

ORIGIN, DEVELOPMENT AND PRACTICES OF LIVESTOCK INSURANCE

BY
EDWIN W. KOPF

The purpose of this paper is to present a brief review of the development of livestock insurance, one of the casualty lines which has not heretofore received much attention in the *Proceedings* of this Society. In a number of our states, without specific statutory provision for livestock insurance, this branch of the business is classed as casualty or "miscellaneous" insurance. The subject seems, therefore, to come within the scope of matters which may be brought before this Society.

SCOPE OF LIVESTOCK INSURANCE

The importance of livestock insurance is suggested by the fact that the value of all animals on farms in the United States was estimated in 1927 to be more than \$5,000,000,000. The number and value of farm animals in the United States as determined by the Census of Agriculture on January 1, 1925 was as follows:

TABLE 1
NUMBER AND VALUE OF ANIMALS ON FARMS IN THE
UNITED STATES JANUARY 1, 1925

Kind	Number	Value	Per cent. of total value
All domestic animals. . . . .	. . * . .	\$4,450,216,000*	100.0
All cattle.	60,760,000	2,019,489,000	45.4
Dairy cows and heifers. . .	17,645,000	912,532,000	20.5
Horses and mules.	22,082,000	1,451,041,000	32.6
Horses.	16,401,000	1,001,521,000	22.5
Mules.	5,681,000	449,520,000	10.1
Sheep.	35,590,000	354,485,000	8.0
Goats.	3,370,000	10,250,000	.2
Swine.	50,854,000	614,951,000	13.8

*Exclusive of asses and burros, not enumerated.

It is, of course, idle to hope for anything like adequate coverage on the animal values at risk in agriculture. A beginning in such insurance has been made, however, in various countries of the world. Corporate enterprise in livestock insurance dates from the first third of the last century; livestock coverage of some kind on the mutual association or club plan reaches back to the mists of antiquity. Further progress in this field may result from

studies which should be made into the operations of the various kinds of institutions providing indemnity for cattle owners in times past. Retrospects of loss experience would be of exceptional value in this regard.

The recent, steady high price for cattle may persist and give rise to another wave of incorporations of livestock insurance companies such as we had in this country after 1910. Some regard for the lessons of livestock insurance history may prevent, however, another crop of liquidations of the type and with the same underlying causes which followed the 1920-1921 slump in farm prices. We may profit first from an examination of certain definitions and descriptive data relating to this form of insurance.

1. DEFINITIONS

Lehman's Definition.

Perhaps the most suitable definition for our purpose is that of John Lehman: "Livestock insurance is a contract by which the insurer agrees to indemnify the insured against such loss or damage as he may sustain by reason of injury to, or the death of, livestock by the happening of the perils specified, . . . ; or a contract to pay a certain sum of money on the death of an animal from disease or accident."

Luck's Definition.

A somewhat broader definition has been given by George Luck in his treatise on "Animal Insurance in South Germany." The insurance of animals is there defined to be "any particular economic arrangement which assumes the risk of loss of value, or which reduces to a minimum the burden of damage or loss, suffered by an owner through the sickness, accident, or death of an animal." This broad definition would include the work of governments in combating communicable diseases among animals. In fact, the future of animal insurance may be said to depend in part upon the measures taken by nations and states in preventing the spread of such diseases. Luck's definition would also cover government compensation for loss arising from such diseases, for destruction of an animal following tuberculin testing, or indemnity as a result of slaughtering to prevent the spread of disease. It includes, of course, the assumption of general and special animal risks by insurance institutions.

While livestock insurance is chiefly life insurance for animals, in some parts of the world it is also understood to include disability, or loss of use of the animals' services; marine, military manoeuvre, exhibition or show, and railway transport hazards; loss by theft; loss through rejection of the whole or part of an animal when slaughtered for food or for industrial purposes; loss from separate diseases such as trichinosis, "grass disease" and anthrax; the special hazards in foaling, castration, vaccination and surgical operation; veterinary service; and owner's liability for any damage caused by an animal or by any vehicle drawn by animal power. It may cover specifically loss from fire, wind-storm, tornado and/or lightning. Livestock insurance may also extend a guarantee of an animal's functioning in accordance with terms outlined in a contract of sale. In the United States fire insurance on animals in stockyards is available.

1849 Decision in Court of Exchequer, England.

According to a curious decision given in 1849, in the Court of Exchequer, England, in the case of Attorney General *vs.* Cleobury, it was decided that a contract of insurance on the lives of cattle was an insurance on lives within the meaning of 55 George III, c 184; and that, therefore policies on the lives of cattle were subject to the same stamp tax as was required on a policy of life insurance on human beings.

Definitions in State Laws.

Section 70 of the New York Insurance Law defines livestock insurance as a contract of insurance upon the lives of horses, cattle and other livestock, or against loss by theft of any such property, or both. In some of our States the provision of veterinary service is included in the statutory definition of livestock insurance.

Livestock Insurance not Peculiar.

A contract of insurance on livestock does not differ in any essential respect from other contracts of indemnity against damage to property from like perils, as where ordinary fire, lightning or tornado insurance policies cover livestock along with other property definitely located. Provisions in policies covering loss through the death of animals, or through accident or disease in such animals, are peculiar only insofar as required by the nature and use of the property insured.

2. ANIMALS INSURED

The animals covered by the various plans for livestock insurance, listed in decreasing order of the approximate world volume of coverage, are: horses, mares, colts, fillies and foals; bulls, cows and heifers; swine; sheep; goats; dogs; rarely, wild animals; feathered creatures; sometimes bees and the *cimex lectularius*. Further classifications for insurance purposes are made within most of these groups. Risk classes or grades are established according to the work required of an animal or according to the conditions under which it lives. Pure-bred or registered stock is distinguished in practice from the commoner run of animals. Race horses are subject to special treatment. Among the rarer forms of animal coverage are life insurance on wild animals while in transit from the tropics to their destinations in zoological gardens; and short-term covers for circus and exhibition animals, such as monkeys and chimpanzees. It is said that in Lausanne, Switzerland, insurance has been available to hotel-keepers against damage arising from infestation of the premises by that troublesome insect, the common bedbug. Switzerland also has coverage on bees.

3. TYPES OF CARRIERS

Animal insurance may receive its primary impetus in three ways: (1) through statute law, or edict, compelling insurance, (a) with choice of carrier (facultative—compulsory); or (b) without choice of carrier as between government and private insurance institutions; (2) through conditional or modified State insurance set up by statute or edict, where the animal owner is not compelled to insure his animals, but where he or his local club or society may secure coverage from a State-operated institution and (3) wholly voluntary insurance where the animal owner is free to insure or not, and to place his coverage wherever he pleases.

Failure of Compulsory Animal Insurance.

Compulsory animal insurance has been subject to inquiry and experiment under Frederick the Great in Germany, in Belgium and in Switzerland. The idea never took root and the unpopular compulsory plan never produced results any better than those achieved by the voluntary forms of animal insurance. There is no particular appeal in compulsory animal insurance by statute or

edict, except perhaps a theoretical breadth of coverage which never appeared in practice anywhere. Conditional State insurance has been popular in certain countries where it was entirely free of bureaucratic elements and where subventions were made or expert guidance, excess or reinsurance was provided.

Animal insurance has been offered by the following types of carriers: (1) local mutual benefit societies or clubs,—institutions of great antiquity and of marked effectiveness; and (2) stock or mutual insurance companies confined to this line, which date from the early part of the nineteenth century; (3) property insurance companies including livestock with other insured objects, or offering separate contracts for animal life insurance or special animal covers.

4. LOCAL CATTLE CLUBS OR SOCIETIES

A local society or club consists of a group of animal owners who have agreed to share the management expense of insurance and losses arising from the death of animals owned by members of the club or society. These societies provide "all risk" life insurance, and sometimes separate indemnity for loss through rejection of part or the whole of a carcass rejected as unfit for human consumption. This is "slaughter insurance." In some countries, these cattle clubs or societies have free choice of registering or of not registering with a central supervisory authority. The cattle club or society may also be incorporated or not incorporated. Chiefly, they are unregistered and unincorporated, without written constitutions, by-laws or rules. Generally, they cover a narrow area, perhaps one or two parishes, townships or districts, and usually provide cover for risks on one type of animal only: horses, common cattle, hogs, sheep, goats, registered animals, etc. The goat clubs are important in those countries where the goat is the poor man's "cow." Some of the societies are of the mixed type, where two or more kinds of animals are insured. In some countries as will be seen later, State subsidies, State reinsurance and excess insurance facilities are provided for these cattle clubs. In some cases, State aid is limited to expert advice and supervision, or to supervision as to solvency only.

These local clubs afford protection to the small cattle owner, precisely the man who needs protection most. The loss of a milch cow, of a single horse, or of a goat or two, is a serious matter

to an owner dependent for a living on a small group of animals. Furthermore, the insurance companies, at least in Europe, regard the small owner as an undesirable moral risk and a source of more expense than they care to carry. Their loss experience varies inversely with the number of animals per owner. The local cattle club, with its capacity for close scrutiny of prospective members and of risks offered, fills a need among small owners which cannot be met at reasonable cost by the stock or large mutual companies.

Local Clubs the Prevailing Facility for the Small Owner in Germany.

The general experience, in Germany at least, is that the more humble variety of cattle insurance can be most suitably carried by local organizations having moral disciplinary powers or potentialities. The more important agricultural boards and councils in Germany have been unanimous in recommending this form of organization to combat the grave risk of moral hazard, in cases where adequate membership of the society and breadth of territory can be secured. State subsidies, the provision of expert supervision and administrative advice, the setting up of reinsurance and excess insurance pools under Chambers of Agriculture and under Governments have resulted from the conviction that the small owner in rural territory needs protection practically at loss cost and that the regularly incorporated commercial companies do not want this class of business.

As regards the legal position of such clubs or societies in England, the club can either be constituted without formalities, or it can be registered under the Friendly Societies Act of 1896. Registration costs nothing and carries with it many advantages: defaulting officers can be proceeded against, and the necessity for keeping accounts on the Registrar's form is an excellent safeguard against slackness in the conduct of the Society's affairs.

Practical Operation of a Local Horse, Cattle or Pig Club.

Some idea of the practical working of a local animal insurance club may be obtained from a review of the practices employed by the Press Cottagers' Cow Club of England. This club was formed in 1838, and in 1911 it still had 179 members, insuring 453 cows and 84 calves. For the ten years prior to 1911, the death rate of cows insured in this club averaged 2.1 per cent. per annum.

Until 1910, it paid all its losses at a market value not exceeding £10 for any insured cow dying from disease or accident. After 1910, the maximum amount payable was raised to £12.

The members were almost entirely small property holders or cottagers. The affairs of the club were managed by a committee of seven members elected annually and by a secretary, treasurer and four stewards or "markers". The local schoolmaster was the secretary, and received a small salary. The only other charges paid by the Society, besides printing, stationery, etc., were 1s. paid to the "ordinary" or reviewing committee on the death of an insured animal; 1s. 6*d.* paid to an "advisory" committee assembled to value a sick animal, and 1s. 9*d.* paid to the ordinary committee when especially summoned. The total expense of management of this club averaged about 3*d.* per animal insured per year.

Each steward had an area assigned to him within which he "marked" any animal proposed for insurance by the club member in accordance with the rules. The steward satisfied himself that the animal was sound and healthy. Then he branded it on the hoof or horn with the Society's brand and entered a description of the animal, with the name of the owner, in his book. When an insured animal fell ill, or met with an accident, the steward was sent for to value it and to see that everything was done to cure the animal. He generally called in an ex-steward or member to assist him in this duty. He received from the owner 3*d.* for each animal marked and from the club 1s. for attendance at each quarterly meeting. There was at that time no difficulty in getting good experienced men to accept the responsible office of steward and the valuations were rarely disputed either by the owner or by the Society.

The owner paid an insurance contribution of 1s. per quarter year for each cow and 9*d.* per quarter for each calf insured. Members formerly had to pay an entrance fee of 1s. for each cow and 6*d.* for each calf and an annual subscription of 2*d.* per animal towards management expenses, so that the total payments per cow, after payment of the entrance fee, amounted to 4s. 2*d.* The owner was liable to a levy per animal, in event that it became necessary to raise funds to pay for exceptional losses. But no such levy has had to be made for many years. The club had a reserve fund of £1,040 when these facts were gathered, and it

seemed at that time very improbable that any levy would ever become necessary. The hide and carcass of deceased animals belonged to the Society which had contracts for the sale of all carcasses at 15s. each. No compensation was paid for death of an animal through the negligence of the owner. Insurance was confined practically to milking cows and calves, and fattening animals. Young stock was not insured except in rare instances.

In 1925, there were 60 such co-operative cattle insurance clubs or societies reporting to the Registrar of Friendly Societies in Great Britain, and several hundred other clubs and societies not registered. The Ministry of Agriculture and Fisheries of Great Britain, in its leaflet No. 221, describes the procedure necessary in England, at the present time, for the organization and the registration of these local mutual cattle or pig clubs. The Ministry has much confidence in the ability of these clubs to scrutinize new members, to inspect cattle offered for insurance and to settle losses equitably.

In Germany, the number of mutual cattle insurance societies or clubs is very great (about 6,000 recently). They cover one or several communes or political districts, have in general no written articles of association and possess the indispensable facility for choosing their members in the first place, for controlling the admission of animals to insurance, for supervising claim adjustments and in other ways reducing moral hazard. Further facts on these insurance institutions in Germany will be given later on.

5. STOCK OR MUTUAL LIVESTOCK INSURANCE COMPANIES

Where the coverage is offered by stock or mutual insurance companies writing animal insurance only, the scope of operations generally covers a whole State or nation on various types of animals for general and specific risks,—“all life risks” as to life insurance, slaughter insurance, operation, vaccination, castration, foaling, anthrax, trichinosis, transport and liability insurance. Some of the companies confine their operations to insurance on one kind of animal, say horse insurance. The majority of the stock and mutual companies are of the mixed type as to animals covered and kinds of risks accepted. The mixed type is characteristic also of the fire and casualty companies writing livestock direct and reinsurance lines. From the record of livestock insurance by mutual or stock companies, it is impossible to say

whether the one or the other is the more desirable from the insured's point of view. Profits paid to shareholders of stock companies in this line will never lie heavily on the conscience of the insurance business. In general, there have been no underwriting profits to divide.

6. PRINCIPLES AND PRACTICES OF STOCK AND MUTUAL LIVESTOCK INSURANCE COMPANIES, INCLUDING FIRE AND MULTIPLE-LINE CASUALTY COMPANIES WRITING LIVESTOCK INSURANCE

A brief description of the more important elements of practice in commercial livestock insurance is shown below:

(a) *The Policy.*

The contract is a contract of indemnity,* In 1917, the Subcommittee on Uniform Policy Forms for Livestock Insurance, of the National Convention of Insurance Commissioners, presented a form of livestock insurance policy which was adopted by the Convention. The ensuing comment on the contract will follow, in general, the outlines of the policy drafted by the Convention's Committee. The contingency insured against under this uniform policy form is "loss by death caused by sickness or accident, except as herein provided, to the amount set opposite the name of each animal described hereinafter." The schedule describing the objects insured provides for the statement of the name or other identifying mark of the animal, the animal's age, color, sex, the amount of insurance on the animal and the premium. In policies issued abroad, it is customary also to stipulate the risk class under which the insurance on the animal is written and the estimated value of the animal.

The particulars in respect to extent of coverage in the policies of some of the companies, the insuring clauses and the statement of the conditions, stipulations, limitations and warranties are very carefully and clearly drawn. There can be no doubt in the mind of the average intelligent stockowner as to what the livestock policy means. The services to be performed by the insurer for the insured are clearly set forth in all of the policy forms of the companies transacting livestock insurance business in this country and abroad.

*Life, accident and sickness insurance contracts for human beings are contracts of investment.

Obligations of the Insured.

The initial obligations of the insured are to pay the premium according to the grade of the risk at the times and in the manner specified, and in certain countries, to pay also an entrance fee to cover the initial cost of investigation and policy issue. This membership fee is not paid on renewal of the policy. The insured is under obligation also to present for insurance only healthy animals; to act in good faith toward the insurer, that is, not to conceal or misrepresent any material fact or circumstance concerning the insurance or the subject thereof; and not to procure any other insurance on the same animals, either valid or not. He is required to be unconditionally and solely the owner of the animals; immediately to employ a licensed veterinarian to attend any sick or injured animal; not to use the animal for any other purpose than that stipulated in the application; to state truthfully the purchase price of the animal, and above all, to give immediate notice by telegraph or otherwise to the company in event of sickness, injury or death of any animal covered by the policy. The insured, furthermore, is required to hold the carcass of the dead animal for inspection if requested by the company to do so, and proof of loss, signed and sworn to on a blank furnished by the company, must be made within thirty days*. False swearing or concealment of any material fact or circumstance in such proof of loss by the insured shall forfeit all claims under the policy. The livestock policy does not generally cover the following contingencies: loss by death from disease contracted, or from injury which occurred, prior to the delivery of the animal to the insured; loss through war, riot, civil commotion, by invasion rebellion, insurrection, military or usurped power; loss by death, if during the term of the insurance the animal shall have been bred or castrated, or shall have foaled; sometimes, loss by flood or earthquake; loss by death caused by the intentional act or by the negligence of the animal's owner, or slaughter without the consent of the insurer; if the owner violates Governmental regulations as to epidemic disease; or if the animal is injured in a betting race.

Modes of Premium Payment.

Payment of the premium may be made in two ways. The premium may be either fixed or variable for a given risk class.

*Period varies in some countries.

and if variable, may be of the "advance" type with adjustment at the end of the policy year, or of the "assessment" type, payable at the end of the policy year. Assessment calls are sometimes made by mutual companies or societies at various times during the policy year. Newspaper subscription or "premium" insurance on animals has been tried without success in Germany.

