TILLERS OF THE SOIL!

An Interesting Two Days' Session of the Farmer's Institute Full Particulars of the Meetings.

The Holt County Farmer's Institute has come and gone, and those farmers who exhibited interest enough in the meetings to attend feel amply repaid for the time cunsumed in rubbing up against the men who constitute the state institute corps. To have an opportunity to hear such men as T. B. Terry, the great believer in clover, Abbot on agricultural education, John Patterson on dairying, T. O. Stanley on good roads, G. W. Waters on stock feeding, Murray on horticulture, etc., is certainly a treat, or should be regarded as such by all progressive and intelligent farmers.

Mr. N. F. Murray, who has been with the board constantly since the institutes were begun, returned home Friday, and at once went to work, impressing upon our farmers the importance of attending these meetings.

Mr. Murray presided at the Tuesday forenoon meeting, and in opening the meeting made a practical, sensible, but brief talk. He thought the farmer's institutes had been gaining friends, since their establishment, the farmers especially realizing that much information could be gained which would help them in adopting better methods in cultivating the soil and the breeding of stock and a more systematic farming.

Mr. Murray introduced Prof. Mumford who spoke about the agricultural college and gave more information about the much discussed agricultural college, than many of us would learn in a life time without the actual experience. He said no one entered any business without first becoming acquainted with the nature and requirements of the calling and studying it so as to be master of his profession. In an agricultural community everything depended upon the success of the farmers, and when competition was so great as now, it required close calculation for all tillers of the soil to make a profit. He must know his business. The agricultural college came in here to his assistance. The course of study brings out the theorry and practice. The student learns how to analyze the soil. It takes the student into the cattle sheds, and each student learns the strong and weak points—and the various breeds are thoroughly understood. They are taught to analyze the food so that they may know just what is required to produce the greatest quantity of beef, or milk, or butter. They have to face the conditions there just as it is found on the farm. In the horticultural department they are taught budding and grafting, etc. He spoke of the short course of 12 weeks, beginning in January, that has been inaugurated at the college, and which he hoped would be crowded this winter. Last year they had 25 students in this course and expected 50 this winter. The cost he said was $5, which with board and incidental expenses would amount to $60. Any young man he thought by taking this course would gain the experience that would take years of personal experience to acquire. He spoke of the experimental stations established in the variros states for the purpose of making experiments at the expense of the government. The report of all experiments are published and sent out to the people so that they may get the benefit of these experiments. He cited the experiments that had been made in potato growing; amount of seed and kind of seed to plant; as to the number of eyes; four-fifths of the stations agreed that a whole potato would produce more potatoes, but they also agreed that the extra amount of seed did not pay for the increase of poattoes produced, but did agree in general that about a half potato was the best amount of seed to plant. Upon being asked by J. D. Tritt as to whether cheese making was taught, Mr. Mumford replied in the negative, because the apparatus had not yet been secured by reason of lack of the appropriation, but hoped it would come in the course of the next year. Mr. Menifee was glad that he had attended the meeting, and had learned much more about the short winter course at the agricultural college than he had ever known before, and hoped our young farmers would take advantage of the opportunities offered.

Prof. Mumford was first on the program on Tuesday afternoon. Quite a fair audience was present. His subject was

SHEEP,

and during his talk he mentioned that he had handled them several years at the Michigan experiment station.

The professor said that of course he heard this remark in almost every community in Missouri. "Yes, sheep may be all right, there are none in this country." He then intimated that more should be kept, and that there was more profit in it than in cattle. The number of sheep in the United States declined from 50,000,000 in 1884 to 38,000,000 in 1896, and in this state, from one and one-millions in 1884 to half a million in 1896. The causes of this were that prior to 1884 sheep were kept, for their wool production, and that the great profit, for mutton, was just getting to be understood, and that the mutton profit, is the only profit in sheep.

Sheep require less labor and handling than any other stock, and they clean a farm of weeds and underbrush as no other stock will do. Sheep eat 200 more species of weeds than do cattle or any other stock, and are now being imported into the Dakotas to eat up and kill out the horrible Russian thistle.

