be listed first in this group, yet it has a low or zero heritability and thus will not respond to selection, but it will respond to improved management. Body size is important only as it relates genetically to milk yield. Research in 1969 continues to show that we should not select for larger cows per se. Type classification scores have value to registered dairy cattle breeders but little or none to most dairymen. The hoped for relationship between desirable type (strong feet and legs, for instance) and longevity can not be demonstrated by research, although we can show that high producing first-calf heifers do live longer.

Most genetic change (over 90%) in milk yield comes from selection of sires. Female selection contributes very little. The best device for sire selection now available to us is the predicted difference, the USDA sire proof based on DHIA records.

Present recommendations of nearly every research geneticist are to select only sires with the highest possible predicted difference for milk yield, while maintaining legal composition. Where bulls of only low repeatability are available, use several.

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