

lower Michigan peninsula, over much of Ohio, and into western Pennsylvania. A similar area, though less extensive, appears over eastern Pennsylvania, central Maryland, and northern Virginia.

The average number of hailstorms diminishes rapidly with approach to the Great Lakes, save in eastern Michigan, and is comparatively small in all southern and far western districts, though damaging hailstorms may occur at long intervals as far south as extreme southern Florida, and in the Rio Grande Valley of Texas.

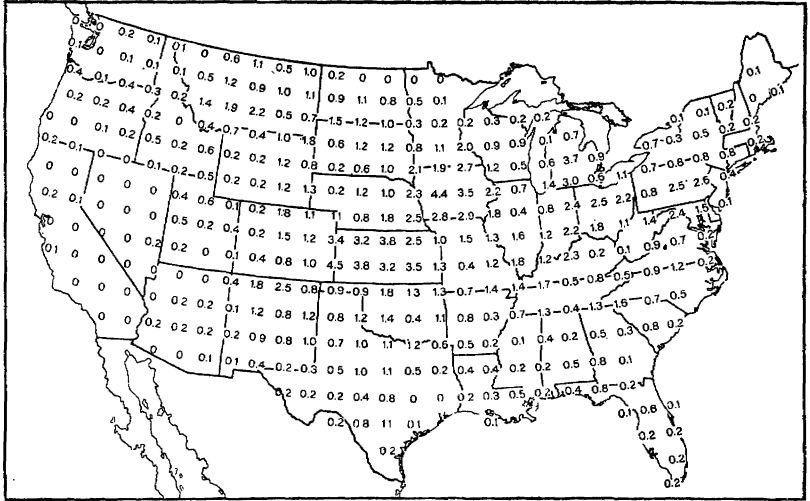


FIGURE 110.—Average annual number of hailstorms in the United States causing material damage per each 10,000 miles, 1916-1927, inclusive, April 1 to September 30

Figure 110 shows the average distribution of damaging hailstorms during the 12-year period referred to, and should give valuable assistance both to the companies issuing insurance and to the individuals seeking protection, in arriving at a fair basis for estimating the approximate cost of the risk.

P. C. DAY.

HARNESSES Life Can Be Doubled or Trebled by Cleaning and Repairing

Discriminative buying, prompt repair, and proper care of leather harness pay big dividends. When the usual life of a harness is doubled the cost is cut in two. Some farmers get excellent service from their harness for 25 years or longer (fig. 111); unfortunately many others are unable to use theirs longer than from 2 to 5 years. The life of a harness depends to a great extent upon its quality and workmanship, and the care that it receives.

Harness too heavy for the work is more economical than harness that is too light. Especially should lines, breeching, holdback straps, tugs or traces, belly bands, and yoke straps be sufficiently heavy and strong for the work required. Weak tugs and weak straps will not stand heavy work, nor can a runaway team be stopped with weak lines.

The leather should be carefully examined to see that it has no cuts, holes, brands, thin places, or other physical imperfections that impair its strength. New harness leather that shows cracks on the grain side when it is sharply bent is practically worthless, and the presence of

cracks in old harness shows that it is deteriorating. Harness leather should be pliable, not stiff. It should not feel harsh and dry. It should contain from 20 to 25 per cent grease, for protection; preservation, and strength. More than 25 per cent grease is not necessary. The grease should be thoroughly incorporated into the leather; it should not be simply on the surface. Because "strong" acids, or mineral acids, rot leather in time, a guaranty by the maker that they have not been used is advisable.

Since harness, as a rule, is made up of many different pieces and parts, the quality of the workmanship should receive consideration. The sewing should be consistent with the weight and type of the harness. It should be done with sufficiently heavy thread and sufficient rows of stitches to stand the strain. The needle holes especially should not be so close together that the thread will readily cut through the leather. The riveting and fastening of buckles, rings, snaps, and



FIGURE 111.—Harness 40 years old, of good quality, selected for the work, and not neglected. It has been kept clean, promptly repaired, and frequently oiled

other metal parts should be secure, so that they will remain solidly in place.

Neglect of harness is costly. Breaks and rips should be promptly and properly repaired. Makeshift jobs are but temporary and go from bad to worse. Harness should be kept clean, especially the leather parts, which should be washed and oiled from two to four times a year, depending upon the conditions of use. The useful life of harness can be doubled and quadrupled by such treatment.

Clean the harness with tepid water and neutral soap, such as castile or white toilet soap, using a sponge or fairly stiff brush. Scrape off cakes of hardened grease or foreign matter with a dull knife. Rinse in clean, tepid water, and hang the harness in a warm room until it is no longer wet, but is still damp. Then oil the harness and leave it in a warm place for 24 hours before using it. Harness should be oiled or greased while still damp; otherwise it may absorb so much oil that it will pull out of shape or take up sand and grit, thereby injuring the leather as well as spoiling its appearance. Harness should never look or feel greasy.

Neat's-foot oil or castor oil, or a mixture of these with wool grease, is a good dressing for driving harness. For heavy harness a mixture

of tallow and cod oil, neat's-foot oil and tallow, or any or all of these with wool grease, in a paste of about the consistency of butter, is beneficial. Apply the grease lightly to driving harness and liberally to work harness. Rub the oil or grease, warm to the hand, thoroughly into the leather while it is still damp from the washing. After the harness has hung in a warm place over night remove with a clean, dry cloth any oil that the leather has not absorbed.

F. V. VEITCH and
R. W. FREY.

HAY Marketing Is Much Improved by Federal Inspection Increased use of United States hay standards and the Federal hay-inspection service last year had a considerable influence on the improvement of marketing conditions in the hay industry. During the year ended June 30, 1928, 29,343 inspections were made, an increase of 71 per cent over

Form HFS-683

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF AGRICULTURAL ECONOMICS
Garden City, Kansas

No. 43

ORIGINAL.



COMPLETE INSPECTION CERTIFICATE

I certify that I inspected, on the date below, the following lot of hay and that the class, quality, and condition thereof were as stated below:

Located at Gillespie Switch, Kansas Date August 23, 1928
 Amount Carlot Identification Sante Fe 10498
 Grade and class U. S. No. 2 Leafy Alfalfa

Fees \$2.50 Charges none Total \$2.50

A. Hayman
Inspector.

This certificate is issued in compliance with the regulations of the Secretary of Agriculture governing the inspection of hay pursuant to the Act making appropriations for the U. S. Department of Agriculture, and is receivable in all courts of the United States as prima facie evidence of the truth of the statements therein contained. This certificate does not excuse failure to comply with any of the regulatory laws enforced by the United States Department of Agriculture. 5-4321

FIGURE 112.—Federal certificate for a complete inspection of a car lot of hay

the previous year. The full benefit of these facilities can not be obtained, however, unless their use is combined with sound business practices.

No set of standards nor any method of inspection can prevent business disputes or losses if sales contracts are loosely or improperly drawn or parties to the contracts are not careful to comply fully with all their terms. Sometimes parties to inadequate contracts call upon the Department of Agriculture for assistance in obtaining settlements. Usually the department can not be of much service in such cases, as it has authority only to promulgate standards of quality and condition for hay and to provide an impartial and disinterested application of these standards through the Federal inspection service.

The United States hay standards provide definite quality descriptions for most of the commercial classes and grades of hay. The addition of indefinite qualifying terms or statements should be avoided. Such qualifications are often susceptible of several interpretations, depending on the viewpoint of the individual. Contracts containing