The professor said that the Merino grades were the best breed for this country, and could be successfully crossed with the Shropshires, Hampshires or Oxfords. He recommedded farmers to have their lambs to come early to escape the hot weather; to feed the lambs for fattening the grain and crowd them, and thus have them weigh from 60 to 80 pounds in the fall. He then gave some rations found to be most successful in fattening, and showed by a series of experiments he had himself conducted that 120 lambs gained more than twice as much as 10 head of cattle on the same feed, and that the price of mutton was more and remained steadier than that of beef. That feeding sheep had been profitable every year and that feeding cattle had not.

Corn and clover hay as a ration gave the best results, and that roots and corn stalks took the place of the clover hay, where that could not be procured.

He also gave an account of a list of experiments showing that it was more profitable and greater gains were made by giving sheep, as well as cattle, their grain regularly and just what they would clean up, and not leave it before them all the time. He also said that it was not profitable to shear the lambs in the fall, if fattening for the market, but that it did pay to do so a few weeks before they were sold in the early spring.

T. B. TERRY,

one of the most successful farmers in Ohio, followed, and what he had to say was learned from actual experience. He spoke of moving to a farm 25 years ago that was completely worn out and would not produce more than 8 bushels of wheat per acre, but through the fertilizing influences of clover, which he alternated with potatoes and wheat, every two or three years, had raised the productive qualities of the soil to produce 40 to 50 bushels per acre. He allowed no manure to go to waste, neither solid nor liquid.

Plants absolutely require three kinds of food, said Mr. Terry. They must have nitrogen, phosphoric acid and potash. The great abundant source of nitrogen is the atmosphere, but unfortunately the corn, wheat and most other food grains and tubers have not the power to absorb it. The clover can and does absorb nitrogen from the air, and stores this gas in the roots and stalks. To obtain the other kinds of plant food the clover extends its fibrous roots into the cold subsoil, sometimes five or six feet, and brings them up to the surface for the crop that is to be grown from the land thus fertilized.

Of the various kinds of clover, Mr. Terry thought that the common red was the best for our farmers to use, because it is well adapted to this latitude and because it yields two crops, the first to be harvested as hay, the second to be cut and turned under for a fertilizer.

In the improvement of the soil of a farm clover must not alone be relied upon. Much depended upon intelligent cultivation and the soil. A soil that will yield only ordinary crops will not pay. The crops must be doubled by giving the soil greater fertility through cultivation and the use of clover, before any considerable profit could be realized.

He had learned by experience to produce enough so as to be able to handle it with the least expense. The larger the quantity the less expense comparatively. He was able to put potatoes on the track for 15c per bushel, but he did not put them there for that price. His average price had been about 40 to 90 cents. He produced them by the car

PROF. T. B. TERRY.

load, and usually made 200 per cent at least often more. They cost about $30 per acre and they realized him $100. This price comes from having enough of the product to attract good buyers. He now raised two crops—wheat and potatoes, and rotated these with clover, each every three years. Without clover he could not practice this rotation, and the fertility brought by the clover cost nothing. If commercial fertilizers were used it would cost perhaps $30 per acre. This expense he did not incur.

We grow more hay in clover than in timothy, and secure from two to three crops per season. Clover contained more albuminoid than any any other hay and is worth at least one-third more for feed, except for driving horses; his work horses were fed on clover exclusively and no grain. He sowed clover in the spring on the wheat, and in the fall had a crop. It was green all the time, and when not green is dead. It gives good results in both fall and spring. The best way to keep it over the winter is to mow the young clover and let it lie on the ground.

He used cemented pools to catch all the liquid manure, which he was very careful to have conveyed to the various portions of his farm by straw absorption. Frost will kill young clover if the seed has germinated on the top of the ground, but if you sow early so that this seed has time to settle in the ground, frost, as a rule, won't hurt.

He claimed that clover hay properly cured is of equal value, pound for pound, with oats.

