

● **Heat Tolerance**

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the shoulder, a large dewlap, and long ears — all trademarks of heat tolerance, it was thought.

The Indian cow, so the fallacy went, carries fat in her hump instead of spreading it all over her body where it interferes with the cooling system. Her dewlap and big ears, according to the old story, work like a radiator. When the animal gets too hot, the body causes blood vessels in the skin to dilate to get rid of more heat.

Checking into the old beliefs, dairy specialist R. E. McDowell and other ARS scientists found that the hump of Indian cattle contains no more fat than other fleshy tissues of the back. In fact, bulls of English breeds have tissues similar to those that form the hump of Indian cattle, but instead of standing erect, the tissues are stretched along the top of the neck.

The dewlap and ears turned out to be poorly equipped as a radiator, since there are far fewer blood vessels in these extra skin areas than in skin

covering other portions of the body.

To demonstrate the fallacy of the "fat and radiator" theory even more clearly, ARS researchers removed the hump from Indian cattle by surgery, cut away the extra skin folds in the dewlap, and trimmed the ears to the size for Jerseys. The streamlining caused no measurable lowering of heat resistance.

Other widely held notions examined by ARS ranged from dead wrong ("English breeds lack sweat glands") to off base ("white hair coats help beat the heat"). Actually, all cattle can sweat and hair color makes little difference. Skin color, however, helps some — but it is the black coloring that's preferable, because it avoids sunburn.

The most heat-resistant cow, it turns out, sweats profusely and proficiently, carries a short summer haircoat, and has an oily skin. Indian cattle have a higher group-average score than English breeds on all these counts; but some individual English animals have the same effective de-

1965 Crop Insurance Protection Tops Half Billion Dollars

With the 1965 crop year well under way, an estimated \$580 million of farm crop production investments are protected by Federal Crop Insurance, the U. S. Department of Agriculture announced recently.

"This \$580 million of protection is the highest in the history of Federal Crop Insurance," reported Manager John N. Luft, of the Federal Crop Insurance Corporation.

"Acres and number of crops protected by Federal Crop Insurance have risen again this year. Over 455,000 acres are now insured against production cost losses from natural hazards," Luft said. "As improved management, program, training, and promotion practices take fuller effect," he said, "we hope to increase this basic protection to a billion dollars within the next five years."

Some specialty crops—such as citrus, raisins, cherries and peaches—are insured only against loss from particular causes such as freeze and wind damage. The service operates like any other insurance plan, with farmers paying yearly premiums based on local crop production and loss history, and with payments for loss being paid from this premium fund.

"Federal Crop Insurance now protects farmers in 1,213 counties in 36 States. In counties where winter wheat is insured, Crop Insurance fieldmen are now taking applications for the 1966 crop," Luft said.

Federal Crop Insurance is a voluntary, self-help service offering farmers protection of crop investments against loss from all natural hazards to most of the 24 crops on which


the insurance is available. "This is a cooperative program," Luft said, "which helps growers take a businesslike approach to the problem of protecting their capital investments, their credit and their community economic strength. When crop damage hits an area, it hurts everyone for miles around—merchants, equipment dealers, bankers—every business and profession feels the loss. "For the 1964 crop year, over 60,000 loss claims for more than \$30 million were paid."

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