

MEDICINE AND MANAGEMENT

By CARL TROOP, VMD



Vaccination essential to everyone's health

Vaccination plays a large part in modern preventative medicine, be it human or animal. It has come to be such a common practice in prevention of smallpox and measles, and brucellosis and erysipelas as well as many other human and animal diseases that it is almost taken for granted. There are vaccines for many diseases and new ones being developed every year. But without knowing how a vaccination works and what it can or cannot accomplish, one cannot appropriately determine which one should or should not be used.

Immunology is the study of those defenses against disease that depend on the specific activity of certain body cells or chemical components of the body fluids. As if nature had somehow made a mistake these same mechanisms that serve as protection can actually cause disease; that is reactions to drugs or insect stings or bites, hay fever, and other allergies.

Immunity or being immune to a disease depends upon a serum protein called antibody. Infectious diseases are those caused by bacteria, viruses, fungi and other very

tiny organisms. An infection of an organism into the "host" animal is not a normal state of being. In the absence of any body defense substances an organism can multiply in a living host and cause disease. The host will often react strongly to any foreign agent that penetrates its external defenses.

All individuals possess three types of protection against infectious disease. 1. They can be nonsusceptible or an absolute protection against a particular disease. For example, humans don't get hog cholera and cows don't get measles. 2. Natural resistance refers to the individuals resistance against any diseases to which it is susceptible. This can vary from individual to individual and from time to time with the same individual. (Some people get colds a lot easier than others). 3. Natural immunity is directed against specific diseases and depends upon the presence of natural antibodies in the blood.

As stated before, antibodies are protein elements in the blood. Foreign agents which gain entrance into the body have substances on them or are themselves called antigens. Antibodies react with antigens to dissolve or kill the invading organism.

In natural immunity the antibodies seem to be present without apparent previous exposure to or vaccination for

the specific disease. The concentration of natural antibodies is usually low.

Acquired immunity is that immunity which an individual develops at any time after birth. An individual, human for example, who recovers from plaque, cholera, yellow fever, or other various diseases is usually immune to second attacks of the same disease. Immunity is never absolute, however. The amount and potency of the infecting dose of organisms is important in determining whether a second attack occurs. An individual may possess sufficient immunity to protect against ordinary contact but not enough to protect against a massive exposure to the organism. Immunity varies from disease to disease also. The immunity that develops from smallpox, chicken pox, or mumps is often sufficient to protect against reinfection. However, little protection is provided after a case of pneumonia, influenza, or as everyone knows, by the common cold. The same is true of all animal diseases. Some provide long lasting solid immunity, some little or no immunity at all.

Actual infection is not the only means of acquiring antibodies needed for immunity. The antibody producing cells can be stimulated artificially by introducing into the body the organisms that cause the disease or some of their parts or products. These suspensions are commonly called bacterins or vaccines. Small amounts of sufficiently inactivated organisms may cause slight illness of short duration or only local irritation without clinical disease, but will stimulate antibody producing cells sufficiently to provide immunity of varying degrees, depending upon the individual and the particular vaccine.

Vaccines have not been developed for many diseases yet. In some cases the actual disease does not provide any immunity so it is difficult to develop a vaccine to do the job. But for many animal diseases there are a multitude of vaccines available. In cattle for example one could vaccinate for more than twenty different diseases. However, some of these occur only in certain areas of the country, and some have never been proven to provide immunity. Some vaccinations are quite effective but last for only a few months and need to be repeated at certain intervals. And there are some such as Brucellosis which provides a good degree of immunity for a lifetime. No vaccination is 100 per cent effective, it just provides some degree of protection, the amount varying from disease to disease. Just because a herd is vaccinated is no excuse to let your guard down.

Many vaccines are sold through stores and unfortunately many are unlawfully peddled by the unqualified people running the drug trucks on the road whose interest basically is making a sale. They have neither the training necessary nor the right by law to make recommendations concerning any vaccination program. Your veterinarian is best qualified to provide information for a vaccination program and is in the best position to determine which if any vaccines are necessary. He is also best able to provide quality vaccines and supervise a vaccination program. To look elsewhere for advice or products is asking for trouble, both healthwise and with the law. There have been many instances where the advice of a peddler was taken over that of a veterinarian.