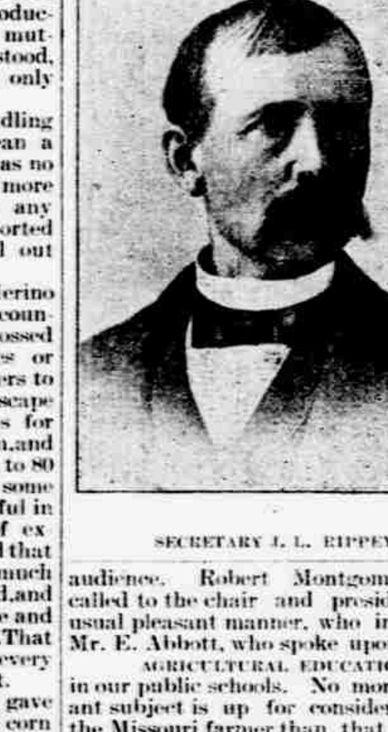
He did not allow a rod of his land to remain bare in the winter, he has it covered with clover.

He believed greater increases were obtained through intelligent tillage. He cultivated lengthwise and crosswise, then rolled, and pulverized thoroughly. He did not think corn was a suitable food for young growing animals, or for milk animals. He thought the farmers here needed clover hay to be grown in rotation with the corn, which he believed would in a few years materially increase the production.

He gave his personal experiences and believed much of his success was largely due to the education his father gave him, which he put to practical use upon his farm, which today had upon it buildings upon which he carried $9,000 insurance, while some of his neighbors, had been closed out under mortgage. Messrs. Montgomery, Lukens, George Meyer, George Murray and others asked questions which were intelligently and pleasantly answered, all of which are in our general matter above. He did not think that as good results were obtained by pasturing as from abstaining from pasturing on clover.

TUESDAY EVENING

the court house was comfortably well filled with our people, and we were glad indeed to notice such farmers as Judge Morgan, M. D. Walker and others in the



SECRETARY J. L. RIPPEY.

audience. Robert Montgomery was called to the chair and presided in his usual pleasant manner, who introduced Mr. E. Abbott, who spoke upon

AGRICULTURAL EDUCATION

in our public schools. No more important subject is up for consideration by the Missouri farmer than that of securing the introduction of the teaching of the elementary principles of agriculture in public schools. Thoughtful writers recognize its importance. He was sensitive of the difficulties to be overcome in order to successfully bring about a radical change in methods of elementary education. There is nearly a consensus of opinion in favor of the proposition that agriculture shall be taught in public schools. Mr. Abbott's line of argument is logical and convincing. At present, he said, only one state in the union has upon its statute books laws authorizing this to be done, and this state was Tennessee. Several other states are agitating this question, and Missouri, Minnesota and Wisconsin are expected to soon to be in line with Tennessee. He called attention to the fact that Secretary Rippey, of the state board of agriculture, through his annual report called the attention of our people to this matter, and he believed he intended to continue this demand, and believed it would be presented to the notice of the coming legislature. He showed the folly of teaching the political geography of isolated countries, while the scholar was in ignorance of the useful things with which they came in daily touch. He thought the pupil should learn something of the principles of plant growth, of animal life, and the names and habits of insects, injurious and beneficial, that swarm in his way. As the student advanced to the higher school work, he thought it would be vastly more interesting to the pupil, and more useful to him, if he knew something of how plants feed in two worlds; involving the beautiful problems of nitrifaction in the earth and the fixation of carbon from the air, than to know the names of the fixed stars in the belts of Orion or the constellation of Ursa Major. He believed this was a practical age, and thought that education should be in the direction of the avocation that the pupil was likely to choose in after life.

He was quite severe upon the average director of the rural districts for quietly sitting down and permitting his children to be educated prejudicial to the farm, and more to fit them for city life—to instill in their minds to be the lawyer, the doctor, the merchant, rather than to educate them to be intelligent, progressive farmers. He reminded his farmer friends that they were large tax-payers and contributed largely to the support of the public schools, and he could not see why the elementary branches upon agriculture should not be taught there as well as the geography of China.

