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Technology Adoption and Its Impact on Production Performance of Dairy Operations

Review of Agricultural Economics

Volume 22, Number 2
Fall/Winter 2000

American Agricultural
Economics Association
Ames, IA

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Impact on Production
Performance of Dairy Operations*

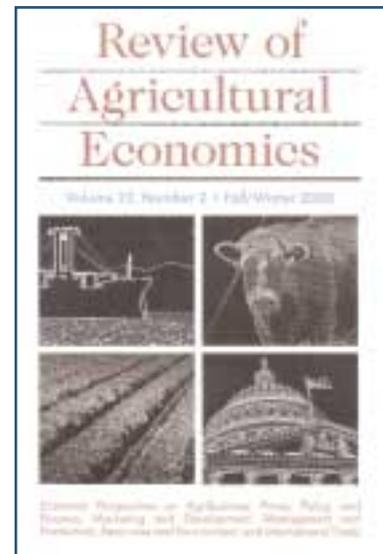
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Technological advances in

the dairy industry have contributed greatly to the financial success of farmers through increased productivity and lower per-unit costs. Average milk production per cow in the United States from 1994 to 1998 increased by nearly 40 percent (from 12,505 lb. to

17,192 lb.). Contributing factors toward the rise in productivity in dairy production include use of technologies that fall within two broad categories: capital intense (e.g., advanced milking parlors) and management intense (e.g., use of record-keeping systems for total management). The study examines the determinants of production performance of a sample of dairy farms and uses multinomial regression procedures and data from the 1993 Agricultural Resource Management Study (formerly known as Farm Costs and Returns Survey) with special emphasis given to the role of capital- and management-intensive technologies. The study also provides a microeconomic analysis of farm-level economic competitiveness that could be achieved through more efficient milk production.

Findings show that the adoption of a capital- or a management-intensive technology lowers the likelihood of a farmer's being in the lowest quartile of production performance. The economic costs of milk production by the top-performing producers are estimated to be 53 percent lower than those by the low-performing producers, providing evidence of the importance of improved production practices.