Vaccinations can be a tremendous economical boon to any livestock program but they need to be selected and used with qualified supervision and assistance. Your veterinarian knows which diseases are prevalent in your area and which vaccines are best to prevent them. Just remember who you are going to call when the vaccination protection breaks down.

Pa. Fall farm labor up

HARRISBURG — Pennsylvania's farm labor force showed a 15 per cent increase this Fall, according to the Pennsylvania Crop Reporting Service. The shift in farm labor was reflected in a survey conducted during the week of October 9 to 15, 1977.

The total number of workers on farms in the commonwealth during the survey week was an estimated 134,000, a 17,000 increase from the comparable survey in 1976.

Farm family workers in Pennsylvania totaled 97,000 compared to 87,000 in 1976, an 11 per cent increase. Hired farm workers also showed gains, with 37,000 on farms this Fall, compared to 30,000 during last Fall's survey week. Field and livestock workers comprised 30,000 of the hired farm workers this October. Last year, field and livestock workers accounted for 20,000 of the 30,000 total hired farm labor force.

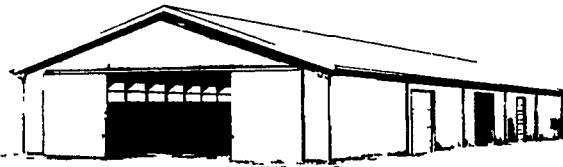
The average work week for Pennsylvania farm operators during the survey week was 46.4 hours, up 6.4 hours per week from October 1976. Other unpaid family workers averaged 39.6 hours and hired workers averaged 36.2 hours during the same period.

The category of family workers includes farm operators working on farms one hour or more each week, plus other family members who work 15 hours or more without receiving cash wages. Hired farm workers include all persons working one hour or more for cash wages during the survey week.

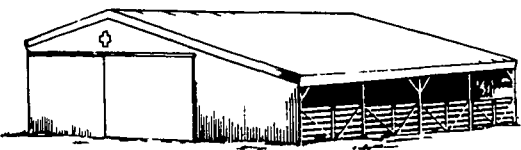
Pennsylvania farm wage rates for all methods of pay, converted to an hourly rate, averaged \$2.87 during the survey week. The average was \$2.77 a year ago. Field and livestock workers averaged \$2.66 per hour in the commonwealth, an increase of 14 cents from the previous October.

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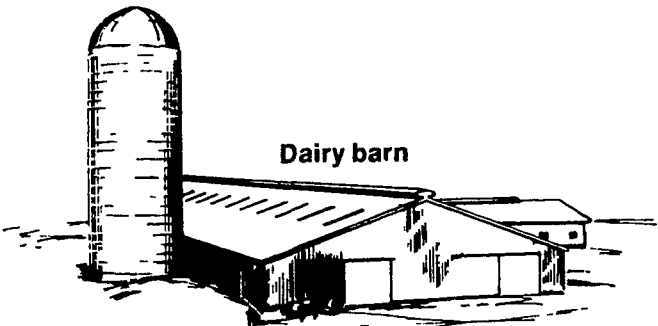
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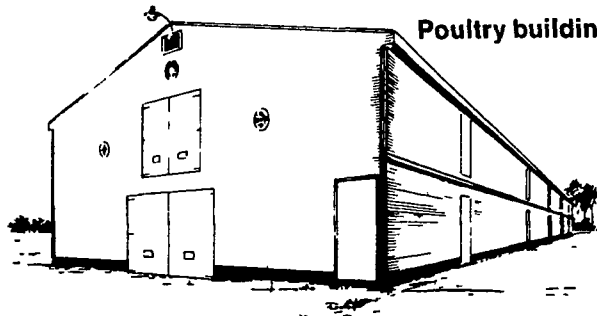
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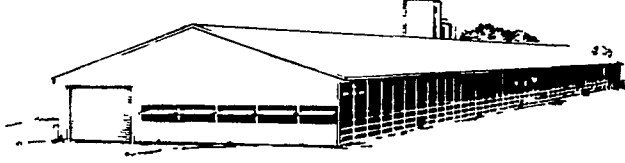
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