He advised the teachers to get themselves ready to teach this branch, for he believed the day was not far distant when they would have to pass an examination in this branch. He regretted there being such few works upon the subject, but recommended those published by Mills & Shaw, Professors Vohries and Winslow, and especially Professor Hayes on Rural and Domestic Science.

Following Mr. Abbott's excellent address, Miss Alberta Murray gave a charming recitation, highly suitable for the occasion, and which was most excellently rendered.

THE JERSEY COW

was the subject of a highly interesting paper by Mrs. Dr. F. M. Green, of this city. In substance Mrs. Green's paper said that one of the most important elements determining our material prosperity, and our permanent progress, is an enlightened system of agriculture. In our agriculture we need new ideas and methods; we must apply the lessons we have learned from history and experience. The American farmer is desirous to excel; he wants to have the best of everything that pertains to his calling. It is of the first necessity that he supply himself with the breed of cattle best suited to his needs—cattle that shall help to make farming a source of material prosperity and perpetual pleasure.

The Island of Jersey, the native home of Jersey cattle, is the chief in size, of the group called Channel Islands, lying in the English channel, near the coast

DR. T. E. WHITE.

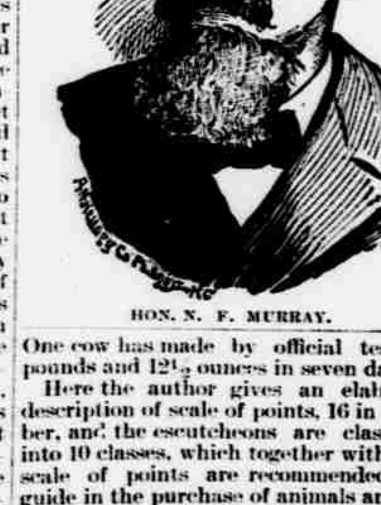
of France. The writer here gave an exhaustive report of the laws prohibiting the importation of any cattle, and in 1826 the fine for importing French animals was fixed at 1,000 pounds, solely and only for the purpose of keeping the island breed pure. Several attempts were made to cross the Jersey with the Short-horn and Ayrshire breeds, but they were abandoned, and the progeny slaughtered, because it was inferior to the Jersey. Gradually the attention of progressive dairying was attracted to this breed of cows, and in 1833 the Royal Jersey Agricultural society was established for the purpose of improving the island cattle. The society fixed a high standard which was to be worked up to. Two of the best cows were selected, from which to make up a scale of points—one of them being considered perfect in forequarters and barrel; the other in her hindquarters and udder. Fairs were held each year, in which her Majesty, the Queen, became patroness in 1837. The Island Herald Book was started in 1866 and was due to Chas. P. Le Cornee. By examining the approved offspring he hoped in time to root out the poor animals, so that with six or seven registered crosses animals might be bred more to a certainty.

In speaking of the case of the Jersey cow on her native isle, Johannet tells us that when the cow has dropped her calf, there is sprinkled upon it a handful of powdered salt. While the cow is licking her calf, she is milked and she herself drinks the first milking. The calf is laid upon a bed of straw in a warm, dry place; after some hours, the cow is again milked and this milk given to the calf. The sixth day the keeping of cream for butter begins. The milk is given to the calf twice every day; cooked flour and sometimes pieces of bread are added to the milk. A little salt and hay are added occasionally. As the cow's milk becomes less, cooked cornmeal and bran take its place.

The reputation of the Jersey crossed the ocean to America, and in 1850 several American gentlemen of wealth began to make importations. In 1868, Geo. E. Waring and others Jersey breeders held a meeting in Philadelphia, Pa., which resulted in the organization of the American Jersey cattle club. This club now has a membership of 300, and its objects is to foster absolute purity, and no animal can be registered as imported from Jersey without certificates of that fact.