The fixed premium type of policy is least in vogue in mutual animal insurance abroad, because of the wide fluctuations in loss experience. The fixed premium type existed in modified form in two Dresden cattle insurance institutions. Under this plan an advance premium for a full year's coverage was collected and was then apportioned to each of the months of coverage. Management costs in the month were deducted and the residual income divided proportionately among the losses which occurred in the month.

Period of the Insurance.

The period of the insurance is, in general, one year, although for certain special contracts much shorter periods are covered. A renewal of the livestock policy means in general a new inspection, and a new application. In Germany, the insured has a two weeks' grace period in which to pay the renewal premium. There is the single-trip policy in cattle and hog transport insurance; the one-to six-months policy in hog insurance; the special contract which covers the risks during foaling, castration, vaccination and surgical operation, as well as the short-period covers of exhibition and show policies in force while animals are on circuit at state or county fairs. Short-term transport contracts have been much abused, especially in hog insurance. Insurance is bought on hogs in transit during the summer season when the risk of smothering is greatest and is omitted in the colder season of the year when this particular cause of loss is at a minimum.

Importance of Notice of Loss.

Perhaps one of the most important obligations upon the insured is that he shall give the insurer immediate notice in case of sickness or injury of the animal insured. This obligation of the insured is stressed in livestock practice, the world over. Failure to comply with this requirement generally defeats the policy. In the case of *Illinois Livestock Company vs. Kirkpatrick* (61 Ill., App. 74), it was held that a condition requiring the insured to give

the insurer notice at once in case of the sickness of, or an accident to, an insured horse, was reasonable and was inserted for the protection of the insurer. An agreement of this kind is held to be a promissory warranty and strictly to be fulfilled (*Johnston vs. Northwestern Livestock Insurance Company*, 107 Wis. 337; 83 N. W. 641). In the case of *Alston vs. Northwestern Livestock Insurance Company*, 7 Kan., App. 179, it was held that notice by telegram was material, and failure to give such notice voided the policy. Prompt notification of infectious disease is an organic part of every Act for the control of epizootics the world over.

Transfer or Sale of Insured Animals.

The contract may be transferred on the exchange or sale of stock upon application for transfer duly completed, signed, and approved by the head office of the company. Policies may be assigned to a bona fide purchaser, provided the premium has been paid and the consent of the company endorsed on the policy. Some companies require a new policy on sale or transfer of the insured objects. Livestock companies, in general, reserve the right to cancel the insurance in case the new stock is not acceptable under its rules.

(b) *Moral Hazard.*

Discussion of this subject occupies most of the space in the literature on livestock insurance. The moral hazard in livestock insurance is excessive as compared with other branches of the business, and arises from the fact that there are so many simple ways in which an animal may be permitted to die without deliberately killing it. An animal owner with an elastic conscience may kill his animal by overfeeding, overwatering or by improper feeding. In the insurance of stallions and breeding bulls, the hazard is especially great. A stallion may be worth a thousand dollars one day and perhaps in ten or twenty days may have become so reduced in value as to be worth no more than an ordinary plug. The same observation applies to fine breeding bulls and to race horses.

Overvaluation of animals, and insurance for more than three-quarters of a conservative value on the animal, are also important factors in encouraging an unwholesome loss ratio. Specific cover on livestock against lightning or tornado loss has been abused. A case of clover bloat has been known to be passed off as the result of a lightning stroke.

One of the important primary causes of wholesale liquidations of livestock insurance companies is the excessive rise at times in the price of livestock and the ensuing depreciation in values which are characteristic of the livestock industry. In the early 90's of the last century and during 1921 and 1922, the prices of livestock dropped precipitately. Prosperity in the livestock business in the United States has been erratic and ill-established whenever it has occurred. When prices drop after a period of extremely high valuations, a variety of strange mishaps to livestock, and to livestock insurance companies, occurs as soon as market valuations go below insurance valuations. When livestock prices are high, farmers may be readily induced to insure their animals, but when prices fall, farmers generally withdraw their insurance coverage. Since 1920, twenty-four livestock insurance companies in this country have liquidated or have been reinsured in other organizations.

(c) *Subrogation.*

In general, livestock insurance carriers may require from the insured an assignment of all right of recovery under the policy against any party for loss to the extent that payment therefor is made by the insurer.

7. FARMERS' FIRE, LIGHTNING AND WINDSTORM MUTUALS AS LIVESTOCK CARRIERS. UNITED STATES

In the United States and abroad, incorporated mutual societies and associations limited in territory to certain counties, townships or districts, insure property, including livestock, on farms and in villages against loss through fire, lightning or windstorms. According to Dr. Victor N. Valgren, a few of the local farmers' property insurance mutuals in the United States handle risks only on buildings, their contents and farm machinery, while the insurance of livestock against fire, lightning and windstorm is carried in a separate and distinct organization. Livestock insurance conducted by such localized mutual companies or associations sometimes includes loss by death or accident from any cause and involves hazard and administrative problems not present to the same extent in insurance of other property. In most parts of the United States, lightning is one of the most frequent causes of loss of livestock, and from the point of view of this one hazard, each animal is to a considerable extent, a separate and distinct risk.

The following text is quoted from Dr. Valgren's work:

"In the United States, there are three plans for handling livestock insurance by local fire mutuals. The first of these may be designated as the 'blanket plan;' the second, the 'specific insurance' plan; and the third, the 'prorating or distribution plan'.

*The 'Blanket' Plan.**

"Under the 'blanket plan,' a fixed sum of insurance is placed on each class of animals, as for instance, a given sum on horses and a different sum on the cattle owned by the insured. These sums may, in some cases, represent the usual maximum coverage of three-quarters of the total value, while in other cases they fall far short of such coverage. In any case, the loss of one or more of the animals within the group calls for indemnity equal to the value of the animal, or to such maximum sum as may be stipulated in the by-laws as to indemnity for any one animal. Only in case the value of the animals lost exceeds the blanket amount on the group or class of animals, does the insured fail to receive essentially full insurance compensation.

"This blanket plan has proved decidedly inequitable in many instances. The farmer with only two or three horses or mules finds it necessary to carry an amount of insurance sufficiently large to protect the group on a regular insurance basis. The larger farmer, on the other hand, with ten or twenty horses or mules, may be satisfied to pay for an amount of insurance no larger than that carried by the first farmer, reasoning that the probability of loss of more than two or three animals at one time is very remote. In effect, therefore, he very largely protects his entire group of horses and mules at a cost no greater than that paid by the small farmer for the protection of the whole of his very much smaller group. The same inequity frequently occurs with reference to cattle, perhaps in more exaggerated form.

'Specific Insurance Plan.'

"'Specific insurance' among farmers' fire mutuals was developed in order to avoid the inequities in the 'blanket' plan of insurance. A few of the farmers' mutual fire associations or companies have devised the plan of making livestock protection

*Called collective or group insurance abroad since 1840. Group life insurance on human beings was inaugurated by Emperor Napoleon III in 1868 when the "Securite Generale" was founded in France, with Cornelius Walford as consulting actuary.

specific with reference to each animal. In territories where relatively large groups of cattle or horses are kept on the farm, this plan is impracticable, however, since each of the individual animals cannot conveniently be described in such way as clearly to distinguish it from all others. Furthermore, the keeping of records of this type of specific insurance becomes unduly complex and troublesome both for the company and for the insured.

'Prorating or Distribution Plan.'

"The prorating or distribution method seems to be more practicable in that it provides reasonable justice between members in the insurance of their livestock. This plan is essentially a modification of the blanket plan. A fixed amount is written on horses and different amounts on cattle, sheep or hogs, as the case may be. But the contract specifically stipulates that in the case of the loss of an animal, the indemnity due shall not exceed the value of the animal or a maximum amount in the case of any one animal of a given class. Nor shall the indemnity exceed an amount equal to the total insurance on the group or class of animals, divided by the number of animals in the group.

"If an insured under the 'prorate' plan attempts to protect 20 horses by \$500 of insurance, he will find in the case of the loss of 1 horse that he can collect only one-twentieth part of \$500, or \$25. He is compelled, therefore, in order to enjoy reasonable protection, to carry and pay for an amount of insurance which has a reasonable relation to the number and value of the groups of animals covered. This plan appears to be gaining rapidly in favor among progressive local associations of farmers in the United States.

"In justice to those who still employ the simple blanket plan in insuring livestock, it should be said that most of them aim to compel the insured to carry an amount equal at least to one-half or two-thirds of the value of the animals covered. There is under this plan, however, a decided temptation on the part of owners of large groups of animals to carry as small an amount of insurance as they can induce the representative of the company or association to accept."

These organizations are in addition to the horse insurance and detective companies organized by local groups of farmers, the record of which goes back to 1828 in the United States.

8. LOSS EXPERIENCE ON ANIMAL INSURANCE

A loss in livestock insurance must result from the particular peril against which the insured is indemnified. Three important circumstances may be noted at this point which set aside liability of the insurer, according to Lehman. Where a policy, insuring against loss by the death of an animal excepts destruction by any society for the prevention of cruelty to animals, the insurer is not liable for death so produced, although the animal was killed on the ground that it was incurable. Under a policy insuring against death by disease or accident, an intentional destruction of the animal because it was incurably sick, is not authorized. If the death of an animal results from mistreatment by the insured, no recovery can be had for the loss.

Some crude data on the recent loss experience for mutual and proprietary livestock carriers in the United States are shown in the following table:

TABLE 2
PER CENT. LOSSES OF NET PREMIUMS
Mutual and Stock Live Stock Insurance in the United States
in Recent Years

Year	Mutual Companies			Stock Companies			Per cent. Underwriting expense of net premiums, Mutual Companies
	For total companies reporting	Company 1	Company 2	For total companies reporting	Company 1†	Company 2	
1926	58	52	63	74	71	86	34
1925	53	53	61	66	66	107	40
1924	66	63	68	66	69	32	37
1923	62	72	54	79	72	42	34
1922	52	59	58	77	79	35	44
1921	55	55	49	*	56	568	48
1920	53	47	46	*	79	222	48

Source: Argus Casualty Charts

*Not available

†Incurred loss of earned premium.

Some idea of the mortality among farm animals may be obtained from the following table which is based upon the returns made by the crop reporters in the service of the United States Department of Agriculture. It will be seen that the mortality among farm animals is variable, from year to year, especially for swine.

TABLE 3
ESTIMATED YEARLY LOSSES FROM DISEASE, ACCIDENT OR
EXPOSURE IN THE UNITED STATES, PER 1,000 HEAD
OF CATTLE OR OTHER LIVESTOCK

Year	Cattle		Swine Total	Sheep		Horses and Mules
	Disease	Exposure		Disease	Exposure	
1924	17.8	12.7	52.9	20.0	17.5	15.2
1923	16.7	13.1	51.3	22.4	24.1	15.0
1922	17.8	13.1	54.4	21.4	26.4	15.7
1921	17.0	9.2	43.0	23.1	15.6	14.7
1920	19.5	18.5	49.8	23.7	34.6	17.8
1919	17.4	15.9	41.4	19.7	24.4	15.7
1918	18.2	13.3	42.1	19.8	19.3	16.5
1917	19.4	14.6	48.6	21.8	32.4	16.9
1916	19.5	10.7	66.2	21.6	21.7	17.5
1915	....	....	....	....	....	....
1914	19.8	10.9	118.9	21.9	22.0	20.6
1913	20.5	14.1	110.1	24.8	25.0	22.6
1912	21.6	21.5	89.2	26.7	47.0	21.9
1911	19.7	13.3	44.8	25.5	23.0	19.0
1910	21.0	17.6	45.1	27.5	43.9	19.9
1909	19.2	14.8	51.0	26.6	28.3	18.2
1908	18.9	12.0	52.4	22.5	22.9	17.1
1907	19.9	13.7	48.9	25.6	35.4	18.9
1906	20.1	14.9	51.1	22.2	37.0	17.7
1905	20.6	23.3	50.8	24.6	30.8	17.9
1904	23.6	20.2	57.9	26.0	37.7	19.6
1903	23.9	23.7	58.2	27.8	53.6	19.7
1902	21.3	18.2	51.5	25.0	31.6	20.2
1901	22.3	11.5	74.7	24.0	22.0	18.2
1900	19.9	13.7	64.4	20.0	18.0	18.3
1899	20.3	22.1	82.1	21.0	35.0	23.4
1898	19.7	13.0	92.8	26.0	27.0	20.0
1897	19.4	16.0	144.0	23.0	32.0	21.3
1896	19.3	11.3	127.0	27.0	21.0	20.2
1895	21.4	20.7	92.3	26.0	29.0	22.3
1894	19.0	12.5	48.6	20.0	15.0	21.0
1893	16.6	17.3	63.1	24.0	20.0	17.0
1892	12.8	13.0	54.4	19.0	14.0	15.3
1891	14.3	15.3	83.7	23.0	17.0	16.6
1890	13.0	23.0	76.1	24.0	51.0	16.4

Source: Crop Reporting Service of U. S. Dept. of Agriculture

The hog mortality experience in some States of the Union has shown as high a return as 215 deaths per thousand hogs in one year. This return prevailed in Illinois in 1911, where it was estimated that nearly six million hogs died. At an average value per head of \$8, this meant a loss in that State alone of \$47,000,000.

The foregoing table shows that a destructive experience prevailed also in the years 1913 to 1914. Occasionally foot and mouth disease becomes widely prevalent. There were outbreaks of this disease in 1902, 1908, 1914 and 1915 and in 1924-1925. Hog cholera is, of course, the chief source of loss from epidemic disease among this type of farm animal. It is estimated that 80 per cent. of the loss of swine from disease is due to hog cholera. Swine fever and hemorrhagic septicemia are also important causes of mortality among hogs.

There has never been any serious epidemic among sheep in the United States. The principal loss here is due to exposure, forage poisoning and parasites. Loss from disease among animals in the United States is believed not to be as heavy as in other countries. Some twenty-five important diseases among livestock have been identified as major factors in the loss experience of the carriers.

The ingestion of metallic objects in feed,—bail wire, nails, etc. is an important source of loss.

Actuarial Investigation of Loss Experience Needed.

It is hoped that at some future time an actuarial investigation may be made into the causes of mortality among livestock, distinguishing at least the age of the animals. No data are available on the mortality of pure bred cattle in the United States. All of the writers on livestock insurance deplore the lack of descriptive data on loss experience. They suggest that if livestock experience could be secured, classified and published in the required detail, some concerted action could be taken against abuses in the business.

Horse Mortality Experience, by Ages, Sweden, 1892-1925.

The following table, contributed by Dr. Victor N. Valgren, relates to the mortality among horses insured by the Scandinavian Livestock Insurance Company, Stockholm, Sweden, for the period 1892 to 1925. This is the only mortality table for animals available in the literature where distinction of age is made.

TABLE 4
DEATH RATE PER 1,000 HORSES INSURED, 1892-1925 BY
SINGLE YEARS OF AGE
Scandinavian Live Stock Insurance Company, Stockholm, Sweden*

Age	Rate per 1,000	Age	Rate per 1,000
1	28.5	13	32.2
2	13.9	14	34.8
3	13.6	15	35.6
4	15.1	16	33.6
5	17.1	17	32.3
6	18.9	18	27.5
7	20.4	19	18.7
8	22.2		
9	22.9	Ages 1 to 5	16.6
10	27.2	Ages 6 to 10	21.2
11	27.6	Ages 11 to 15	31.6
12	30.5	Over 15	26.7
		All ages	23.1

*Data from Dr. Victor N. Valgren, April 17, 1928.

Table based on 2,479,404 full years of exposure. Includes slaughtering of animal as result of sickness or accident; also cases of disability for which indemnity was paid. See also: "Bericht über die fünfunddreissigjähre Tätigkeit der Gesellschaft, 1890-1925," *Skandinaviska Kreatursförsäkringsbolaget*, Stockholm, Sweden, 1925, page 18.

A section from the gain and loss exhibit of one of the American proprietary companies from July 1, 1922 to June 30, 1925, is shown below.

TABLE 5
UNDERWRITING AND INVESTMENT EXHIBIT, JULY 1, 1922
TO JUNE 30, 1925

<u>UNDERWRITING</u>	
Premiums earned.....	\$2,836,480.11
Gain from underwriting profit and loss items.....	38,960.52
Underwriting income earned.....	2,875,440.63
Losses incurred.....	\$2,035,376.93
Commissions incurred.....	403,786.51
Taxes incurred.....	39,788.41
Overhead expenses incurred.....	504,863.02
Total losses and expenses incurred.....	2,983,814.87
Loss from underwriting.....	\$108,374.24
<u>INVESTMENTS</u>	
Interest earned.....	\$118,167.76
Gain from change in difference be- tween book and market value of securities.....	7,505.00
Gain from sale of securities.....	11,745.31
	137,418.07
Less investment expense.....	3,497.40
Gain from investments.....	\$133,920.67

RECAPITULATION

Gain from investments.....	\$133,920.67
Loss from underwriting.....	108,374.24
Net gain to surplus.....	<u>\$25,546.43</u>
Surplus, June 30, 1925.....	158,017.46
Surplus, June 30, 1922.....	<u>132,471.03</u>
Net gain to surplus.....	\$25,546.43

ANALYSIS OF EARNED PREMIUMS

	Amount	Per cent. of earned premium
Losses and loss expense incurred.....	\$2,035,376.93	71.76%
Commissions incurred.....	403,786.51	14.23%
Taxes incurred.....	39,788.41	1.40%
Overhead expenses incurred.....	504,863.02	17.80%
Total.....	<u>\$2,983,814.87</u>	105.19%
Loss from underwriting.....	108,374.24	3.82%
Gain from underwriting profit and loss items.....	38,960.52	1.37%
Premiums earned.....	<u>2,836,480.11</u>	100.00%
Total.....	<u>\$2,983,814.87</u>	105.19%

In addition to epidemic disease, heavy losses among farm animals are occasioned by high water and floods. In 1913, during the Ohio River floods, livestock insurance companies suffered heavily in Ohio and Indiana. It is estimated that in these two States more than 50,000 horses and over 10,000 cattle were destroyed by the flood, a large portion of which were insured. Lightning is an especially important hazard in the field of sheep insurance. It is recorded that for one Utah sheep ranch, some years ago, a single lightning bolt killed 504 out of 1,250 sheep on a hillside. In Ohio, 20 head of cattle were killed by a single flash of lightning.

