

GENETICS AND BREEDING

Comparison of Ten Friesian Strains in Poland for Yield Traits from First Three Parities¹

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ABSTRACT

Milk yield, fat yield, and fat percentage for the first three parities were compared for crosses of Friesian strains from Canada, Denmark, Israel, The Netherlands, New Zealand, Sweden, the United Kingdom, the US, and West Germany with Polish black-and-white cattle. Mixed model multitrait BLUP solutions for milk yield ranked Holstein strains (US, Canada, and Israel) and New Zealand Friesians higher than European Friesian strains for all three parities. Largest difference for milk yield between highest ranking US strain and lowest ranking Polish strain was 1002 kg for first lactation. Rankings for fat yield were similar to those for milk yield. For all three parities, the New Zealand strain ranked highest for fat percentage and the US strain lowest. Although rankings were consistent across parities for all yield traits, differences between Holstein and Friesian strains decreased as parity increased. Holstein strains maintained

their superiority for milk and fat yields for all three parities despite difficult environmental conditions and a feeding regimen worse than in their country of origin.

(Key words: yield, Friesian, Poland)

Abbreviation key: FAO = Food and Agriculture Organization, HYS = herd-year-season, UK = United Kingdom.

INTRODUCTION

Large-scale importation of North American Holstein-Friesians to Europe began in the early 1970s. First reports, particularly from West Germany and The Netherlands, indicated these Holsteins to be superior to European Friesians in dairy performance (9). The growing exchange of semen among dairy populations prompted the United Nations Food and Agriculture Organization (FAO) to begin an international comparison of several Friesian strains (7). The project was designed to compare genetic merit of the progeny of bulls from 10 Friesian strains for growth traits and first lactation milk production on Polish state commercial farms. Only first lactation records were used for ranking of strains in the FAO-coordinated research analysis.

After first lactation, surviving daughters continued to produce in Poland, usually in the same herds. The purpose of this study was to compare the Friesian strains for yield traits based on the first three parities of daughters from the FAO trial.

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The International Friesian Strain Comparison Trial A World Perspective

Mark Steyvers



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