The Herd Register is now the standard of pedigree in this country. She regarded the Jersey as the most beautiful of all the bovine races matchless for symmetry, variety of beautiful colors and shadings, and for that delicacy of frame and fineness of quality which makes the race attractive to all lovers of bovine beauty. The Jersey excels all others in the amount and quality of butter.

Since the practice of testing became popular up to 1887 over 1,000 Jerseys had produced 14 pounds of butter in a test of seven days, while 90 of these have protested 20 pounds or upwards in a week.



HON. N. F. MURRAY.

One cow has made by official test 46 pounds and 12½ ounces in seven days.

Here the author gives an elaborate description of scale of points, 16 in number, and the escutcheons are classified into 10 classes, which together with the scale of points are recommended as a guide in the purchase of animals and as an aid in breeding. Here the author gave a few comparisons as to the merits of the Jersey as to the yields of milk and butter to the 100 pounds of live weight: Jersey, 35 to 50 pounds of butter; Holstein, 20 to 26 pounds of butter. Jersey, 760 to 800 pounds of milk; Holstein, 675 pounds of milk. One pound of Jersey milk is equivalent to 2½ pounds of Holstein milk; it takes 5 to 18 pounds of Jersey milk to make a pound of butter, 22 to 38 of Short-horn and 28 to 50 of Holstein milk.

The Jersey produces a milk differing greatly from that of almost all other breeds—by the actual chemical tests of milk as food, cream and cheese, the Jersey milk is unrivaled in quality and richness, and to substantiate her assertion refers to the tests made at the world's fair, and in proving these facts the tests give the stamp of publicity and authenticity to the Jersey cow as the greatest dairy cow in all essentials that the world has ever produced.

From personal knowledge the author gave a few items and said that their family cow, "Golden Bessie," which died last spring, averaged while flush, 36 pounds of milk per day for 28 days, and was not on pasture at the time; the lowest yield was 30 and the highest 41 pounds; the total was over 1,000 pounds in four weeks. During the three and a half years we owned her she was milked every day, being a perpetual milker, and gave 15 pounds of milk the day before her calf was born. During her seven years of life she dropped five calves, all heifers. Her daughter, at 2 years of age had been fresh three months, having also had a heifer calf, now seven months after, she makes over two pounds of butter a day. She believed a good Jersey would earn from 25 to 50 cents a day above her feed. The author closed her interesting paper by saying:

"No doubt many of you know that the champion cow at the world's fair came from Holt country. She was "Merry Maiden," belonging to Mr. Grave's herd at Maitland. Her strain, known as the combination family, has ever since been eagerly sought by breeders all over the country.

If I have been able to convince any of you that one Jersey cow will yield you more profit in milk and butter the year round, than you are new deriving from two to three common cows and with less expense, as one Jersey will cost you less to keep than any one of the common cows, to say nothing of the increase of profit from the sales of the calves, I shall feel well repaid for my trouble in preparing this article."

HORTICULTURE

was the subject of Hon. N. F. Murray's address, which followed the paper read by Mrs. Green. He said that notwithstanding the fact that little or no attention was paid to horticulture till within the last 40 years, it had worked its way onward and upward till at last it has become an honored profession, and one of the most reliable, pleasant and profitable in which man can engage. In all the universe we can think of nothing more pleasing to man than watching the growth of things, and all things that have life must grow or die. In the spring time, as we watch the bursting of the buds upon our trees from the dormant state, and behold the bosom of mother earth clothed with living green from the generation of tiny seeds, and behold our trees bloom and bear their rich fruit on bending, bough and our broad fields of green ripen into golden harvests, we are drawn into closer communion with our Creator.

We now see here and there a fruit grower over our state making from $50 up to $500 per acre, and the intelligent fruit grower has no fear but that he can make a comfortable living and educate his children from the income of a 40 acre fruit farm. On the other hand we find many who fail in the fruit business, and complain that it don't pay. There were failures in all business, but in agriculture and horticulture they were far less than in merchandising. Where is the trouble? Simply this: One knew what to do and how to do it, pushed forward and made a grand success; the other did not know what to do or how to do it, but having energy he pushed forward, worked hard, and his efforts ended in failure. Ignorance was the prime cause of failure. We imported last year $18,000,000 in fruits and nuts, and exported but $3,000,000. We find many of our citizens cutting down their pecan groves that can be made to pay from $100 to $300 per acre, in order to plant more corn. This is only one illustration of the ignorance that abounds here and there among our people.