Some of the difficulties in the claims branch of the business may also be considered. Where insured animals are not branded or earmarked, it is more or less difficult to identify the animal. Furthermore, determination of the cause of death is not always practicable. Nor is it possible to detect easily the deliberate causation of sickness or of injury to the animal. There seems to be no hesitation on the part of the insured to take animal insurance lightly and to pass on a loss to someone else. Then finally, there is the perplexing problem of determining the value of the animal at issuance of the policy, setting the percentage of co-insurance and then valuing the animal at death.

9. EARLY HISTORY OF ANIMAL INSURANCE

It may be well to set forth some of the more important historical developments in animal insurance prior to the conduct of the business by incorporated insurance institutions. The earliest indication we have of a resemblance to an insurance system covering animals may be found in records of primitive forms of insurance.

India.

There are few *Bradris* in India today that have not some simple system of protecting members against the important contingencies of daily life. The history of mutual aid societies in India shows that such institutions were mentioned in the *Ramayana*,* *Mahabharata*† and other historical religious books of the Hindus that date thousands of years B. C. Even today the most primitive societies in India follow the mutual aid system laid down in antiquity as faithfully as any of the more modern institutions pursue their practices. These very early Hindu societies granted aid to members at death, at marriage, at the birth of children and on the loss of cattle. Ancient India was the mother of insurance. It is quite possible that the relatively modern insurance practices and laws of the Babylonians, B. C. 2,250 came originally from India and China.

The English Gilds.

The Gild of Cnihts, in London, 860-866 A. D., seems to have been very much in the nature of a mutual insurance association. Among its ordinances is stated the object of the Gild to be the recovery of stolen stock and slaves, wherever that recovery was practicable; and where that could not be effected, then the indemnification of the loser by pro rata contributions‡ of the brethren. This is in essence indemnity under the mutual assessment principle. Each of the brethren of the Gild was to contribute 4*d.* to the common fund, payment for stolen property to be made as soon as contributions were in hand. Horses were

*A Sanskrit myth depicting the adventures of *Ramachandra*, the seventh reincarnation of Vishnu, second god of the Hindu Trinity.

†Myth of northern India.

‡Anglo-Saxon money, where one pound of silver was the unit. See: Alexander Delmar. "History of Money... from the Earliest Times to the Present." London. Bell and Co., 1889.

to be paid for at the maximum rate of a half-pound of silver; oxen at a mark; a cow at 20*d*.; a hog at 10*d*. and a sheep at 1*s*. The money required over and above the regular contributions in hand was raised by an assessment among the brethren.

In one of the statutes of the London Gilds, A.D. 925-941, there are regulations for the suppression of theft and the compensation of persons losing animals or other property by theft. In this era, contributions to the common fund were made not only by Gild members, but also by non-members living in the district in which the Gild existed.

Later European Developments.

Professor Manes tells us that a co-operative arrangement for the sharing of cattle losses prevailed in ancient Palestine among mule drivers. There seems to have been also mutual cattle insurance in Iceland in the twelfth century. The beginnings of cattle insurance are to be found also in the thirteenth century in Spain, Holland and Northern Germany. In the latter country, there were at that time many local cattle insurance societies or clubs, the idea persisting in form to the present day.

According to a regulation of the Gild of Kyllingholm, founded before A. D. 1310 in Lincolnshire, England, "if a Brother or Sister is unlucky enough to lose a beast worth half a mark, every Brother and every Sister shall give a half-penny towards getting another beast." At about the same time the Gild of St. Anthony in Lenne, Norfolk, provided that "help be given members who lose cattle."

Marine Insurance on Cattle, 1556, Spain.

In the insurance ordinances of Spain, 1556, there occurs the following reference to the coverage of marine hazards on cattle: "in insurances made upon slaves or cattle, it must be declared in the policy that it is on them; otherwise the insurers run no risk; and if any beast is thrown overboard, it shall not be brought into a gross average, but the insurers shall satisfy the loss." Here is implied the insurance of cattle against the risks of the sea, a venture quite different from insurance against death by disease or accident.

Horse Insurance During the South Sea Bubble Era.

During the reign of Queen Anne, the period of the South Sea Bubble, 1710 to 1720, a project was set on foot in London for insuring horses "either dying natural deaths, or stolen or disabled."

The capital for the enterprise proposed was two million pounds sterling. The company failed. In extending insurance on horses "stolen," it outventured itself; but that seemed to be one of the major risks which was required to be covered by insurance at that time.

The first *governmental* cattle insurance institution was founded by Frederick the Great in Silesia in the middle of the eighteenth century. Cattle owners were compelled to join. Compensation was paid against cattle plague, fire and lightning. A similar institution was founded in Friesland in 1782.

In 1774, an office was established in Copenhagen, Denmark, at which the insured were to pay a sum to be fixed per head of their cattle annually. The insured were to receive 10 crowns for each animal that should die of distemper. Toward the end of the eighteenth century and during the first half of the nineteenth, there were scattered all over England innumerable associations for the mutual insurance of cattle. Many of these were simply cow clubs, while some took on a wider scope. They were simple associations having no defined legal standing; and were conducted mostly on the principle of mutual contribution. At times they broke down during special emergencies. Of special note is the formation of "Sprott Friendly Cow," a friendly society or club of cow owners. In 1807, the Farmers' United Cow Club was formed in Mawdesley, Lincolnshire, and was in existence in 1898 as a registered friendly society.

Some historical notes on the modern development of livestock insurance in the several countries are now presented.

10. HISTORICAL NOTES ON MODERN CATTLE INSURANCE IN VARIOUS COUNTRIES

(a) *Australia.*

Livestock insurance has no great vogue in Australia, although the subject has been discussed sporadically since 1850. About fifteen years ago this type of coverage was offered on horses and stud sheep, but the business proved to be unprofitable. The line is now written for special clients only. The companies are not eager for the business.

(b) *Austria.*

In the old Austro-Hungarian Empire, numerous local mutual cattle insurance societies have existed since the earliest times. In 1865, a large private cattle insurance company was founded.

In 1871, there were in existence five mutual cattle insurance institutions, the Apis, the Mutual Cattle Insurance Union of the Society of Milk Farmers, both in Vienna; the Cattle Insurance Institution in Feldkirch, Vorarlberg; the Mutual Horned Cattle Insurance Society in Spitz, Lower Austria; and the Prometheus Mutual Insurance Union at Linz, Upper Austria. In 1898, there was founded the Hungarian Cattle Insurance Association in Budapest. Beginning with 1900, State cattle insurance institutions were founded in Lower Austria, Mähren and Kärnten, modeled after the Bavarian plan. The institution for Lower Austria had a sub-society for the encouragement and transaction of horse insurance and received State subvention. Throughout Austria in 1901, there were about 160 local cattle insurance societies affiliated with the State institutions.

Between 1885 and 1894, cattle insurance in old Austria seemed to fall off very rapidly. This followed perhaps from the heavy loss experience. The collected figures for the period 1886 to 1895 showed premiums of 2,073,398 crowns and losses of 2,213,285 crowns, or a loss ratio of 106.7 per cent.

In 1905, the Vorarlberg institution had 11,200 animals insured for a sum of 4,044,000 crowns and paid losses of 69,400 crowns. The Budapest Association had, in 1907, 35,000 cattle insured for 13,950,000 crowns, and reported losses of 211,000 crowns.

At the present time in Austria, animal insurance is practiced by the Burgenlandische Versicherungsanstalt at Sauerbrunn, founded in 1925; the Upper Austria Institution for Horse Insurance at Linz, founded in 1906; the Upper Austria Institution for Cattle Insurance at Linz, founded in 1902; the Upper Austria Institution for Goat Insurance, at Linz, founded in 1902 and the Versicherungsanstalt der österr. Bundesländer, Vienna, founded in 1922.

(c) *Belgium.*

In 1846, a project was before the Government of Belgium that certain branches of the insurance business should be undertaken by the State. A Commission was appointed, and it reported in favor of the proposal. Among other things, it suggested that the insurance of cattle be incorporated in a plan for State insurance. A further commission was appointed. It reported against the project mainly because (1) the varying value of animals and the difficulty of making the precise calculations required to fix the

premiums and amounts of insurance; (2) the difficulty of avoiding loss caused by the carelessness or deliberation of the owner; and (3) the uncertainties as to loss which might occur through severe epidemics in spite of the utmost care and skill employed by cattle owners and the State. Lastly, there seemed to be an insurmountable obstacle of proving the cause of death of animals and the uncertain manner in which epidemics of cattle disease spread.

(d) *Bulgaria.*

At the present time cattle insurance in Bulgaria is transacted by the *Misla*, at Sofia, founded in 1924.

(e) *Burma.*

For this country, we have a brief note to the effect that mutual cattle insurance societies were in vogue some 15 years ago. In Burma the territory of a cattle insurance society is ordinarily limited to one village.

Insurance is optional. Plow bullocks and buffaloes, between the ages of 4 and 12, are insurable. Valuation is made every six months when the premiums are paid, and these are at the rate of 5 per cent. per annum. On the death of the animal, an indemnity of two-thirds of the existing value, less the salvage on the hide and carcass, is paid. A Reinsurance Society has been organized for the whole of Burma, of which the Registrar is the president and ex-officio manager. Half the premiums collected by the local insurance society are deposited with the Credit Bank. The other half is sent to the Reinsurance Society along with a list and particulars of insured cattle and their valuation. This is done every half-year. If an animal dies, half the indemnity comes from the Reinsurance Society and the remaining half is made good from the funds of the primary insurance clubs.

The funds of a local society are divided in two ways: first, there is the general fund consisting of all premiums realized during the year and, second, the reserve fund consisting of fines, entrance fees, donations, profits of previous years, etc. If the premium income is insufficient to meet half the claims, half of the reserve fund may be drawn upon in any one year, with the Registrar's sanction, to meet the deficiency. If the funds are still insufficient, the disbursements during the year are proportionately

reduced. So far, no society has suffered a deficit. The Reinsurance Society was organized in 1915 and banks with the Upper Burma Central Bank, which is the Provincial Cooperative Bank for Burma.

(f) *Canada.*

No extensive historical information on livestock insurance is available for Canada. In 1927, the net premiums written were \$82,179 and net losses incurred \$73,306. Most of the insurance on livestock in Canada last year was carried in the Hartford Livestock Insurance Company. The Canadian General has \$11,022 and the Yorkshire, \$16,245 of the net premiums written in that year. The General Animals Insurance Company operated in Canada some years ago. For the nineteen years ended December 31, 1926, the livestock premiums in Canada \$1,763,725 and the losses \$1,039,413.

(g) *Czechoslovakia.*

The Cattle Insurance Institute of Czechoslovakia was founded in 1902, and is managed and supported under State auspices. It operates through local societies which may be organized if enough owners so desire, and if they possess at least 50 head of cattle. Horses are insured directly by the State institution. On cattle, the premiums range from 1.35 per cent. for an insurance of 1,500 crowns, to 2 per cent. for an insurance of 5,000 crowns. On horse insurance, the premiums range from 2 per cent. for a coverage of 2,000 crowns up to 4 per cent. for insurance of 6,000 crowns. These rates apply if the horses are used exclusively for agricultural work on the owner's estate. When horses are used in outside work, the rates are increased by three-quarters per cent. and for heavy drayage the increase is 1.50 per cent. In addition to these two general types of insurance, the State Cattle Insurance Institution offers special coverage against the risk of foaling and for risks of surgical operation, show and exhibition and transport. The loss ratios for horned cattle and for horses are shown in the following table.

TABLE 6
PER CENT. LOSS RECKONED AGAINST INSURED ANIMALS
AND AMOUNT OF INSURANCE, 1902 TO 1924
Cattle Insurance Institute of Czechoslovakia (Moravia)

Year	Horned Cattle		Horses	
	Deaths per hundred cattle	Loss per hundred crowns insured	Deaths per hundred horses	Loss per hundred crowns insured
1902	3.15	3.31	3.61	3.44
1903	3.00	3.26	3.66	3.99
1904	3.18	3.49	4.28	2.94
1905	3.73	3.49	4.00	3.46
1906	3.06	3.28	3.67	3.21
1907	3.23	3.49	4.37	3.87
1908	3.74	4.05	3.82	3.26
1909	4.19	4.40	4.38	3.98
1910	2.70	3.00	5.49	4.62
1911	2.84	3.19	6.09	5.22
1912	3.17	3.47	4.28	3.92
1913	2.73	3.11	4.74	4.63
1914	3.15	3.46	5.14	4.62
1915	2.05	2.18	3.49	3.35
1916	1.34	1.62	3.17	3.15
1917	2.17	2.81	4.46	4.90
1918	3.33	3.93	3.55	4.02
1919	1.45	1.93	2.37	3.03
1920	1.40	2.14	2.47	3.23
1921	3.07	4.22	4.48	5.42
1922	5.77	7.24	4.77	5.62
1923	8.13	8.48	4.17	3.97
1924	2.59	3.11	4.17	4.16

Note: First publication of this table

The *Moravska Zemska Dobytoi*, at Brünn, founded in 1902, transacts livestock insurance at the present time.

(h) *Denmark.*

We have already indicated that cattle insurance has been practiced since antiquity by the Gilds in Denmark. In 1904, there were 1,057 mutual benefit societies of dairy farmers in Denmark, totaling 140,000 members, and owning 850,000 cows, which was three-quarters of the entire cow population of the country. Cattle insurance through mutual clubs is almost as old an institution as the voluntary sickness insurance clubs in Denmark. For a long time, the Danish Government has furnished protection against cattle epidemics, but the farmers sought to protect themselves further from the loss of cattle through disease and accident. In 1900, there were 365 horse insurance societies, 214 cattle insurance societies and 113 mixed societies. About one-ninth of the mixed societies were founded

before 1851, as was one-twenty-third of the horse insurance societies and one-seventeenth of the cattle insurance societies. The average age of these mutual societies in 1904 was 26 years. An average horse insurance society had 118 members and in cattle insurance, 72 members. The mixed societies were somewhat larger, averaging 258 members. The horse insurance societies had about 45,000 members, the cattle clubs, 16,000 and the mixed societies 30,000. That these institutions protected the small owner may be seen from the fact that the average number of horses per member was 2.9, and the average number of cattle, 2.6. The sums insured were quite modest, an average of 400 crowns for horses and of 167 crowns for cattle. The average premium for horses was 1.71 per cent. of value and for cattle, 1.76 per cent. over the years 1896 to 1900. The loss statement in the year 1900 was as follows:

TABLE 7
LOSS EXPERIENCE OF DANISH ANIMAL INSURANCE CLUBS,
1900

Horse insurance clubs:	
Losses per 100 members.....	11.0
Losses per 100 horses.....	3.7
Average amount per loss.....	187 crowns
Loss per 100 crowns insured.....	1.93
Cattle insurance clubs:	
Losses per 100 members.....	7.1
Losses per 100 cattle.....	2.7
Average amount per loss.....	102 crowns
Loss per 100 crowns insured.....	1.93

Before horses were insured, they were inspected by two members of the society. Only healthy horses under 18 years of age were taken and must have had a value of at least 100 crowns. When there was doubt about the health and value of an animal proposed, a veterinary was called in. The expenses of the societies were modest. Presidents and treasurers received no compensation. In some societies, the officers were paid a small honorarium twenty crowns in one society and six crowns in another.

At the present time, insurance on animals in Denmark is conducted by the Livestock Insurance Society of Copenhagen, founded in 1859, and the Kustos Livestock Insurance Society, Aarhus, founded in 1881; and by the Skandinavisk Hesterforsikrings, Copenhagen, founded in 1916, for the insurance of horses. These are in addition, of course, to the many local mutual cattle clubs now operating in that country.

I am informed that a Dr. Mackeprang has made an attempt to construct a mortality table for horses from Danish experience.

(i) *England and Scotland.*

Corporate enterprise in the livestock insurance field in England seems to have been inaugurated in 1844 by the Farmers and Grazers Cattle Insurance Company. This organization carried on business until 1853, when it passed into liquidation. Many of its claims were never paid. In 1845, the Agriculturist Cattle Insurance Company was founded. This Company rapidly acquired a considerable business, absorbing several of the small local cattle insurance companies and leading to the dissolution of the many of the provincial cattle corporations in existence at the date of its advent. A few years of practical operation were necessary to enable this company to consolidate its experience and set rates for the safe conduct of this type of insurance. In 1851, this company charged for the insurance of dairy cows $7\frac{1}{2}d.$ to the pound; for feeding stock, $6d.$; for young stock under one year of age, $1s.$ to the pound; above one year, $7\frac{1}{2}d.$ For bulls not exceeding the value of £20, $1s.$ to the pound. For bulls exceeding £20 and not exceeding £40, $1s., 3d.$ to the pound. Prize bulls were insured for $2s.$ and upwards per pound, according to value and other circumstances. Cows kept in towns were insured at from $1s. 6d.$ to $2s.$ to the pound depending on the character of shelter and care received by these animals. Working oxen were insured at $7s.$ to the pound. This company also had differential rates for horses, whether used for agricultural purposes or for pulling pleasure vehicles. Insurance was also granted on sheep and pigs.

This company was founded with an authorized capital of £500,000, amount paid up, £76,274. The shares were well subscribed, and at one time were sold at a premium. The original prospectus stated that the company was founded for the protection of farmers against losses by disease or accident among their livestock. In 1848, however, through a reckless system of management, the company got into difficulties. After investigation a new board of management was elected and the rates were increased from $2\frac{1}{2}$ to $3\frac{1}{2}$ per cent. above these originally charged; while the allowance in case of loss was reduced from $\frac{3}{4}$ to $\frac{2}{3}$ the value of the animal dying.

