

VETERINARY MEDICINE

# Vast Savings Brought About Through Use of Tuberculin

## Great Improvement in Health of Herds During 20 Years Told by Government Scientist at International Congress

**F**ORTY million dollars lost every year to the American cattle industry in the pre-war period has been turned into a saving through elimination of tuberculous animals, Dr. John R. Mohler, of the U. S. Department of Agriculture, told the Thirteenth International Veterinary Congress in Zürich.

In 1917 the incidence of tuberculosis was 4.9 per cent. in American cattle herds; in 1937 the figure had been forced down to 0.4 per cent. During the twenty-year period about 3,500,000 diseased cattle had been detected and removed from the herds.

Crucial test comes at the slaughter house. If post-mortem examination necessitates the condemnation of a butchered animal at the threshold of the market, it is literally a dead loss. During the fiscal year ending June 30, 1938, such condemnations in American packing plants numbered only 6,284, Dr. Mohler reported; as recently as 1933 the year's condemnations totaled 23,214.

The test universally used to detect tuberculous cattle is the injection of tuberculin into the skin. Tuberculin is a vaccine-like preparation made from bacteria grown in flasks on an artificial medium. If the animal is healthy, nothing happens after tuberculin injection. But if it is diseased, an acute local inflammation appears around the point of injection. The animal must then be destroyed.

The great majority of competent veterinary surgeons accept the tuberculin test as valid and accurate, Dr. Mohler declared. Despite vehement opposition by a relatively small group, he stated, important court decisions have sustained the position of the profession and of the U. S. Department of Agriculture. A final check on the accuracy of tuberculin testing is furnished by the routine post-mortem examination of all beef carcasses in packing plants, which number about ten million a year.

The Department of Agriculture now has a list of accredited tuberculin-tested herds, in which three successive tests have shown no diseased cattle present.

There are now more than 275,000 such accredited herds in the country.

The Department also has a list of what are termed "modified accredited areas." These are areas, usually counties, in which tuberculosis has been demonstrated in less than one-half of one per cent. of the cattle, and all diseased animals removed. As of Jan. 1, 1938, 99 per cent. of all the 3,071 counties in the 48 states were on this accredited list.

*Science News Letter, September 3, 1938*

PSYCHOLOGY

## Four Sensory Capacities Underlie Musical Ability

**Y**OU need not be a great composer or an orchestra leader to be credited with the blessing of a musical mind.

Musical talent is bestowed on man in a great variety of forms and degrees, and the ignorant railroad worker enjoying the rhythm of his hammer blows has his share just as does the suave critic at the opera.

Underlying all musical ability are the four sensory capacities of apprehension of pitch, loudness, time and timbre, it is pointed out by Dr. Carl E. Seashore, psychologist student of music talent, in

analyzing the musical mind as part of his new book, *Psychology of Music*.

These four capacities, and their more complex forms, the sense of tone quality, of volume, of rhythm and of consonance, Dr. Seashore calls the four great branches of the musical family tree. They are inborn and are fully developed in the very young child. By the age of ten they can be measured, so that the child's native musical talent can be estimated before his training begins.

A great musician tends to have these four trunks of capacity branching out in balanced and symmetrical form, but in most of the less distinguished musical minds some one branch is dominant.

Musical achievement does not depend upon great capacity in all these lines, Dr. Seashore says, so long as the individual follows the line of his ability. If a person has only average sense of pitch, for example, he should not try to be a singer or violinist, but he may become a pianist of great distinction.

With the underlying trunk of sensory capacity, the musical mind has the ability to hear with his "mind's ear." He must live in a world rich in auditory images. He must be able to hear over music in memory and create new musical structures in his imagination.

The musician must be able to think musically. He must have musical intelligence.

And finally he must be able to feel musically, and express a wealth of emotions in music by esthetic deviation from the regular and rigid.

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Bears are clumsy and have poor sight, yet Yellowstone Park naturalists cannot convince all the tourists it is dangerous to feed bears from the hand—result: 56 hurt tourists reported so far in 1938.

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