He thought education was one of the great remedies for such failures, and was enthusiastic over the work being done at the school of horticulture and agriculture at Columbia.

We have millions of acres of the finest fruit land in the world right here in our state. Her mineral features of the soil paint her fruit, as no other in the world is colored. If we ever expect to see this great industry, for which Missouri is so wonderfully adapted become a success—then he insisted that the young men must be educated in the science of horticulture.

We have a great advantage he said, in the fertility of our virgin soils, over the worn out, exhausted lands of the east. Missouri is noted for being a clear weather state—143 days are clear; 173 partially so and only 49 days of the year is the sun obscured. This clear weather and glorius sunshine, aided by the iron and other rich minerals with which our soil is impregnated, is what gives our fruit rich life, giving juices and paints it with that high degree of red and golden color unknown in any country or state in the world.

With all these superior advantages before us, with a rapidly growing market all around us for our fruit, and with millions of acres of choice fruit lands to be had at from $5 to $50 per acre, it must be evident to every observing mind that Missouri with all her present attainments is very far from having reached the highest possible point in profitable fruit growing.

Mr. Murray closed his talk with a brief sketch of his personal struggles with fruit growing in the knobs of Holt county; how he went in debt for his land, paying interest from 12 to 20 per cent, and how today he had a fruit farm that was a source of a comfortable income to him in his declinig days; he gave dates as to some sales where he had realized $3,500 from his orchard; he had sold 10 acres of Ben Davis apples for $1,400, and the following year sold for $1,500. He felt confident that his 80 acre orchard had netted him 10 per cent over all expenses for the past 22 years.

WEDNESDAY FORENOON

was largely consumed by Dr. White, the state's veterinarian, who entered largely into the discussion of our quarantine laws and as to what our state was doing to protect our people's stock from contagion. He also explained these laws, both national and state. He explained that our farmers lost heavily by reason of the foreign embargo on our stock, because, as he said, they claimed that all American export stock was more or less diseased.

He gave an extensive talk upon what he had done toward "knowing" something about Texas fever and was fully convinced as to the cause, the remedy and prevention of this disease. He told what the experiment station at Columbia had been doing and entered into detail as to tests that had been made enquiring into the disease. He also stated that owing to no appropriations being made for this purpose, he had to depend upon the generosity of the authorities at the Columbia school; he told of the large number of post-mortems, and experiments he had made, had specimens of the "ticks" that caused Texas fever, and other specimens; he told of how three cows were experimented upon; and how they died from inoculation by these "ticks." He thought that still further experiments would be made next year. His opinion was that every indication pointed to these "ticks" as being the cause af "Texas fever."

The doctor answered many questions as to the best treatment of lump jaw, black leg; on being told of the death of the Charles Hoffman cattle, stated that he believed it was what was commonly called Dry Murarin, and in fact it was nothing more nor less than indigestion, caused by eating too much dry food—usually from stalk fields—and too litlte water and salt. Empaction follows, then fever, then death. Plenty of good, clear water and salt should always be provided for when stock is turned in on such food. Treatment: Two pounds Epsom salts, then a handful of barrel salt—what was needed was to create a morbid apetite for water, in order to liquefy the food.

The doctor mentioned the fact that France gave Pasteur $100,000 for discoveries leading to the treatment and cure of Anthrax, but did not expect to get over 100 cents from the State of Missouri for what he had done toward solving the Texas fever problem.

He also thought that the cornstalk disease as many called it was the result of a parasite growing on the stalk or shuck of the corn. He recommended change of feed and water of the stock. He attributed the dying of many horses in the various parts of the state to this disease. For these horses so afflicted he recommended from four to eight drachms of aloes powdered fine and given in a capsule made of paper; as a heroic remedy might give an ounce at one dose.