The company had extended its operations also to life insurance on human beings, but it did a very small business in this department, and afterwards transferred the insurances to the Norwich Union. In 1851, it took over the business of the Essex Mutual Cattle Company, and in the same year also the business of another cattle association in Lincolnshire. In 1861, the company found itself again in difficulties and passed into liquidation. The affairs of the company were not closed up until well after 1871.

The United Kingdom Cattle Insurance Company was founded in 1847, but did business only for a few years. In the end, many of the claims were unpaid. The North Staffordshire Mutual Cattle Insurance Company was founded in 1849, and about the same year, another company was projected for insuring cattle while on railway journeys.

The Norfolk Farmers Insurance Company was established in 1849. It speedily took the leading position in this branch of the business and for many years weathered the vicissitudes of successive plagues of cattle pneumonia and other diseases. The National Livestock Insurance Company was established in 1853 and remained in business until 1862, when it merged with the Norfolk Farmers. The same year saw the establishment of the General Livestock Insurance Company, which, after carrying on a considerable volume of business, passed into liquidation in 1857. Its business connections were transferred to the London and County Hail & Cattle Insurance Company founded in 1854. This company in turn ceased business in 1859, when it transferred its interests to the Norfolk Farmers. The Pontefract & West Riding Horse & Cattle Insurance Company was established in 1857, and seemed to do a fairly successful business for some twenty years after its establishment. The Provincial Horse & Cattle Insurance Company was established at Nottingham in 1862, and according to the records was in business in 1867.

Many of the companies, established in the middle of the nineteenth century in England, came to a disastrous end in consequence of the cattle plague which wrought such havoc among farm animals in England in the years 1864 and 1865. The plague itself, however, stimulated public interest in livestock insurance protection and resulted in the formation, about 1865, of no less than 22 companies offering insurance specifically against

cattle plague, pleural pneumonia and rinder-pest. With the passing of the prevailing cattle diseases, the companies were allowed, almost without exception, to die. Among the companies founded in that era were the Altrincham Cattle Plague Insurance Association, the Banbury Cattle Plague Insurance Company, the County Cattle Insurance Company of Hertford, the Kendel Union Cattle Insurance Company, the South Lincolnshire Cattle Insurance Company and the Warwickshire Cattle Insurance Company. The year 1866 saw the establishment of the Langport Union, the Tetbury Mutual and the West Dorset Cattle Insurance Company.

In 1866, there was passed the 29 and 30 Victoria, c. 34, the object of which was to encourage the formation of local cattle insurance associations which were so much needed in consequence of prevailing cattle diseases. The main provisions of the Act were first, that notwithstanding anything in 18 and 19 Vict. c. 63 relating to Friendly Societies, a club or society could be established for the insurance to any amount against loss by death of cattle, sheep, lambs, swine and horses from disease or otherwise; and neither the provisions in Section 9, that no member shall subscribe or contract for a sum payable on death or any other contingency exceeding £200, nor Section 38, of the Friendly Societies Act, should apply to any such society established or which might thereafter (June 11, 1866) be established for such purpose. The second important feature of this act was that all contributions, premiums and other payments payable by any member of such local society in respect to any insurance affected by him shall be considered as a debt due by him to the society and should be recoverable as such in the county court of the district within which the usual or principal place of business of the society was located. There is no definite record of the formation of any local associations under the provisions of this Act. In 1869, the Lake Districts Farmers Cattle Insurance Association was founded.

It may be of interest to note, that at this time in the history of livestock insurance in England, the companies paid a commission of 10 per cent. to agents on new business and 5 per cent. on renewals. The inspectors of cattle for the companies were paid by fee.

The Warden Insurance Co., Ltd., was established in 1877. It

is still in business and insures horses and cattle, stallions, mares in foal and foals. The business of this company was for many years developed slowly and soundly.

The Horse, Carriage and General Insurance Company.

The Horse Insurance Company, Ltd., was founded in 1868, and in 1892 was united with the London & Provincial Horse and Carriage Insurance Company founded in 1873. The name of the combined companies was then the Horse, Carriage and General Insurance Company. This company, throughout its history, has had a successful and honorable experience. This experience was attained in an era between 1870 and the present date when nearly all livestock insurance companies in England were operated at a loss. Throughout the history of the Horse, Carriage and General Company, the directors of the company have always been careful to maintain ample reserves for unexpired liability and as a buffer against exceptional loss experience. The stockholders of the company have over many years enjoyed a total dividend of 15 per cent. annually, largely from interest revenue and only incidentally from underwriting profit. The significant fact was, however, the persistent, if small, underwriting profit. How this was accomplished would be of interest to livestock underwriters all over the world. The experience of this company, from 1893 to 1903, is given in the following table.

TABLE 8
HORSE, CARRIAGE AND GENERAL INSURANCE COMPANY,
ENGLAND. LIVESTOCK EXPERIENCE, 1893 TO 1903

Year	Premiums	Percentage to premiums:	
		Claims	Expenses
1893	£31,377	59.1	37.4
1894	34,845	60.3	37.3
1895	37,501	59.3	35.9
1896	38,288	61.3	36.1
1897	37,010	67.6	36.3
1898	34,021	60.7	36.2
1899	40,325	55.8	33.8
1900	41,482	59.0	32.8
1901	44,678	55.6	34.8
1902	46,964	62.3	33.6
1903	50,508	54.8	34.1

The Friendly Societies Act of 1896 provided for the registering of local mutual cattle insurance clubs. The experience of such societies for the period 1915 to 1925 is shown below.

TABLE 9
CATTLE INSURANCE SOCIETIES, 1915 TO 1925
Registered under the Friendly Societies Act, 1896, Great Britain

Year	Number of Returns	Number of Members	Contributions £	Benefits £	Number Insured			Funds £
					Cattle	Swine	Horses	
1925	60	3,075	4,379	4,716	22,073	8,213	483	11,239
1924	58	3,182	3,557	3,548	19,164	3,049	509	11,164
1923	60	3,448	3,570	3,812	15,265	3,429	503	11,034
1922	62	3,611	4,284	4,574	17,700	3,356	503	11,323
1921	62	3,893	5,723	4,333	19,940	3,891	500	11,396
1920	65	3,854	3,191	5,032	18,187	3,402	481	9,882
1919	66	3,868	2,778	3,456	15,382	3,276	410	10,985
1918	64	3,818	2,563	2,170	15,134	2,537	383	10,868
1917	66	3,636	3,588	4,046	30,845	3,127	374	9,850
1916	66	3,641	*	3,757	29,192	3,759	382	9,654
1915	68	3,730	*	*	28,524	4,040	443	9,408

*Particulars not available.

The foregoing record, of course, relates only to those societies which report to the Registrar. It does not include the more than 1,000 pig clubs, the 157 cow clubs and an unknown number of mutual societies insuring horses in England. It may be well to note, at this time, the distinguished work done by Sir James Wilson in investigating the history and experience of these mutual animal insurance clubs. As a result of his investigation, it was possible by the former Board of Agriculture and Fisheries, now the Ministry of Agriculture and Fisheries, to prepare and to issue model rules and explanatory guidance for persons in England desiring to start these local clubs. The largest local society is that at Whixal in Shropshire, founded in 1842, and having about 300 members, insuring 1,395 cows and calves.

These registered societies are supposed to keep separate accounts of insurance and management expense. The management expense of 13 societies, for salaries chiefly, averaged only 5*d.* per annum per animal in 1911-1913. A system of reinsurance for local societies was arranged by the Ministry of Agriculture and Fisheries with the Agricultural and General Cooperative Insurance Society, Ltd. of London. If this latter society is satisfied regarding a local club's financial position it undertakes to carry one-half of the club's net risks in return for half the insurance contributions of the members, less one-tenth of that half.

In general, it may be said that until about 1912, commercial livestock insurance in England was mainly in the hands of four companies writing that line exclusively, but since then, most

of the large mixed line companies have added this business to their other activities. Some 89 companies write the line to a greater or less extent in England at the present time.

MODERN LIVESTOCK INSURANCE PRACTICE IN ENGLAND

It may be in order to remark on certain of the current practices in England. The Liverpool and London and Globe, through its general manager, Mr. Hugh Lewis, reports the following covers: horse and cattle risks; transit and show risks; stallion insurance, foaling risks; castration risks and anthrax insurance. The rates for given sums insured on horses are presented for five distinct risk classes. The standard table applies to horses under 9 years of age. Horses above that age are not insured for more than $\frac{2}{3}$ value and an extra premium of 20 per cent. of the standard premium is charged for each year of age over nine.

The risk classes on horses are as follows: Class 1, private carriage and saddle horses, excluding hunting risks; Class 2, farm horses over 12 months of age and horses used in light delivery service; Class 3, horses used by brewers, cabinet makers, furniture dealers, etc., and polo ponies and hunters, also colts and fillies 6 to 12 months old; Class 4, covers horses used by builders, country carriers, general dealers, also hunting horses in point-to-point races, and colts and fillies 30 days to 6 months old; and Class 5, covers horses used by coal dealers and other persons engaged in heavy haulage. Rates for blooded stock are quoted on special application.

The rates for cattle range from 4 per cent. on bulls 6 months and under 6 years of age to $6\frac{1}{4}$ per cent. for dairy cows and heifers. No compensation is paid for any animal destroyed under the Diseases of Animals Act or under any order by competent legal authority. It is interesting to note that one of the special advantages is that animals not over 9 years of age may be insured for full market value.

The general cover includes glanders, farcy, anthrax, rail transit and show risks without extra charge; insurances may be transferred to new animals, and rebates are given to unexpired risks if animals are sold. There is the usual requirement of immediate notice of illness, accident or death to the company and the exclusion of risks of foaling, castration and docking, except on payment of addition premium. No compensation is paid also if an

animal is slaughtered without the consent of the company. Death, resulting from fire, lightning or transit by water, is not covered nor is the loss occasioned through an animal becoming unfit or incapable of fulfilling the functions or duties for which it is kept. No liability is assumed by the company until full premium is paid and a policy or official cover is actually in the owner's possession. The transit and show risk policy of this company covers loss through death from accident or disease while in transit or while on exhibition at shows or sales, and excludes only the risk of death by water transit or from parturition. The three classes of rates of the transit and show policy relate to single journeys, 10 days travel on exhibition and 30 days cover. The rates include fire and lightning risks, while animals are off the farm or premises.

The stallion insurance is offered in season policies of 4 months, or on annual policies. These cover the risk of death from accident or disease on all breeds except blood stock. On a further table, insurance is offered on stallions against death from accident or death and from disablement. The disability compensation for stallions is payable for a period not exceeding 6 weeks during the service season while the stallion is totally disabled by accident or illness. No compensation is payable for the first 7 days of incapacity. Special rates are quoted for bloodstock stallions.

The foaling riskcover relates to mares not over 9 years of age and insurance is granted for full market value. In essence, this policy grants a cash return if mares prove barren, provided intimation is given to the company within 30 days after the expected date of foaling; and under annual policies, compensation is paid for both mare and foal if both are insured should the mare die prior to foaling and the existence of the unborn foal be proved. The castration risk provides cover for death from accident and disease for colts 6 months to 3 years old.

Animals over 3 and under 6 years of age carry an extra premium of 10 per cent. for each year, or part of year, after 3 years of age. Horses above 6 years of age are not insured against castration risk. While the castration policy is in force, it also covers death from accident or disease. An operation policy is also sold which covers the animal from the time of the operation until noon of the thirtieth day thereafter.

The anthrax cover protects against this special risk and the

sum insured is subject to average. If, when the loss occurs, the market value of the animals of the class insured, in the insured's possession is collectively greater than the sum insured, the company is liable only for the proportion which the sum insured bears to the market value. The foregoing description is, in general, typical of British livestock insurance practice both on general and special lines.

LIVESTOCK TARIFF ASSOCIATION IN ENGLAND

In 1911, the Royal Assurance entered the field and in 1912 the Northern Assurance Company commenced underwriting livestock in Australia. A year later, the latter company commenced operations in the livestock field in the home country. In 1912, steps were taken to establish a tariff association for livestock insurance, and on December 20 of that year, a preliminary meeting was held in the Commercial Union Offices of London. Representatives of the following offices were present: Commercial Union; Norwich & London; London and Lincolnshire; Royal; Imperial Livestock; Horse, Carriage & General; and Yorkshire. The latter company had prepared a draft tariff as a basis of discussion by the meeting. The existence of this association had a wholesome effect upon underwriting practices. The association has branched forth until recently it had a membership of over 30 offices. It is now known as the "Live Stock Offices Association," H. E. Howlett, Secretary, 14 Old Park Avenue, London, S. W. 12, England.

HORSE ENDOWMENT INSURANCE IN SCOTLAND

In Scotland, a unique form of cover is offered by the General Accident, Fire & Life Assurance Corporation of Perth. This is the horse endowment insurance plan first put forth by that company in 1910. According to information from Mr. Frederick Richardson, the General is the only company which offers this branch of insurance. This type of insurance is designed to meet the requirements of horse owners who desire a full specified sum at the end of a given number of years if a horse is then living, combined with a general death cover throughout the period of insurance. The owner may secure an amount of insurance ranging from £20 to £50 for a term of from 5 to 10 years. At the end of the endowment period, the sum assured is paid to the owner, or on prior death of the animal at any time. This is really horse replacement insurance.

There are provisions in the policy for liberal cash surrender values after payment of 2 years' premiums and for the issue of a

paid-up policy in the proportion which the number of premiums actually paid bears to the total number payable under the original policy. The exception as to paid up policies is that the death benefit does not continue unless the reduced premiums applicable thereto are paid. There is also provision for loans on the policies after payment of two or more premiums. The owner can obtain an advance up to nine-tenths of the surrender value, paying interest at 5 per cent. per annum.

In event of the sale of the insured horse, or its disposition otherwise, the owner may have the policy altered so as to apply to another horse, immediately transfer the policy to the purchaser, or immediately surrender the policy for its cash value. Extra premiums are charged for endowments on race horses or on horses used for heavy haulage.

Risks from foaling, hunting, fire and castration are charged for at extra premiums according to age and season. Stallions, polo ponies and yeomanry horses are charged 1 per cent. extra on the amount insured. The plan applies only to horses not more than 8 years of age at entry or which will not exceed 16 years of age at the expiry of the policy. The General Accident, Fire and Life also issues policies insuring livestock in transit by sea and from any part of the world. In form this reverts to the Spanish marine cover on animals offered in 1556. The policy covers death from natural causes, accident or injury, jettison or washing overboard. Protection is also offered to owners of large studs and herds for excessive mortality due to epidemics.

There is not much historical information available on livestock insurance in Scotland. In 1872, the Scottish Farmers Livestock Insurance Company was formed. A scheme of mutual cattle insurance was under agitation in 1873, but nothing in general came out of the discussion. In 1899, the Scottish Livestock Insurance Company, Ltd., was founded at Perth, Scotland. In the 80's of the last century, the London and Provincial and the Horse Insurance Company commenced operating in the north of Scotland. They ultimately opened their first branch at Old Meldrum, and a year or two later offices were opened in Edinburgh and Moffat.

In Scotland, special policies are sometimes issued against "grass disease", an ailment to which horses and mares are subject in that country. Slaughter insurance against loss through tuberculosis is also offered.

(j) *France.*

In 1839 the Campagnie des Pyrénées was founded for the transaction of animal insurance in the Hautes Pyrénées. This is the first association of record for this class of insurance in France. About 1848, a plan was brought forward in France for Government insurance, including cattle insurance. It was proposed, at that time, to charge a uniform premium of $1\frac{1}{2}$ per cent. upon the estimated salable value of all livestock. The vigorous opposition of the existing French insurance offices, at that time, repelled this attack. In 1857, a scheme was propounded for a General Bank for Agricultural Insurance in France. A branch was to be devoted to the insurance of cattle. An elaborate scheme of risk classes was proposed. A premium of 1 per cent. was set for Class I, which was to include ordinary animals on the farm; Class II comprised pigs, and here the premium was projected at 1 per cent; Class III was set up for sheep and lambs; Class IV for horses in police and military service; Class V for draft animals, stallions, bulls and rams, and Class VI for animals used in public delivery service, or for cows kept in towns and cities. The rates for Class III were proposed at 2 per cent; for Class IV at $1\frac{1}{2}$ per cent; Class V at $2\frac{1}{2}$ per cent and Class VI at 3 per cent. In setting these rates it was thought that not only should the type of animal and nature of work performed by these animals be taken into account, but also the conditions of nourishment, care and shelter under which they lived.

In 1859, an attempt was made again to organize a system of agricultural insurance against cattle diseases, frost, floods and hailstorms. This plan was to be under the control of the State, and participation in it was to be made compulsory. A full discussion of the plan is given by M. Le Hir in the *Assurance Magazine*, Volume VIII, Page 286.

In 1877, M. Benion issued his manual on the insurance of livestock. This writer thought that livestock insurance could best be conducted in France by small, local mutual societies. He warned against the danger of frauds, which would occur under country-wide State or private insurance. Some account of Benion's work is given in the *Insurance Times* for December, 1877, page 768. Two other writers in France, at about the same time, Magne and Valserrès, agreed with Benion in respect to the types of insurance carriers best suited to carry on the business

among the French peasantry. Up to 1876 the following companies had been organized in France: Compagnie des Pyrénées (stock), 1839; L'Agriculture (1840); Agricole de Lambres (1841); a company at Laval (1842); La Ligerienne Tourangelle (1843); La Poles (1843); La Bucephales (1844); La Mutuelle du Calvados (1844); La Bonne Foi (1845); L'Agricole (1846); La Garantie Federale (1846); Tresor de l'Agriculture (1846); La Societe des Cultivateurs (1855); Mortalite de l' espece chevaline (1867); L'Union Nationale (1872); La Gironde (1872); La Patrie Agricole (1875); La Comptoir Agricole (1876); and the following, date unknown, La Glaneuse, La Securite, Le Betail, and La Gaule.

