

## **ANOTHER LOOK AT DAIRY CROSSBREEDING**

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**Crossbreeding among dairy breeds appears to be on the increase. Articles in two recent issues of a major dairy farm magazine have focused on the subject. The first dealt with the experience of dairy farmers practicing it. The second contains observations and comments of scientists who have either conducted research in this area or who are familiar with the research. Two invited papers were presented on the topic at the annual meeting of scientists conducting dairy, livestock, poultry and meat science research. A major international artificial insemination organization based in the US has announced that a crossbred bull has been entered into their stud.**

**Crossbreeding has been used in modern beef, sheep, poultry and swine breeding for the last fifty years and more intensely in the last thirty years. Not so with dairy cattle breeding. Dairy crossbreeding studies from the 1920's through the 1960's showed benefits for some dairy crossbreeds similar to that found in the other farm animal species compared to the average of their purebred parents. These benefits were termed heterosis or hybrid vigor. However, for milk yield, no crossbred had ever been shown to have milk yield superior to the best purebred, Holstein, even though some were equivalent.**

**Why does there seem to be this sudden interest in dairy cattle crossbreeding on the part of the commercial dairy industry? Some observe that selection within the dairy breeds over the last 50 years is responsible for a 50 % increase in genetic capacity for milk yield but now successful reproduction is harder to achieve and longevity or stayability in modern dairy herds may be declining. Improved general fitness, reproduction and survival are most often recognized as benefits of crossbreeding. Crossbreeding may be seen as a possible answer to questions of reproduction and survival in dairy by those with experience in crossbreeding or who are familiar with the scientific information. There is evidence that inbreeding in dairy breeds is on the increase, and that reproduction and survival suffer when inbreeding increases. Inbreeding results from mating related individuals as potential parents. Crossbreeding automatically reduces inbreeding to zero because the parents are from different breeds and thus unrelated.**

**Other aspects of this subject which will be discussed subsequently are: 1) What the research on dairy crossbreeding reveals, 2) How a crossbreeding system can use both breed differences and heterosis to an advantage in a breeding program and 3) The considerations for implementing a crossbreeding system with dairy cattle.**