He attributed hog cholera to a specific germ and no one as yet had been able to solve a remedy.

The doctor did not think there was any contagious diseases in the state at the present time. Big jaw in cattle was not always lumpy jaw, and it is often found in other parts of the body, and did not regard the meat as fit to eat.

Bots are caused from the nit fly, which deposits eggs and are finally taken into the stomach, from which they feed from the stomach juices, and regarded them as harmless, as the horse's stomach was its natural home. All cases supposed to be injured from bots, are caused from colic or some other malady. Did not believe there was a horse in Holt county free from bots.

A contagious disease must have a direct cause. There is a specific germ which always produces the same disease. The work of the department to which he was attached was to investigate these germs and study the life history of these microbes.

Many fevers and other diseases were often caused by bad water in ponds and surface water that is impure.

In answer to a question he said that he had never seen a case of Texas fever without the Texas tick.

The best way to destroy dead animals was to burn them, because sufficient heat destroys the disease germs.

In drenching a cow he stated that not over a half cup full should be given at a time; in using Epsom salt, mix with luke warm water thorougly, in a pitcher, pour the amount in a bottle and give it in that manner; as many cows are killed by drenching as are killed by disease; they cannot swallow rapidly, and always wait for each quantity to pass down before giving another.

The doctor's talk was one of the most interesting of the institute and was thoroughly appreciated by all, and the only regret is that there were so few practical stock feeders and breeders present.

POULTRY

was the first subject taken up in Wednesday afternoon's meeting, and this question was handled by E. T. Abbott, of St. Joseph, who went into his subject with both sleeves rolled up.

He stated that few realized the magnitude of the poultry business of this country, and yet it was a shame that we were importing eggs from Canada and other countries. Missouri ranked first in poultry and fourth in egg production, and there was no good reason in his mind why Missouri should not also be first in eggs, the only reason he could give why Ohio got more eggs than Missouri was that he believed they treated their hens better, and especially in the winter season are they treated badly—they should be kept warm by having a snug hen house for them, and thought two feet from the ground was high enough for their roosts.

Management and kindly care were paramount to get good results, and these if given thought and care will bring you abundant eggs just when they are commanding the highest prices—in the dead of winter. If you cannot manage the ordinary breeds there is no use in your trying to handle the extraordinary breeds; but he advised to get pure breeds, and take care of them and treat the old hen right and she will reciprocate by giving you eggs regularly. Don't exhaust her vitality by compelling her to roost in the trees in the winter season—by not feeding her regularly and with clean wholesome, egg-making food and clean fresh water.

He like the Plymouth Rocks, on account of uniformity in size, color, etc., and these were excellent qualities. He fed two parts of bran to one part of hominy meal; mix in winter with warm water, add few oats and let them soak, till soft, then stir thoroughly, not too soft and feed in troughs, etc., to keep feed clean; at noon he fed oats and wheat, and at night fed corn, all they could eat. He regarded lime and sulphur as best disinfectants. When they die from disease burn them. There will be little sickness if you give them warm, dry quarters, and burn the sulphur occasionally; burn the sulphur under the roosts, close up the house tight while doing this; if they seem to smother open a door or window until relief comes; this is a proper remedy for roup, but you will rarely ever have trouble in this direction if you follow above rules. The hen house should be cleaned daily—every afternoon or evening, and droppings should be used for manuring garden, or special plats, as it is the richest of all manures. Empty their water vessels three times a day; keep them cleen and always see that they have plenty of clean, fresh water.

GOOD ROADS

was the subject handled by T. O. Stanley, of Pettis county, who is a surveyor of that county, a practical engineer, and one who has given this subject not only much thought, but extensive practical consideration. He seems deeply interested in the subject. He said the question of roads had been talked about and read about, but nothing practical had been submitted in this country until recent years. That the majority of farmers do not seem to realize the cost and expense it is to them to have bad roads.