LA MUTUELLE AGRICOLE

In 1878 "La Mutuelle Agricole" was formed. The company proposed to operate on the basis of fixed assessments, at 2 francs annually per head, upon domestic animals of any or every kind or value. Carriage, hack and dray horses were excepted, and here the assessment was to be 10 francs per head annually. It was objected, at that time, however, that the insurance was too cheap and that this mutual society could not hold to its announced position. The lack of classification of the animals, according to risk class and also according to locality, was held to be an unfortunate oversight. The provision that if assessments failed to meet the amount of losses, indemnity due each claimant be reduced in proportion, was held hardly to be a sufficient safeguard.

This society was organized by M. de la Porte. Local agents were to have been paid commissions of 5 per cent. and the directors of the society in the several *departements* were to receive 3 per cent. upon all premiums coming from their several areas. One objectionable feature in the organization of this society was that the general director was to receive as a fee the sum of 3 per cent. upon all amounts paid into the treasury of the society besides perquisites as follows: upon the appointment of departmental directors, they were to pay the sum of 1,200 francs, and each local agent the sum of 300 francs, half of which sums respectively was to belong to the founder and director as a remuneration for his trouble, care and contribution to the formation of the society. The remaining half of these payments were to be held as security for the several other officers and to be invested according to law for their benefit, the interest being subject to their order at the rate of 3 per cent. per annum. It

was also provided that in the event of the director-general leaving his position from any cause whatever, he or his heirs after him, were to continue to receive one-half of the fees that he would have been entitled to himself. One American writer in the 70's wanted to know what was "Mutuelle" about this society!

In 1879 another plan was brought forward for government insurance in France covering fire, hail, frost and livestock insurance.

The status of animal insurance in France in the early 90's of the last century is shown in the following table:

TABLE 10
ANIMAL INSURANCE COMPANIES IN FRANCE, 1894

Company	New Insurances (Francs)	Claims Paid (Francs)
L'Avenir, Paris.	9,671,978	300,370
L'Association Agricole, La Rochelle. . .	338,317	4,019
Le Retail, Paris.	1,073,159	11,889
Le Bon Labourer, Dreux.	1,294,085	43,685
La Bonne Foi, Paris.	256,843	4,051
La Caisse des Proprietaires, Paris. . . .	300,000	20,000
L'Etable, Paris.	2,175,972	23,499
La Garantie Federale, Paris.	20,878,715	401,862
La Glaneuse Agricole, Paris.	300,000	5,340
La Societe des Cultivateur Coulommiers	1,250,450	42,506
L'Union Centrale, Bordeaux.	1,294,210	11,509
Totals—1894.	38,833,729	868,724
1893.	36,843,974	904,805
1892.	36,469,292	838,552
1891.	38,759,357	830,743
1890.	38,386,380	819,557

One company, the *Securite de l'Aisne Loan*, went into liquidation in 1893. The loss ratio in per cent. of amount insured for the years 1890 to 1897 for 11 mutual livestock insurance offices in France is given in the following table:

TABLE 11
LOSS RATIO, PER CENT. OF INSURANCE AMOUNTS, ELEVEN
MUTUAL LIVE STOCK OFFICES IN FRANCE, 1890 TO 1897

Year	Loss ratio
1890	2.13%
1891	2.14
1892	2.29
1893	2.45
1894	2.24
1895	2.16
1896	2.25
1897	2.47

In general, these mutual companies in France during this period used a 4/5 value clause as a check on moral hazard. The total amounts insured in 1897, in these 11 mutual companies,

TABLE 12
COMBINED EXPERIENCE OF FRENCH LIVE STOCK INSURANCE COMPANIES, 1890 TO 1907

Year	Number of Policies	Amount issued in francs	Premium income in francs	Losses (Number)	Losses in francs	Reserve at end of each year in francs
1890	20,953	38,386,387	1,197,750	2,971	819,557	198,765
1891	20,486	38,759,357	1,293,330	3,106	810,743	214,770
1892	20,806	36,469,292	1,245,078	2,995	838,552	218,000
1893	21,062	36,843,974	1,305,061	3,282	904,805	220,588
1894	19,442	38,833,729	1,290,990	2,892	868,724	232,577
Average: 1890—1894	20,580	37,858,548	1,266,442	3,049	852,476	216,940
1895	18,787	37,010,695	1,259,413	2,508	804,204	242,237
1896	21,499	40,585,135	1,402,804	3,001	914,178	265,218
1897	23,568	43,787,385	1,348,555	3,480	1,086,474	298,244
1898	26,097	43,311,190	1,564,758	3,882	1,280,446	323,204
1899	28,033	51,371,273	1,658,412	3,986	1,392,252	323,939
Average: 1895—1899	23,597	44,413,136	1,446,788	3,371	1,095,511	290,568
1900	30,240	51,544,472	1,761,955	3,884	1,433,309	324,094
1901	34,945	65,447,355	2,224,308	4,336	1,818,792	333,935
1902	32,378	66,691,868	2,327,538	4,029	1,857,095	372,081
1903	39,040	68,774,900	2,398,272	4,219	1,901,368	387,555
1904	40,060	71,913,841	2,560,975	4,591	2,112,309	365,460
Average: 1900—1904	35,333	64,874,487	2,254,610	4,212	1,824,575	356,625
1905	42,430	76,772,422	2,690,804	4,991	2,264,847	347,257
1906	44,494	84,613,478	2,918,776	5,866	2,537,040	335,246
1907	45,428	88,343,988	3,052,694	5,684	2,565,739	583,226

was about \$8,529,000. The combined experience of the French companies from 1890 to 1907 is shown in the table on page 331.

It is stated that in Metz, there is a separate organization for insuring animals against loss through rejection by food inspectors. The premiums annually are: for bulls and oxen, 75 cents; cows, \$1; calves, 50 cents; and swine, 30 cents. The indemnity paid for the full value of the animal condemned, or the value of the part confiscated, included all expenses incurred. The receipts of the company in 1927 were \$5,000.

(k) *Germany.*

We have referred to the existence of mutual cattle insurance societies in the north of Europe. They are of great antiquity in Germany. In addition to the activities of these local societies, it is fairly clear that the business of cattle insurance was transacted in the north of Europe early in the eighteenth century. Under a policy in Hamburg, Germany, in 1720, individual underwriters undertook to cover the "risks of all distempers and sickness in cattle and of robbery, and other accidents, either to be imagined or not which might happen to the cattle insured." The policy, although issued in Hamburg, Germany, was nevertheless subject to the uses and customs of Antwerp, where, no doubt the insurance of cattle by individual underwriters had been practiced at a much earlier period.

In 1753, Nicholas Magens in his "Essay on Insurances" says: "when infectious distemper reigns, cattle grazers or cow keepers, whose capital is chiefly employed therein, are permitted to insure the lives of their stock before the sickness has appeared among them." Magens reviewed the Hamburg policy just mentioned.

ERNST ALBERT MASIUS

Cattle insurance by commercial companies seems to have been introduced in Germany by the late Ernst Albert Masius in 1830. Masius was one of the pioneer insurance journalists of Germany. It is known that he was the founder of not less than three life insurance companies, two fire insurance companies, two hail insurance companies and two cattle insurance institutions. He was also a pioneer in founding accident insurance for railway passengers and in mortgage guarantee insurance. His works on insurance are still standard reference texts in Germany. Masius' writings should be better known in this country.

Masius submitted to the Convention of Actuaries, held in London in 1851, a statement on cattle insurance in Germany as observed by him since 1830. He said that commercial cattle insurance was the one branch of the insurance business in Germany which had prospered least; the expense of management was excessive; that it required supervision and control which could not be kept up by commercial companies. No live stock insurance company in Germany, founded between 1830 and 1850, was able to survive the tenth year of existence. In 1851, there were in Germany only two societies on the mutual plan, one of them established since 1846 at Darmstadt and the other in 1848 at Cologne (Cologne and Münster Cattle Insurance Union). On various occasions they very narrowly escaped liquidation. Their general experience, at that time, indicated a premium of about 4 per cent of value insured.

In general, the years 1849 and 1850, marked the foundation of modern commercial live stock insurance in Germany. Ehrlich, in his work on animal insurance in Germany and its historical development, has noted the formation of at least 35 large animal insurance companies in Germany during the latter part of the nineteenth century. Most of them, he says, went into liquidation after only a short period of existence. Some of the more important private companies now writing live stock insurance in Germany are as follows: Allgemeine Deutsche Viehversicherungs, Berlin, founded in 1892; Altenburger Viehversicherungs, Altenburg i. Thur, founded in 1889; Badische Pferdeversicherungs, Karlsruhe, founded in 1879; Braunschweigische Allgemeine Viehversicherungs, Braunschweig, founded in 1852; Erfurter Viehversicherungs, Erfurt, established in 1866; Halensia, Godesberg a. Rhine, founded in 1888; Hamburg-Altonaer Viehversicherungs, Hamburg, founded in 1897; Pfalzischer Viehversicherungs, Ludwigshafen a. Rhine, established in 1849; Rheinische Pferde und Viehversicherungs, Cologne, established in 1875; Sächsische Viehversicherungs, Dresden, founded in 1872; Süd-deutschland, Munchen, founded in 1921; Uelzener Viehversicherungs, Uelzen, established in 1873; Vaterlandische Viehversicherungs, Dresden, organized in 1887; Veritas, Pferde-und Viehversicherungs, Berlin, inaugurated in 1863; Vieh-Versicherungs Gesellschaft, Schwerin, i. M., organized in 1892; Bayrische Landes-Tierversicherungsanstalt, Munchen, founded in 1896 and

Thuringische Landesanst. für Viehversicherungs, Jena, established in 1919. In 1926 the German stock companies insured 257,000 animals, and the mutual companies 660,000 animals. The combined premium income in 1926 was R. M. 14,897,000 and payments for losses were R. M. 10,583,000.

The premium income and the loss experience for the private livestock insurance companies in Germany, for the period 1908 to 1916, are shown in the following table.

TABLE 13
LOSS EXPERIENCE
German Private Livestock Insurance Companies, 1908-1916

Year	Total premiums (M)	Total losses (M)	Excess (+) or deficiency (-) of premiums over losses (M)	Per cent. losses of premiums
1916	13,109,852	10,262,209	+2,847,643	78
1915	11,551,965	10,811,154	+ 740,811	94
1914	12,513,904	12,699,737	- 185,833	101
1913	13,429,274	14,423,709	- 994,435	107
1912	13,359,949	14,557,648	-1,197,699	109
1911	13,267,539	14,534,176	-1,266,637	110
1910	11,361,797	11,963,365	- 601,568	105
1909	11,177,437	11,780,278	- 602,841	105
1908	10,696,969	11,038,674	- 341,705	103

A suggestion of the extent to which reinsurance is practiced among German private livestock insurance companies in Germany is afforded by the following table.

TABLE 14
PREMIUMS FOR OWN ACCOUNT AND ON REINSURANCE.
LIVESTOCK INSURANCE IN GERMANY, 1912 TO 1916.
German Private Livestock Insurance Companies

Year	Premiums for own account (Marks)	Reinsurance premiums (Marks)
1916	12,277,693	1,344,890
1915	11,742,598	675,569
1914	12,712,370	405,919
1913	13,360,006	426,212
1912	13,230,832	453,623

MUTUAL CATTLE INSURANCE SOCIETIES IN GERMANY

The number of mutual cattle insurance societies in this country always has been very great. Some 6,000 were known to exist in recent years. In 1883, there were known to be 4,021 such clubs with 399,400 members, insuring more than 1,025,000 animals in Prussia alone. There were possibly 2,000 such societies in

Bavaria; 910 in Wurtemberg; 1,024 in Baden; 300 in Hesse and 171 in Alsace-Lorraine, prior to the war. The majority of them were small local organizations with no written articles of association, and have been known to dissolve easily when losses were too heavy. Their existence is definitely traceable back to the sixteenth century. Occasionally these societies extend their business over several communes, receiving from the district authority regular or occasional subventions in money and being administered sometimes by the district authority.

Under the Imperial Insurance Act of 1901, only associations with written statutes or articles, and with written insurance conditions, were obliged to require authority to carry on their business and to publish their accounts. Insurance enterprises are, moreover, subject to the Supervisory Office for Private Insurance in Berlin, only when they carry on their business beyond the limits of the Federal State in which their registered office lies. There were in 1910 only 27 such societies subject to the Supervisory Office for Private Insurance in Berlin. Most of the societies are stated to require an advance premium from the insured, and reserve the right to levy a supplementary premium. Two societies in Saxony were, however, stated to require fixed premiums. Small and medium cattle owners do not insure to any noteworthy extent with these societies who charge high premiums and whose conditions have been framed largely to suit the requirements of large owners.

Cattle insurance is far more highly developed in Southern Germany than elsewhere, and this is mainly due to the measures adopted by certain States, namely Baden and Bavaria. Slaughter insurance, however, has been in force in Saxony as compulsory State-aided insurance since 1900. It was estimated that in Germany, in 1910, about 9 per cent. of the total value of horses and donkeys in the country were insured; 8 per cent. of the cattle and 3 per cent. of the pigs.

The following notes on mutual cattle insurance practices in several Federal States of Germany may be of some interest. Much of this material was found in the works of Cahill, Luck and Ehrlich. (*See bibliography.*)

Prussia.

Several Chambers of Agriculture in Prussia have adopted, in past times, special measures to promote the organization of

mutual cattle insurance. The Prussia-Saxony Chamber introduced some years ago a system of reinsurance for the local associations scattered throughout the province. A number of these associations were formed into a Union and all with excess of receipts over expenditures pay the balance to the Union for the purpose of covering losses of those associations in contrary condition.

It was proposed about 1913 in East Prussia, by the Chamber of Agriculture, to form an administering union of the 600 to 800 mutual cattle clubs in that area. The Union was to retain 60 per cent. of the premiums, together with 1 per cent. for cost of administration. The province was to make a grant to the Union, and the Chamber of Agriculture besides undertaking the administration of the Union business, was to make a grant equal to half of that granted by the province. In Pomerania, the Chamber of Agriculture formed a Union of about 27 local clubs in 1911. No reinsurance facilities were furnished but the Union would afford advice in the management of the clubs or societies.

Bavaria.

A Cattle Insurance Association was formed at Pfalz in Bavaria about 1848. Its function was to insure horses, cattle, sheep, goats and swine. The experience of this society is given in the *Assurance Magazine*, Volume 1, Page 349.

Government encouragement to insurance has made remarkable progress in Bavaria since 1873 or 1874. The centralizing and modernizing of insurance against fire by the Government, in 1874, was followed in 1884 by an insurance provision against hail damage. The State officials and farmers in that State considered this a most unique institution. In 1896, the Bavarian State undertook the organization of cattle life and slaughter insurance. In that year, under the leadership of Dr. Baron von Feilitzsch, the Public Cattle Insurance Institution was established along the following lines:

1. The institution was to be a mutual undertaking with the management entrusted to the Royal Chamber of Insurance.
2. It was to be formed of the local mutual cattle insurance societies throughout Bavaria which adopted the model articles of association approved by the institution and which voluntarily attached themselves to the latter.
3. Only the insurance of cattle and goats was to be undertaken.
4. The institution was to take over the payment of half the

losses, the funds to be collected from the affiliated societies in proportion to the values insured by them.

5. An annual State grant was to be made to cover partially the annual expenditures, in addition to a foundation grant to be made to the reserve fund of the institution. In general, these local societies, affiliated with the State institution, insured cattle owned by members.

There was an age limitation in respect to cattle insured. Only animals more than 3 months and not more than 12 years old were to be covered. Diseased animals could be refused as well as those obviously badly fed or overworked.

The experience of the Bavarian State Cattle Insurance Institution, from 1897 to 1911, is shown in the following table.

TABLE 15
BAVARIAN STATE CATTLE INSURANCE INSTITUTION,
1897-1911

Year	Number of Societies	Members-ship	Number of animals insured	Insured value £	Number of compensation cases	Percent- age of cases to number of animals insured	Percent- age of total net pay-ments to insured value
1897	814	39,201	194,402	1,974,908	4,614	2.3	1.2
1898	1,008	50,523	238,774	2,478,077	6,336	2.6	1.2
1899	1,270	62,967	285,138	2,995,280	7,804	2.7	1.3
1900	1,500	72,705	326,570	3,415,426	9,420	2.9	1.4
1901	1,551	74,020	326,214	3,402,020	10,080	3.1	1.5
1902	1,552	74,829	307,760	3,326,221	9,855	3.2	1.4
1903	1,537	74,673	292,545	3,360,881	8,879	3.0	1.4
1904	1,530	75,945	297,855	3,508,233	9,205	3.1	1.5
1905	1,553	78,142	307,751	3,739,745	10,407	3.4	1.6
1906	1,572	79,113	305,769	4,006,275	10,502	3.4	1.5
1907	1,614	81,552	320,776	4,274,478	10,330	3.2	1.6
1908	1,646	83,982	332,432	4,337,089	12,082	3.6	1.8
1909	1,689	85,117	329,774	4,271,334	12,550	3.8	1.9
1910	1,692	83,062	306,851	4,221,812	12,292	4.0	1.8
1911	1,661	80,734	294,246	4,190,697	12,888	4.38	1.9

BAVARIA HORSE INSURANCE INSTITUTION, 1899

Due to the further activity of Dr. von Feilitzsch, Minister of the Interior, the Horse Insurance Law of September 28, 1899, was passed, establishing the Horse Insurance Institution. This institution meets half of the compensation due to insured horse owners; it pays, however, all claims in full, and recovers from the societies concerned at the end of the insurance year. The societies are subject to inspection by the institution, which may

examine all books and documents, and may exclude societies conducting improper practices from the institution. The local horse insurance societies may cover areas similar to those of the local cattle insurance societies. All horse owners within the areas covered are eligible for membership, except professional horse dealers, horse slaughterers and those who already have horse insurance. No horses are taken under 8 months of age or over 15 years of age, nor does the institution insure badly nourished or misused horses, or horses which have been pledged as security for debt.

There is a waiting period of 14 days before animals are in benefit. Claims are not paid when death of the animal is caused by war, riot, fire or lightning or when the animal dies by infectious disease, where State indemnity is paid in such cases. Nor is there any basis for claim when the animal dies through neglect or mishandling by the owner, or when the owner fails to give prompt notice of sickness or injury of the animal. The injury or death of an animal, while engaged in a race upon which money is wagered, is also a ground for rejecting the claim.

The institution has a series of graded risk classes, the experience of which is shown in the following table.

TABLE 16
LOSS EXPERIENCE ON HORSES
BAVARIAN HORSE INSURANCE INSTITUTION, 1900—1905

Insurance year	Per cent. Lost of Insured Horses, by Risk Class:				
	Without increased rate	With 20% increase	With 30% increase	With 50% increase	With 80% increase
1900—1901	2.63	2.82	3.50	5.14	4.73
1901—1902	3.22	3.87	4.49	6.05	8.15
1902—1903	3.67	4.24	4.34	5.22	9.29
1903—1904	3.78	4.19	5.92	5.63	10.88
1904—1905	3.89	5.32	5.77	7.55	10.98

AGGREGATE EXPERIENCE, 1900—1905

Risk Class	Per cent. Lost of Insured Horses
I	3.45
II	4.08
III	4.80
IV	5.91
V	8.80

A review of the experience for the years 1901 to 1911 is shown on page 339.

TABLE 17
 BAVARIAN STATE HORSE INSURANCE INSTITUTION, 1901—1911

Year	Number of Societies	Number of members	Number of horses insured	Insured value £	Number of compensation claims paid	Percentage of claims to number of animals	Compensation paid £	Percentage of compensation to insured value
1901	296	12,254	32,635	930,118	926	2.8	17,195	1.8
1902	363	18,773	47,673	1,382,304	1,723	3.6	30,469	2.2
1903	401	24,366	60,021	1,771,632	2,390	4.0	43,752	2.5
1904	414	27,759	66,028	1,974,365	2,773	4.2	51,960	2.6
1905	428	29,010	70,016	2,133,592	3,101	4.4	58,183	2.7
1906	436	30,139	71,612	2,249,909	3,378	4.7	64,511	2.9
1907	450	31,406	73,541	2,396,587	3,742	5.1	72,518	3.0
1908	462	33,243	77,294	2,591,435	3,796	4.9	74,792	2.9
1909	477	34,991	80,811	2,772,004	4,148	5.1	83,572	3.0
1910	480	37,574	84,753	2,999,823	4,717	5.6	97,009	3.2
1911	487	39,017	89,068	3,275,403	5,426	6.0	115,057	3.5

It has been said in respect to these Bavarian institutions that they eschew all bureaucratic tendencies and that the State and township officials have been largely friendly counsellors to the parties interested. The Horse Insurance Institution was not especially established for the benefit of the farmers, but extended its protection to all regions in Bavaria, where horses are bred, and this included the cities.

Baden.

The first trace of cattle insurance in Baden is found in the 30's of the last century. In 1834, the directors of the Agricultural Economics Society of Baden endeavored to combat usury in the Grand Duchy when cattle were offered as pledges. The Society encouraged the formation of cattle clubs which lent money to prospective purchasers of cattle. An insurance arrangement was effected to protect the societies on their loans to members. In 1846, there were 60 such societies in the Grand Duchy. During the last half of the nineteenth century in Baden, the activities of these societies brought nearer and nearer the organization of cattle insurance companies. Out of this experience arose the first plan for compulsory animal insurance. Nothing came out of the plan, however.

The development of local voluntary insurance institutions was rapid, and in 1890 had gone so far that 25 per cent. of the cattle in Baden were covered by live stock insurance in mutual societies. The following table gives the experience of the mutual horse and cattle insurance societies in Baden from 1883 to 1892. The figures are taken from the reports of the district veterinary of Baden.

Baden was the first of the German States to undertake the organization of cattle insurance in modern times. Under the Act of 1890, as finally amended in 1910, every parish authority was obliged to establish under the Ministry, a Mutual Cattle Insurance Institution, when the cattle owners of the district by two-thirds vote, decided in favor of the proposition. All cattle owners within the area of the parish authority were then obliged to insure their stock. These institutions formed a Central Union, which, under powers slightly amended by the Cattle Insurance Act of 1898, undertook responsibility to pay half of the claims due to members. The local insurance societies, existing

TABLE 18
HORSE AND CATTLE INSURANCE IN BADEN, 1883—1892

Year	Horse Insurance						Cattle Insurance					
	Societies	Insured members	Insured horses	Loss		Per cent. insured of all horses	Societies	Insured members	Insured cattle	Loss		Per cent. insured of all cattle
				Number	Marks					Number	Marks	
1883	10	525	1,127	39	12,215	1.76	353	38,858	88,747	1,450	197,741	14.6
1884	10	582	1,188	46	12,243	1.84	370	35,139	?	1,553	204,140	?
1885	12	669	1,353	42	10,399	2.10	396	38,065	105,227	1,977	223,162	16.7
1886	14	825	1,728	71	20,024	2.66	448	41,899	122,518	2,060	259,222	19.1
1887	14	687	1,720	62	20,302	3.72	482	45,620	136,066	2,193	291,864	22.6
1888	14	700	1,790	80	23,086	2.77	479	45,993	139,593	2,551	315,604	24.4
1889	14	710	1,776	85	15,954	2.76	497	47,849	139,202	2,391	317,890	25.0
1890	19	729	1,982	57	18,056	3.08	500	47,397	139,982	2,105	315,148	24.5
1891	24	1,003	2,169	67	19,639	3.38	521	50,316	154,118	2,442	397,399	25.9
1892	18	962	2,051	64	19,320	3.20	549	54,468	168,882	3,242	473,587	28.5

TABLE 19
THE BADEN CATTLE INSURANCE UNION, 1893-1911

Year	Number of Local Organizations	Number of Cattle Owners	Number of Cattle	Insured Value £	Number of Compensation Claims		Percentage of compensation Cases to No. of animals insured	Compensation paid £	Net Returns from Sale of Cattle £	Expenditure Covered		
					Recognized	Rejected				By Levy by Local Organizations £	By Union £	By State Grant £
1893	87	9,396	29,231	310,120	846	17	2.84	7,695	2,176	2,322	1,240	2,100
1894	111	11,642	37,449	497,051	1,101	26	2.87	11,207	3,893	3,756	3,485	2,000
1895	118	12,466	43,174	618,798	988	26	2.29	12,071	4,126	4,421	3,712	2,150
1896	118	12,544	44,407	598,909	1,224	20	2.76	14,072	4,344	4,597	5,450	1,750
1897	123	12,803	44,827	600,137	1,411	14	3.15	15,276	4,786	7,395	1,200	4,000
1898	124	12,749	45,142	625,076	1,276	24	2.82	13,837	4,719	7,107	1,250	3,300
1899	125	17,238	62,832	934,946	1,506	37	2.40	17,718	6,777	8,820	1,869	3,750
1900	202	18,948	67,297	999,802	1,809	17	2.69	21,128	8,511	9,806	1,999	4,600
1901	236	22,254	74,877	1,135,860	2,156	20	2.88	25,145	10,320	11,628	2,271	5,500
1902	258	22,769	80,523	1,284,682	1,994	13	2.48	24,218	10,344	11,544	2,569	4,810
1903	281	24,868	91,584	1,497,278	2,083	38	2.27	26,902	11,654	12,568	2,994	5,050
1904	321	27,599	107,811	1,793,281	2,499	36	2.32	34,171	14,616	16,556	3,586	6,700
1905	341	29,758	118,282	2,052,450	2,903	30	2.45	40,004	17,556	18,561	4,104	7,800
1906	363	31,336	123,396	2,243,781	3,144	33	2.54	44,389	19,139	20,393	4,485	8,640
1907	380	33,183	132,591	2,531,340	3,440	32	2.59	51,906	21,857	23,985	5,062	10,375
1908	400	34,528	139,605	2,638,659	3,731	50	2.67	55,745	21,915	26,319	5,277	11,870
1909	417	36,370	144,477	2,742,423	3,998	40	2.76	59,414	24,368	27,779	5,484	12,340
1910	426	36,950	143,570	2,841,739	3,915	61	2.72	60,522	25,364	28,769	5,683	11,915
1911	436	37,934	148,045	3,142,193	4,565	57	3.08	75,472	30,215	34,514	6,284	16,105

prior to January 1, 1891, with satisfactory articles of agreement, were eligible for affiliation with the Cattle Insurance Union.

The amount of compensation was fixed at seven-tenths of the value of the animals, value being based on current market prices. Compensation to the extent of eight-tenths of market value was paid in event of compulsory slaughter. Compensation was also paid in respect to animals discovered to be unsound after slaughter for food or industrial purposes. To meet these additional benefits, the union levied contributions upon the member societies, but when such contributions threatened to be burdensome, the balance was made good by the State Treasury.

A grant of some \$50,000 was made to the Union by the State for the purpose of forming a reserve fund. The State bore the expense of the administration of the Union. It appointed the Committee of Management which exercises supervision over the business. Certain courtesies were granted to the institution, such as freedom from all court fees and other payments to the State in connection with the conduct of the business. Free postage was also granted. The Union paid directly to the insured owners the full amounts due and recovered later from the local institutions. Powers of audit and supervision were invested in the Union. The insured were represented by a permanent committee elected from the members of the local institutions. The statistics of the Baden Cattle Insurance Union for the years 1893 to 1911 are shown on page 342.

In addition to the State scheme, there were numerous private cattle insurance undertakings, all of them subject, however, to supervision by the Baden Ministry of Internal Affairs. The facts for the period 1894 to 1910 for these institutions are shown on page 344.

Württemberg.

The question of cattle insurance in Württemberg has been brought up quite often during the past century. In 1880, there were in this area about 330 local voluntary societies, and in the period 1888 to 1892, there was an average of 475. In this latter period, the societies covered about 45,000 members insuring 1,700 horses and 155,000 cattle. In 1900, State systems were authorized, since which time, there has been a marked growth in the number of local societies. These societies were established largely through direct grants by the State.

TABLE 20
CATTLE INSURANCE UNDERTAKINGS IN BADEN, 1894 TO 1910

Year	Under- takings	Number of Cattle owners	Number of animals insured	Number	Percentage of animals insured	Amount of compensa- tion paid £
1894	534	51,521	151,468	2,821	1.76	29,302
1895	563	54,540	170,372	2,665	1.56	28,290
1896	572	57,009	185,950	3,282	1.76	32,424
1897	589	58,736	195,083	3,571	1.83	35,624
1898	583	59,910	196,678	3,135	1.59	32,820
1899	566	58,029	193,589	3,286	1.69	34,074
1900	565	57,571	190,065	3,426	1.80	33,269
1901	544	56,665	185,823	3,371	1.81	34,287
1902	552	56,764	185,851	3,205	1.67	33,436
1903	547	56,495	189,654	3,115	1.64	35,391
1904	557	57,496	198,089	3,529	1.78	43,981
1905	538	56,426	196,599	3,680	1.87	38,246
1906	522	54,255	188,661	3,506	1.86	40,627
1907	536	55,930	192,659	3,741	1.94	44,246
1908	529	54,328	191,829	4,018	2.09	46,879
1909	527	53,519	186,441	4,111	2.15	48,129
1910	529	53,273	184,792	3,997	2.16	49,872

The Würtemberg Diet rejected in 1900 the proposal to establish an insurance organization upon the Bavarian model. As recently as 1908, there were 910 local insurance societies in this area and they insured cattle largely. There was also some insurance on horses, goats and pigs. The great majority of the Würtemberg societies do not insure against losses arising from the condemnation of meat or hides after slaughter of the animals. Only 30 of the 172 societies in 1908 included slaughter insurance within their scope.

Grand Duchy of Hesse.

In Hesse, local societies on the mutual voluntary principle have existed since 1840. Attempts were made to found a State Cattle Insurance Institution on the Bavarian model, but these did not succeed. The most recent information suggests that there were in Hesse about 300 local insurance societies receiving State grants.

Saxony.

In accordance with the Saxon Act of 1898, obligatory insurance for cattle against loss through the total or partial rejection of the carcass after slaughter has been in force since 1900. All cattle and pigs over 3 months of age which were slaughtered in Saxony

were subject to insurance. Compensation to the amount of 80 per cent. of the value is paid and the State undertook one-quarter of the payment. The administration of cattle insurance is entrusted to the Fire Insurance Chamber.

About 1908, a new system of horse insurance was about to be introduced in Saxony. The existing livestock insurance companies were not patronized by farmers to the same degree as were other lines of insurance. The farmers were not pleased with the high premiums demanded. The State authorities, however, worked out a plan which was sanctioned by the Saxon Government, and the plan was to apply to the insurance of horses. It was understood that all horses and cross-breeds over 6 months of age were to be insured. Five risk classes were established at premiums ranging from $1\frac{1}{2}$ per cent. to 5 per cent. It was proposed to value animals by special committee and to issue public summons to persons in the various districts in order to facilitate the development of small insurance societies which later were to be affiliated with larger organizations through Government mediation and supervision.

Silesia.

Up to the end of 1923, in Silesia, cattle insurance was handled chiefly through local societies affiliated with the Silesian provincial cattle insurance societies. In 1923, however, this system was changed. The Lower Silesian Provincial Fire Society established a special cattle insurance section on the fixed premium system and took over the administration of cattle insurance in the State. There had been a rather high and unfavorable loss experience. No facts are available for the more recent arrangements.

The Fire Society or Institution in Breslau, founded in 1742, carries on animal insurance for horses, cattle, pigs, goats, sheep and dogs. It also transacts theft insurance on cattle; and castration, operation, inoculation, transport and show or exhibition insurance. The institution pays up to 80 per cent. of the loss from death or necessary slaughter. The premiums range in general from 3 to 7 per cent. of the sum insured, depending upon the risk class. On January 1, 1928, there were insured on the longer term contracts 27,503 animals for a sum of 12,305,000 marks and for premiums of 417,000 marks. The short term contracts in

1927 insured about 18,000 animals for an amount of more than 10,000,000 marks, with premiums of about 40,000 marks. The losses on this branch of the business averaged 128 per cent. of the income for 1927. Horses, chiefly, are insured.

It was in Silesia that Frederick the Great founded the first *governmental* cattle insurance institution on the compulsory plan.

(l) *Russia.*

In the Soviet Republic insurance of private property against loss from fire, cattle plague, destruction of crops by hail and loss of goods while in transit on sea or land, was instituted in October, 1921. Insurance was declared to be a State monopoly. In accordance with this arrangement there were insured in Russia during 1927 some 40.4 millions of horned cattle, a considerable increase over the eleven million insured in 1922-1923. The monopoly is administered by the *Gosstrakh*, in Moscow.

(m) *Sweden.*

In Sweden, the insurance of livestock is widespread. In 1911, 46 companies operated throughout the country, and there were 107 provincial and 552 strictly local companies. The total annual premium income amounted to something more than \$1,000,000 and the amounts insured approximately \$60,000,000. Losses averaged annually about \$600,000. The tendency in Sweden was to place insurance in larger commercial companies operating over wide territory, because the small local mutuals seemed to be unable successfully to meet the frequent and violent mortality fluctuations.

The Scandinavian Livestock Insurance Company (Mutual) Stockholm, was referred to in the previous text. That company has published its experience from 1890 to 1925. It showed an average death rate for insured horses of about 2.4 per cent. per annum as compared with a rate of 3.0 per cent. for horse insurance in Denmark. At the present time, livestock insurance in Sweden is being transacted by *Robur öms. Kreatur*, Stockholm, founded in 1904; *Skandinaviska Kreaturs*, Stockholm, established in 1890 and *Svenska öms. Kreatur*, Lilleskog, organized in 1906. In 1925, the Skandinaviska Kreaturs Försäkrings-bolaget issued an exceptionally fine brochure describing its experience for the years 1890-1925.

(n) *Switzerland.*

Switzerland seems to be one of the first countries attempting obligatory cattle insurance. The foundation of the idea was the law of December 22, 1893, which furthered the establishment of slaughter insurance institutions in the various Swiss cantons and political districts. The purpose of the law was to bring cattle insurance societies into existence, to subsidize them and to provide the necessary supervision. In Berne, Basel (rural), Solothurn, Graubünden, Aargau, Tessin, Waadt and Neuenburg facultative-obligatory insurance was established, that is to say, the societies were to be established only on majority vote of cattle owners in the district. In the cantons of Zürich, Glarus, Freiburg, the City of Basel, Schaffhausen and Thurgau, insurance clubs were established compulsorily. In some cases, where the district was too small, several areas were consolidated. Much information on the operation of these Swiss institutions may be found in the statistical communications of the canton of Zürich, 1900. Bee insurance has been transacted quite recently in Switzerland.

There were in Switzerland, in 1922, 2,101 animal insurance societies, insuring 771,264 larger animals and 43,097 smaller animals. They paid 6,666,000 francs on loss for large animals and 107,400 francs in losses on small animals. The Confederation subsidies amounted to 996,300 francs and from the Cantons to 1,399,000 francs.

(o) *The United States.*

There is little information available on the early history and the specific practices of the associations offering livestock insurance during the nineteenth century in the United States. The record begins in 1828 with the formation of the Northampton County Horse Association at Butztown, Pa. and closes with the establishment of the Guarantee Mutual Live Stock Insurance Company of Chicago, in 1924, with the ensuing liquidation of that Company in 1927.

On pages 348 to 355 will be found a list of the companies and associations reported to have transacted this type of business in the United States. Much further work will have to be done to complete this record. The subject is recommended to graduate students in the economics departments of our universities, and in the insurance departments of university schools of business.

348 DEVELOPMENT AND PRACTICES OF LIVESTOCK INSURANCE

RECORD OF LIVESTOCK INSURANCE INSTITUTIONS IN THE UNITED STATES, 1828 TO 1925 (INCOMPLETE)

Company	Year founded	Year retired or liquidated	In business 1927	Remarks
Alabama:				
Alabama Mutual L. S. Co. (M), Montgomery.....	?	1909	....	Retired
California:				
California Mutual Live Stock Ins. Co. (M).....	?	1909 or 1910	....	Failed
Colorado:				
Colorado Live Stock Ins. Co. (S), Loveland.....	?	1888	....	Retired
Rocky Mountain L. S. Ins. Co. (S), Denver.....	?	1917	....	Reinsured in Iowa State L. S. Co.
Connecticut:				
Aetna Live Stock Ins. Co. (S), Hartford.....	?	1868	....	Retired
Hartford L. S. Ins. Co. No. 1 (S), Hartford.....	?	1868	....	Retired
Hartford Accident & Indemnity Co. (S), Hartford.....	?	....	Yes	....
First Reinsurance Co. (S), Hartford.....	....	....	Yes	....
Delaware:				
Delaware L. S. Ins. Co. (S), Wilmington.....	1889	?		
District of Columbia:				
Interstate L. S. Ins. Co. of D. C. (S), Parkersburg, W. Va.....	1904	1905	....	Receiver app'td.
Georgia:				
Southern Live Stock Ins. Co. (S), Atlanta.....	1892	1899	....	Retired
National L. S. Ins. Co. (S), Fitzgerald.....	1903	?	?	
Mutual L. S. Ins. Co. (M), Athens	1905	?	?	
Southern Mutual L. S. Ins. Co. (M), Eberton.....	1906	?	?	
Athens Cooperative L. S. Ins. Co. (M), Athens.....	1906	?	?	
American L. S. Ins. Co. (S), Macon.....	?	1905		Retired
Idaho:				
Mutual L. S. Ins. Assn. (M), Boise.....	1905	?	?	
Intermountain Mutual L. I. Assn. (M), Boise.....	1905	?	?	
Illinois:				
Security L. S. Ins. Assn. (M), South Bend.....	1907	?		
Illinois L. S. Ins. Co. (S), Springfield.....	1908	1914	....	Dissolved by court order

RECORD OF LIVESTOCK INSURANCE INSTITUTIONS IN THE
UNITED STATES, 1828 TO 1925—Continued

<u>Company</u>	<u>Year founded</u>	<u>Year retired or liquidated</u>	<u>In business 1927</u>	<u>Remarks</u>
Illinois—Continued				
Kaskaskia L. S. Ins. Co. (S), Shelbyville.....	1913	1924	....	Became life ins. com- pany in 1924
Western L. S. Ins. Co. (S), Peoria	1913	1924	....	Assumed by Kaskas- kia
Granite L. S. Ins. Co. (S), Chicago	1913	1917	....	Reinsured in West- ern L. S., 1917
Central L. S. Ins. Co. (S), Kankakee.....	1914	1925	....	Dissolved
Farmers and Breeders L. S. Ins. Co. (S), Danville.....	1917	1922	....	Reinsured
Midwest L. S. Ins. Co. (S), Quincy	1918	1921	....	Receivership
Metropolitan L. S. Ins. Co., Springfield.....	1920	1922	....	Receivership
American L. S. Ins. Co. (M), Springfield.....	1921	1924	....	Retired
Illinois Bankers Hog Ins. Co. (S), Rockford.....	1922	1924	....	Dissolved
State Mutual Hog Ins. Co. (M), Springfield.....	1919	1921	....	Receivership
Guarantee Mutual L. S. Ins. Co. (M), Chicago.....	1924	1927	....	Receivership
Rock City Mutual L. S. Ins. Co. (M), Rock City.....	?	?		
Indiana:				
Indiana & Ohio L. S. Ins. Co. (S), Crawfordsville.....	1884	1916	....	Reinsured in Hart- ford L. S.
Central Live Stock Ins. Company (S).....	?	1888	....	Retired
Farmers and Breeders L. S. Ins. Co. (S), Indianapolis.....	1893	?	....
Farmers and Citizens Vol. L. S. Ins. Co. (M), Brownsburg.....	1897	?	....
Crawfordsville L. I. Ins. Co. (S), Crawfordsville.....	?	1905	....	{ Absorbed by Indi- ana & Ohio
Live Stock Ins. Assn. (M), South Bend.....	1906	?		
Stockmens Mutual Ins. Co. (M), Indianapolis.....	1907	?	?	
Farmers & Citizens Mutual L. S. Ins. Co. (M), Michigan City...	1907	?	?	
American L. S. Ins. Co. (S), Indianapolis.....	1909	1911	....
Standard L. S. Ins. Co. (S), Indianapolis.....	1909	1922	....	Liquidated
Mutual L. S. Ins. Co. (S), Indianapolis.....	1910	1916	....	Receivership
Home Mutual L. S. Ins. Co. (M), Lafayette.....		1923	Retired
Live Stock Ins. Co., Hunterton...	?	?

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RECORD OF LIVESTOCK INSURANCE INSTITUTIONS IN THE
UNITED STATES, 1828 TO 1925—Continued

Company	Year founded	Year retired or liquidated	In business 1927	Remarks
Iowa:				
Northwestern L. S. Ins. Co. (S), Des Moines.....	1886	1894	....	Retired while still solvent because of "moral hazard" following drop in prices of farm animals, 1892-1893
Northwestern L. S. Ins. Co. (S), Des Moines.....	1907	1915	....	Reinsured in Iowa L. S.
Live Stock Reciprocal Underwriters (M), Sioux City.....	1909	?	....	State L. S. Ins. Co.
Iowa L. S. Ins. Co. (S), Des Moines.....	....	1920	....	Reinsured
Corn Belt L. S. Ins. Co., Des Moines.....	1919	1921	....
Farmers Mutual Hog Ins. Co. (M), Sioux City.....	1920	1924	....	Retired
Iowa State L. S. Ins. Co. (S), Des Moines.....	1915	1920	....	Failed
National L. S. Ins. Co. (S), Des Moines.....	?	1921	....	Retired
Farmers L. S. Ins. Co. (S), Des Moines.....	1918	1921	....	Receivership
Continental L. S. Ins. Co. (S), Sioux City.....	1920	1921	....	Voluntary liquidation
Mutual L. S. Ins. Co. (M), Des Moines.....	1922	1924	....	Receivership
Lowden Mutual Cow Ins. Co. (M), Lowden.....	1922	1922	....
Iowa State Mutual Hog Ins. Co., State Center.....	?	?		
Kansas:				
American Mutual L. S. Ins. Co. (M), Wathena.....	1898	?	....
Capital City L. S. Ins. Co. (S), Topeka.....	1914	1921	....	Failed
Kansas Mutual L. S. Ins. Co. (M), Topeka.....	1914	?	....
Stockmens Indemnity Ins. Co. (M), Topeka.....	1913	1913	....	Retired
Topeka Mutual L. S. Ins. Co. (M), Topeka.....	1913	?	....
Kentucky:				
Kentucky L. S. Ins. Co. (S), Louisville.....	1913	?	....	Reinsured ?
Kentucky L. S. Ins. Co. (S), Louisville.....	....	1912	....	Merged with Tennessee Indemnity
Maine:				
Maine L. S. Ins. Co. (S), Portland.....	1895	1908	....	Retired

DEVELOPMENT AND PRACTICES OF LIVESTOCK INSURANCE 351

 RECORD OF LIVESTOCK INSURANCE INSTITUTIONS IN THE
 UNITED STATES, 1828 TO 1925—Continued

Company	Year founded	Year retired or liquidated	In business 1927	Remarks
Maryland:				
Provident Mutual L. S. Ins. Co., Baltimore.....	1914	?	....
Massachusetts:				
Security L. S. Ins. Co. (M), Boston	1891	?	....
Michigan:				
Michigan L. S. Ins. Co. (S), Detroit.....	1904	1912	....	Receivership
Michigan Mutual L. S. Ins. Co. (M), Saginaw.....	1914	?	....
Minnesota:				
National L. S. Ins. Co. (S), St. Paul.....	1887	1908	....	Retired
American L. S. Ins. Co. (S), St. Paul.....	?	1888	....	Retired
United States L. S. Ins. Co. (S), Fergus Falls.....	1890	?	....
Missouri:				
Stallion & Jack Owners Inter- insurance Alliance, Kansas City	?	1914	....	Liquidated
Montana:				
Montana L. S. Ins. Co. (S), Helena	?	1917	....	Reinsured in Iowa State L. S.
Nebraska:				
Western Horse & Cattle Ins. Co. (S), Omaha.....	?	1890	....	Retired
Nebraska L. S. & Indemnity Co. (S), Omaha.....	1916	1923	....	Became automobile ins. Co.
American L. S. Ins. Co. (S), Omaha.....	1919	1924	....	Reinsured
Swedish Mutual L. S. Co., Axtell.	?	?	....
New Hampshire:				
American L. S. Ins. Co. (S), Manchester.....	1891	?	....
New Jersey:				
Delaware Horse & Mule Mutual Ins. Co. (M), Sergeantville and Trenton.....	1872	1892	....	Receiver appointed
Camden Live Stock Ins. Co. (M), Camden.....	1890	1894	....	Receivership
Newark L. S. Ins. Assn. (M), Newark.....	1896	1897	....	Ceased business
New Jersey L. S. Ins. Co. (S), Newark.....	1911	....	....	Failed to do business
Eastern L. S. Ins. Co. (S), Paterson	1914	....	....	Failed to do business
New York:				
United Retail Grocers Assn. of Bklyn. (Mutual Benefit Horse Fund) (M), Bklyn, N. Y.....	1884	?	....

352 DEVELOPMENT AND PRACTICES OF LIVESTOCK INSURANCE

RECORD OF LIVESTOCK INSURANCE INSTITUTIONS IN THE UNITED STATES, 1828 TO 1925—Continued

Company	Year founded	Year retired or liquidated	In business 1927	Remarks
New York—Continued				
Reserve Fund L. S. Ins. Co. (M), N. Y. C.....	1893	?	....
Mutual Animal Protective Assn. (M), N. Y. C.....	....	1904		Retired
Equitable Horse Ins. Assn. (M), N. Y. C.....		1905	....	Retired
Horse Ins. Assn. of America (M), Bklyn.....	1906	?	....
Buffalo Cooperative L. S. Ins. Co. (M), Buffalo.....	1908	?	....
Chatauqua Cooperative L. S. Ins. Co. (M), Westfield.....	1908	....	Yes	
Empire L. S. Ins. Co. Bklyn.....	1908	?	....
Metropolitan L. S. Ins. Co., N. Y. C.....	1908	?	....
Hudson Horse Ins. Co. (M), N. Y. C.....	1909	?	....
United States Horse Ins. Co. (S), N. Y. C.....	....	1909		Receiver appointed
Hartford L. S. Ins. Co., N. Y. C.	1916	....	Yes	
North Carolina:				
Southern L. S. Ins. Co. (S), High Point.....	1906	1915	....	Reinsured in Western L. S.
Coventry Mutual L. S. Ins. Co. (M), Louisburg.....	1906	?	....
Carolina Mutual L. S. Ins. Co. (M), Louisburg.....	1906	?	....
North Dakota:				
North American L. S. Investment Co., Dickinson.....	1892	?	....
Dakota L. S. and Casualty Co., Bismark.....	1913	1915	....	Reinsured in Iowa State L. S.
Ohio:				
Citizens Mutual L. S. Assn. (M), Cincinnati.....	1887	?	....
Aetna L. S. Ins. Co. (S), Cincinnati Farmers & Citizens L. S. Ins. Co. (S), Lima.....	?	1894	....	Retired
Mutual L. S. Protective Assn. of Van Wert County (M).....	1907	?	....
Mutual L. S. Protective Assn. of Paulding County (M).....	1907	?	....
Woodville Mutual Protective L. S. Assn. (M), Woodville.....	1910	?	....
Ohio Mutual L. S. Ins. Co. (M), Kalida.....	1900	?	....
Southern Ohio Mutual L. S. Ins. Co. (M), Hamilton.....	1911	?	....
	1911	?	....

RECORD OF LIVESTOCK INSURANCE INSTITUTIONS IN THE
UNITED STATES, 1828 TO 1925—Continued

Company	Year founded	Year retired or liquidated	In business 1927	Remarks
Ohio—Continued				
Owners Mutual L. S. Assn. (M), Marion.....	1917	1925	....	Liquidated by Ohio Ins. Dept.
Farmers & Stock Breeders L. S. Ins. Co. (S), Columbus.....	?	?	....
Pennsylvania:				
Northampton County Horse Assn. (M), Butztown.....	1828			
Exeter L. S. Ins. Co. (M), Reading	1853			
Mutual L. S. Ins. Co. of Horshaw (M), Fort Washington.....	1853			
Goshenhoppen Mutual L. S. Ins. Co. (M), Pennsburg.....	1856			
Tylersport Mutual L. S. Ins. Co. (M), Tylersport.....	1857			
Danboro L. S. Mutual Ins. Co. (M), Danboro.....	1861			
Douglass Mutual L. S. Assn. (M), Douglassville.....	1862			
Trumbauersville Mutual Horse Insurance and Detective Assn. (M).....	1868			
Northampton Mutual L. S. Ins. Co. (M), Easton.....	1869			
National Mutual L. S. Ins. Co. (M), Mt. Union.....	1882			
Farmers Mutual L. S. Ins. Co. of Mercer Co. (M), Jackson Center	1883			
Pennsburg Mutual Horse Assn. and Detective Company (M), Pennsburg.....	1886			
Globe Mutual L. S. Ins. Co. (M), Springtown.....	1887			
Londonderry Township Mutual L. S. Ins. Co. (M), Elizabeth- town.....	1887			
Hatboro Mutual L. S. and Protec- tive Ins. Co. of Montgomery Co. (M), Hatboro.....	1888			
Lower Providence Mutual L. S. Ins. Assn. (M), Lower Providence or Eagleville.....	1889			
Peoples Mutual L. S. Ins. Co. (M), Phila.....	....	1889		Retired
Adams County Mutual L. S. Ins. Co. (M), Mummasburg.....	1892			
Mutual L. S. Co. of Horshaw (M), Doylestown.....	1895			
Upper Providence L. S. Inc. Assn. (M), Trappe.....	1902			
Dublin Mutual L. S. and Protec- tive Co. (M), Dublin.....	1905			

RECORD OF LIVESTOCK INSURANCE INSTITUTIONS IN THE
UNITED STATES, 1828 TO 1925—*Continued*

<u>Company</u>	<u>Year founded</u>	<u>Year retired or liquidated</u>	<u>In business 1927</u>	<u>Remarks</u>
Pennsylvania—Continued				
Mutual L. S. Ins. Co. (M), Easton	1905			
York County Mutual L. S. Ins. Co. (M), York.....	1907			
Penna. Mutual L. S. Ins. Co. (M), Erie.....	1908	....	Yes	
Farmers and Breeders Mutual Reserve Fund L. S. Ins. Co. (M), Williamsport.....	1909			
Mutual L. S. Ins. Co. (M), Elizabethtown.....	....	1918		Dissolved
Horse Insurance Fund of Retail Grocers Assn. of Phila. (M)....	?			
Lower Heidelberg L. S. Ins. Co. (M), Reading.....	?			
North Wales L. S. Ins. Co. (M), No. Wales.....	?			
Terre Hill L. S. Ins. Co. (M), Lancaster.....	?			
Rhode Island:				
Rhode Island Mutual L. S. Ins. Co. (M), Providence.....	1888	1896		
Rhode Island L. S. Ins. Co. (S), Providence.....	1894	?		
Hope L. S. Mutual Benefit Assn. (M), Providence.....	1899	1910		Reinsured
Atlantic Horse Ins. Co. (S), Providence.....	1907	1915		Reinsured in West- ern L. S. Ins. Co.
South Carolina:				
Mutual L. S. Ins. Assn. (M), Yorkville.....	1905			
Farmers L. S. Ins. Co. (S), Rock Hill.....	1907			
Mutual Protective Assn. (M), Gaffney.....	1908			
Mutual L. S. Ins. Co. (M), Yorkville.....	?			
Farmers Mutual L. S. Ins. Co. (M), Oconee.....	?	1925		Receiver appointed
Texas:				
Standard Mutual L. S. Ins. Co. (M), Dallas.....	1905			
American L. S. Ins. Co. (S), Beaumont.....	?	1908		Retired
Union L. S. Ins. Co. (S), Dallas...	1908	1908		Receivership
Houston L. S. Ins. Co. (S), Houston.....	?	1909		Reinsured in Indiana and Ohio L. S. Ins. Co.
Central Texas L. S. Ins. Co. (S), Marlin.....	1912			

RECORD OF LIVESTOCK INSURANCE INSTITUTIONS IN THE
UNITED STATES, 1828 TO 1925—*Continued*

Company	Year founded	Year retired or liquidated	In business 1927	Remarks
Vermont:				
Vermont L. S. Ins. Co. (S), Burlington.....	1895			
Washington:				
Pacific L. S. Ins. Co. (S), Seattle..	1889			
Mutual Animal Protective Assn. (M), Seattle.....	1905			
Northwestern L. S. Ins. Co. (S), Seattle.....	1907			
Interstate L. S. Ins. Co. (S), Seattle.....	?	1908		Failed
Farmers Mutual L. S. Ins. Co. (M), Spokane	?	1909		Receivership
Wisconsin:				
Badger Mutual L. S. Ins. Co. (M), Milwaukee.....	1897	.....	Yes	
Mutual Live Stock Ins. Co. (M), Appleton.....	1900	?		
Wilton Mutual Cooperative L. S. Assn. (M), Wilton.....	1908			
Farmers Mutual L. S. Ins. Co. (M), Menominee Falls.....	1910			
Wisconsin Fire and L. S. Ins. Co. (S), Madison.....	1919	1924		Reinsurd by Hart- ford L. S.
Not specified:				
Phoenix Mutual L. S. Ins. Co. (M)	?	?		?
Canada:				
Canadian Mutual L. S. Ins. Co...	1905	?		
General Animals Ins. Co. Montreal	?	?		

M=Mutual; S=Stock.

Sources: Spectator Year Books and other manuals, 1890 to date; Commissioners of Insurance; and files of Insurance Times, Insurance Monitor, 1870 to date; Farm Bureau Agents.

Alabama.

Sections 8509-8513 of the Alabama Code of 1923 contains the law on livestock insurance in that State. The Hartford Live Stock Insurance Company operated in Alabama at one time, but ceased its operations some time ago. The Hartford Accident & Indemnity Company has written some livestock insurance in this State, but the volume of business has been more or less negligible. The Alabama Mutual Live Stock Insurance Company operated at one time in the State. The company retired in 1909.

Arizona.

About \$3,800 of premiums were received by the Hartford Live Stock in Arizona during 1926.

California.

Livestock insurance in California is written under the eighteenth classification of Section 594 of the Political Code. The California Mutual Live Stock Insurance Company (Mutual) transacted business in the State for about two years (1909 and 1910) on the assessment plan. The company went into receivership about 1910. The Hartford Live Stock Company and the Hartford Accident & Indemnity Company are licensed to transact this type of business in this State. The first company had a premium volume of \$80,000 and the second a volume of about \$2,800 in the State during 1926. County mutual fire insurance companies are not permitted by the laws of California to write any other than fire risks.

Colorado.

Colorado has no law specifically applying to the transaction of livestock insurance. Such business is done by casualty companies and is reported in the miscellaneous convention blank. The only company now reporting livestock business in the State is the Hartford Live Stock Insurance Company. In 1927, that company reported \$1,602 in premiums received and \$3,696 in losses paid.

Some years ago, the Nebraska Live Stock Insurance & Indemnity Company, subsequently the Nebraska Indemnity Company, did a fair volume of business in the State, but withdrew on December 1, 1924. The Colorado Live Stock Insurance Company of Loveland did some business in the State prior to 1888,

when it retired. The Rock Mountain Live Stock Insurance Company, Denver, was reinsured in 1917 in the Iowa State Live Stock Insurance Company. The county mutual property insurance associations cover livestock, of course, in their regular policies, but none does a strictly livestock business.

Connecticut.

The Hartford Accident & Indemnity Company (\$135,000 in Connecticut premiums, 1926) and the Hartford Live Stock Insurance Company (\$23,000 in Connecticut premiums, 1926) are the only two corporations doing this class of business in the State. The livestock business of the Hartford Accident & Indemnity has decreased since the Hartford Live Stock Insurance Company began business.

The Aetna Live Stock Insurance Company of Hartford retired in 1868 as did also the Hartford Live Stock Insurance Company (No. 1). Some livestock reinsurance has been written by the First Reinsurance Company of Hartford.

Delaware.

The Delaware Live Stock Insurance Company of Wilmington was organized in 1889. No further information is at hand regarding this company. The Hartford Live Stock Insurance Company received about \$5,000 in Delaware premiums in 1926.

District of Columbia.

There does not seem to be much demand in the District for this type of coverage. The Hartford Live Stock Insurance Company transacts what business is offered. The Marine Act of March 4, 1924, title II, Section 8, authorizes insurance "against loss or damage by theft, injury, sickness, or death of animals, and to furnish veterinary services." In 1904, the Interstate Live Stock Insurance Company was licensed, but went into receivership in 1905.

Florida.

Chapter 5887, Laws of Florida, Acts of 1909, authorizes companies having \$200,000 in approved securities to write livestock insurance in Florida. In 1910, the Indiana & Ohio Live Stock Insurance Company operated in the State. The Hartford Accident Indemnity and the Hartford Live Stock Company have also written some business in Florida. In 1921, the Union In-

demnity Company had a premium volume on livestock business in Florida of about \$2,903.

Georgia.

Livestock insurance is classified in this State as casualty insurance, and there is no specific law applying to this line of business separately. The only company writing livestock insurance in Georgia at the present time is the Hartford Live Stock Insurance Company. The Standard Accident of Detroit was reported to have done a very small livestock business in Georgia in 1926 (\$85 in premiums). There is no information available on livestock insurance by county mutual property insurance companies in the State.

The Southern Live Stock Insurance Company of Atlanta was licensed in 1892 and retired in 1899. Other companies which seem to have operated in the State are the National of Fitzgerald, Ga. (1903); the Mutual of Athens (1905); the Southern Mutual of Elberton (1906); the Athens Cooperative (1906); and the American at Macon (retired 1908).

Idaho.

In this State, the Hartford Live Stock Insurance Company is the only corporation accepting risks of this character. The Mutual Live Stock Association and the Intermountain Mutual, both of Boise, were in business in 1905.

Illinois.

In this State, livestock insurance may be written under the eighth subdivision of Section I of the Stock Casualty Act and under subsection 7 of Section VII of the Mutual Act of 1915. The developments in livestock insurance in Illinois in recent years are shown in the foregoing table, page 348.

While the Farm Bureaus of Illinois have made a study of the farm insurance problem and have developed fire, hail, windstorm, tornado and automobile insurance for their members, no similar studies have been made of livestock insurance in the State. In 1926, about \$29,000 in livestock premiums was received in the State, all of it in the Hartford Live Stock and the Hartford Accident & Indemnity.

Indiana.

This State is the home of the old Indiana & Ohio Live Stock Insurance Company of Crawfordsville, the training school for most of the underwriters who later conducted many of the companies having a short experience in the Middle West. This company was assumed by the Hartford Live Stock Insurance Company in 1916.

Iowa.

Livestock companies in Iowa date from the founding of the old Northwestern Live Stock Insurance Company of Des Moines, in 1886. This company retired, while still solvent, in 1894 in consequence of the sharp fall in prices of farm animals during the 1892-1893 depression. This company employed agents on a fixed salary basis. The company believed that livestock insurance could not be written satisfactorily through agents on commission.

Kansas.

There have been, at various times, mutual livestock institutions operating in Kansas. The first one, according to the records, was the American at Wathena, founded in 1898. At the present time, the Hartford Live Stock Insurance Company seems to be the only corporation handling a considerable amount of such business in the State. In 1926, that company received \$2,573 in Kansas premiums.

Kentucky.

The Hartford Live Stock Insurance Company and the Hartford Accident & Indemnity Company seem to be the principal carriers in the State. Kentucky Live Stock Insurance Company of Louisville (founded, 1913) was reinsured in the Hartford Accident and Indemnity Company. The Car & General Insurance Corporation, Ltd., of England, writes some insurance on race horses through its local agent at Lexington. Another "Kentucky Live Stock" seems to have done business for a time, and was reinsured by the Tennessee Indemnity Company in 1912.

Maine.

There are no mutual cattle insurance associations in this State. The Maine Live Stock Insurance Company, Portland, was in busi-

ness from 1895 to 1908. The Hartford Live Stock Insurance Company received \$6,162 in Maine premiums in 1926.

Maryland.

In this State, companies writing livestock insurance are not separately classified, but are grouped under casualty or miscellaneous companies. The laws of Maryland do not make any special provision for this line. The Provident Mutual Live Stock Insurance Company of Baltimore was organized in 1914. The Hartford Live Stock received \$8,911 in Maryland premiums in 1926.

Massachusetts.

The Security Live Stock Insurance Company was organized in Boston in 1891.

Michigan.

The only company authorized to do livestock insurance in Michigan at the present time is the Hartford Live Stock Insurance Company. The farm mutuals insure livestock against fire and lightning, but there is no information on the extent of the practice. In 1910, there was organized the Negaunee Cow Insurance Association. The aim was to insure owners of cows against death by natural causes or from accident. A flat indemnity of \$60 was planned. It said that the Association had a membership of 110, and the number of cows insured was more than 500. Steps were taken to identify the insured animals. The Association operated on the assessment basis.

The Michigan Live Stock Insurance Company, Detroit, operated from 1904 to 1912, at which time it went into receivers' hands. The Michigan Mutual of Saginaw was organized in 1914. The Hartford Accident & Indemnity and the Hartford Live Stock had together a premium volume of \$21,000 in Michigan during 1926.

Minnesota.

Livestock insurance in this State is authorized under Section 29, subdivision 10 and Sections 470 and 485 of the Insurance Laws of the State. The only company writing this line in Minnesota, at the present time, is the Hartford Live Stock Insurance Company. The National of St. Paul was organized in 1887 and retired in

1908; there is a record of the retirement of the American Live Stock Insurance Company, St. Paul, in 1888. The United States Live Stock Insurance Company, Fergus Falls, was organized in 1890.

Missouri.

The only carrier of the line in this State is the Hartford Live Stock Insurance Company (about \$8,000 of premiums in 1926). Several years ago, one or two other companies were writing livestock insurance in this State, but there is little if any information available regarding their history or the reasons why they ceased writing business. There is a record of the Stallion and Jack Owners Inter-insurance Alliance, Kansas City, liquidated in 1914. Farmers mutual insurance companies are not permitted to write livestock coverage in Missouri.

Montana.

The Hartford Live Stock Insurance Company does most of the livestock business in Montana (\$4,400 in 1926 premiums). There are no mutual cattle associations or companies. The Montana Live Stock Insurance Company operated in the State at one time. It reinsured in the Iowa State, in 1917.

Nebraska.

Livestock insurance is referred to in Section 7814 of the Insurance Law of the State. Two livestock companies were organized in the State, the American Live Stock Insurance Company of Omaha, 1919, and the Nebraska Live Stock Insurance Company, 1916. Both companies found the business quite unprofitable. There is a record also of the Western Horse and Cattle Insurance Association of Omaha, retired in 1890.

In March, 1924, the American reinsured its business in the Hartford Live Stock Insurance Company and then went into voluntary liquidation. In June, 1923, the Nebraska Live Stock Insurance Company reinsured its livestock business and changed its name to the Nebraska Indemnity Company. It is still operating as an automobile insurance company. The Hartford Live Stock Insurance Company is the only corporation writing this line of business in the State at the present time (premiums \$7,400 in 1926). There is no information available as to livestock clubs among farmers in the state.

Nevada.

In Section 948 of Cuttings Compiled Laws of Nevada, approved March 23, 1891, is found the text of a law which may be interpreted to prescribe the method for entrance into Nevada of out-State companies engaged in the business of life, health and accident insurance of livestock on the assessment plan. At the present time, the Hartford Live Stock Insurance Company is the only carrier of the line in this State (about \$4,700 in 1926 premiums). The majority of the livestock in Nevada runs an open range and insurance companies do not care to accept that class of hazard. There does not seem to be any tendency toward the organization of mutual insurance companies.

New Hampshire.

There are no mutual cattle associations or societies in this State. The Hartford Live Stock Insurance Company provides such insurance (\$1,761 in 1926 premiums). At one time, the American Live Stock Insurance Company, Manchester, operated in the State. It was organized in 1891.

New Jersey.

At the present time, only one company is authorized to write this class of business in the State, and that company is the Hartford Live Stock Insurance Company. During the year ended December 31, 1927, the net premiums received on New Jersey risks totaled \$22,141 and the losses paid aggregated \$16,692. The record of other livestock insurance corporations which have done business in the State is shown in the foregoing table, page 351.

New York.

At the present time, the Hartford Live Stock Insurance Company is the only corporation transacting this line of business in the State (1916 premiums, \$119,000). The New York record in the past is shown in the foregoing table, page 351.

North Carolina.

The farmers of the State have had very little experience with this class of business. The Hartford Live Stock Insurance Company is the only corporation specifically authorized to do business in the State (1926 premiums, \$4,400). It has been said that no

North Carolina company has ever been organized to write the line. I find, however, that the companies mentioned in the table introducing this section, one domestic stock company and two domestic mutuals have done business in the State.

North Dakota.

Article 21 of Chapter 65 of the Insurance Laws of North Dakota contain the provisions covering the transactions of live stock insurance. The amount of business written in recent years has been negligible. There do not seem to be any livestock associations or clubs organized among the farmers of North Dakota. The North American did business in Dickinson in 1892 and the Dakota Live Stock and Casualty operated from 1913 to 1915.

Ohio.

The record of domestic Ohio companies and associations begins with 1887. At the present time the Hartford Live Stock and the Hartford Accident and Indemnity transact business in the State. The two companies together had a premium volume in Ohio of about \$20,000 in 1926.

Oklahoma.

The transaction of livestock insurance in Oklahoma is covered by the provisions of Subsection 14, of Section 14 of the Insurance Code of the State. This is Section 6666 of the Compiled Oklahoma Statutes, 1921 edition. This section of the law provides specifically for the organization of companies covering "loss of life or damage to livestock." The Hartford Live Stock Company is the only carrier in the State at the present time. The volume in 1926 was small. There seem to be no mutual cattle insurance associations in the State.

Pennsylvania.

The long record of Pennsylvania since 1828 is shown in the foregoing table, page 353.

About 1903 it was reported that a mutual society had been formed at Arnot, Pa., entitled the Union Cow Club of Arnot, Pa. It was then proposed to insure cows more than one year of age and not more than 10 years of age. Only those animals were to be insured who were a source of profit to their owners. Cows dying between March 1 and September 30 were to be paid for

on the basis of \$30 per cow. Deaths of cows between October 1 and February 28 were to be paid for at \$25 a cow.

Rhode Island.

There are no special laws regulating livestock insurance in this State. The companies transacting the business are classified under the Miscellaneous list. A Rhode Island company, to transact the same business, could do so only by charter obtained through the General Assembly.

South Carolina.

The list of domestic companies operating at one time in South Carolina has been given. At the present time the Hartford Live Stock is the only carrier in the State (1926 premiums, \$8,333).

South Dakota.

There are no mutual cattle insurance associations or societies in South Dakota. Cattle are insured by all fire insurance companies writing farm business in the State at the regular rate provided for farm property, under policies which cover loss by fire, lightning, windstorm, tornado and hail. Cattle are insured up to \$60 per head. Between ages 1 and 2, 50 per cent. of the value is allowed, or \$30 of insurance; and for animals below 1 year of age, 25 per cent. of the value, or \$15 per head is allowed. At the time the insurance is written, the insured must purchase cover in an amount equal to 75 per cent. of the total number of cattle owned by him at the time the policy is issued, multiplied by the maximum amount payable. These policies are usually written for a term of from 3 to 5 years. Pure-bred livestock is covered specifically against the above mentioned hazards, but take a special rate and are written for one year only. The Hartford Accident and Indemnity offers coverage for pure-bred cattle in this State, but apparently no business of this type has been done in recent years.

Tennessee.

There are no mutual insurance associations or societies specifically authorized to do livestock insurance business. The 30 mutual farm insurance associations or companies writing strictly farm insurance insure the farmers' cattle along with other property. The Tennessee Mutual Fire Insurance Company insured

livestock against fire at a cost of about 60 cents per \$100 of insurance. Since March 1, 1927, this rate has been raised to 75 cents per hundred. The Hartford Accident and Indemnity Company of Hartford, Conn., seems to be the one carrier of livestock insurance in this State. The volume is not large, when one considers the extent of the dairy, horse and mule industry in the State.

Texas.

The Texas record on domestic companies has been given. The Hartford Live Stock had a premium volume of \$2,436 in Texas during 1926.

Vermont.

The Vermont Live Stock of Burlington was organized in 1895; date of retirement not known. At the present time, the Hartford Live Stock is the only carrier in the State (1926 premiums, \$3,463).

Virginia.

The transaction of livestock insurance in this State is authorized in Section 4304 of the Virginia Code, which permits "insurance upon the lives of horses, cattle or other livestock." The only companies writing this class of business in Virginia in recent years are the Hartford Accident and Indemnity Company and the Hartford Live Stock Insurance Company. There is no record of livestock insurance by county mutual fire associations, nor by any other societies or clubs.

Washington.

What little business is done in the line in this State is written by the Hartford Live Stock Insurance Company. Some 20 years ago, there were a number of companies organized in Washington, but these failed and there is no convenient record of their operations and history. The synopsis given at the beginning of this section reviews the record of domestic companies in the State.

West Virginia.

The only company which has persistently written livestock business in this State is the Hartford Accident and Indemnity Company (1926 premiums, \$2,500). One or two companies, some years ago, specialized in this line of insurance in West Virginia, but retired after a non-profitable experience.

Wisconsin.

The Badger Mutual Live Stock Insurance Company, Milwaukee, insures livestock located in the vicinity of Milwaukee for an amount not to exceed \$300 per annum. Under its policies, it offers free veterinary service. The veterinary is also the manager of the insurance company. In the opinion of one observer in Wisconsin, the success of this little company is due to the fact that the amount of insurance is limited to the nominal sum of \$300 and because the risk is located within a short distance of the company's office. The veterinary, and manager of the company, is thus able to give prompt medical attention to any animal which needs his services. It may also be true that the manager of the company has a close personal acquaintance with the principal livestock owners in the vicinity, and is thus able to control hazard factors. It is also of interest to know that recently the Sheboygan County Cattle Owners Insurance Company was organized, the purpose of which was to insure cattle against loss which the farmers may sustain due to reaction to the tuberculin test. The amount of loss payable under that company's policy is limited to the difference of the market value of the animal and salvage and reimbursement which the owner receives for each condemned animal from the State and Federal Government.

A short table on the recent experience of the Badger Mutual is given below:

TABLE 21
BADGER MUTUAL LIVE STOCK INSURANCE COMPANY
MILWAUKEE, WISCONSIN. FOUNDED 1897

Year	Net Premium Written	Premium Plus Interest and Rents	Losses Paid	Underwriting Expense Paid
1926	11,664	11,664	8,113	4,208
1925	12,507	12,507	...	4,210
1924	12,445	12,445	9,216	4,215
1923	13,688	13,688	10,819	4,080
1922	15,945	15,945	10,272	5,241
1921	16,647	16,647	12,937	4,166
1920	13,152	13,161	11,964	6,813

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