He contended that the average cost of marketing farm products amount to about $1 per acre more when hauled over bad roads, than where hauled over good ones, thereby reducing the profits.

In order to have good roads, the hobby or notion of adhering to section lines should be as nearly in a direct course as it were possible, great care being taken to avoid long steep hills, and the grade should not be over five feet to the 100—the shortest way was frequently around the hill, and on ground from which the water can be the most easily drained.

All wet and boggy places he contended should be tile drained, before the road bed is thrown up; that cross drains should be built of stone or other durable material, and of sufficient size to carry off the water. Every county road should have side ditches about 20 feet apart, straight, sufficient size to be able to carry away the water, and so constructed as not to allow water to stand by the road side, and that the center of the road bed should be 12 inches higher than the sides.

The road grader is the first to be used, and after having graded up and shaped the road, then it should be rolled by using a six to eight ton roller until the road bed is hard and firm.

He was a great believer in tile drainage, and exhibited diagrams and charts, bearing upon this subject, and strange to say not a single road overseer was to be seen in the room. If the average road overseer was half as much interested in making good roads as he is in drawing the cash from the tax payers, of his county, Mr. Stanley thought we would have much better roads in a very short time.

At present the principle use of the public roads are confined to the neighborhoods in conveying their farm products to town, and the railroad stations, and hence are local, and consequently the improvements must be local, and must be looked after by the local authorities.

A farm on a good road is worth more than one on a bad one. If, he contended, one horse can draw a load of 1,000 pounds, and on a poor road it requires two horses to draw same load, it is evident that the farm that is 10 miles from market on a good road is as near the market as the farm that is only five miles away on a bad road. In other words, that the products of a farm that is on a good road can be hauled to market for one-half the cost of that of a farm the same distance from market on a bad road, and of course worth more money.

As a general rule when the farmer was busy putting in his crops the roads were in good condition, and when the season came for marketing his products, the roads were bad. He believed that with improved highways would come an increase of $5 per acre to every farm along those highways.

He took for an example as to what the farmer lost by having bad roads—a 120 acre farm, divided into 40 acres each, of wheat, corn and hay, and showed that he lost 39 cents per acre on his wheat, 94 cents per acre on his corn and 65 cents on his hay, or a total loss of $78 on his 120 acres, or a 6 per cent loss on a $6 per acre basis.

He was also opposed to continuing the narrow tire in use, and with charts and maps showed the great superiority of the broad over the narrow tire, that they were from 28 to 50 per cent lighter, and hence required less horse power.

He was in favor of convict labor being used to make the roads, and thought all jail birds should be compelled to work the roads, by breaking macadam, etc. He was also in favor of a state highway commissioner to look after and make plans for uniform system of road making—as it is now you have as many different plans for making roads as you have overseers in your county, and when the fact is known that there are 6,000 overseers in our state, who annually expend $6,000,000 in the same time in working our roads, he thought it about time, that Missouri was doing something toward getting some substantial benefits from such large expenditure of the tax payers' money.

THE MINISTRY OF FLOWERS

was the opening subject for the evening program, and a goodly sized audience was present, to great those who would take part. The above subject was presented by Miss Ella O'Fallon, and opened her subject by asking, "Did you ever pause and think what this world would be without flowers? How much they added to the joy of life and what a dark, dreary world it would be without them; she reminded her readers of Him who said, "consider the lilies." Each season had its peculiar beauty, and spoke of the first, with the coming of the Easter lilies, that seemed to say "I am the resurrection and the life; the violets and the fragrant spring flowers, the ferns. Summer comes with her wealth of roses, and the sweet peas throw out their fragrance, and rear their gay heads "like an army with banners."

Then comes July, sweet heart of the year," with her red, red lilies, the poppies. With autumn comes the hedge rows bright with golden rod and asters, the cardnal flowers, and with November comes the lovely chrysanthemum, native of a strange country and strange customs. To how many charitable enterprises have they lent their gracious beauty; she called to mind the beautiful show of this flower recently made in our city; she spoke of how flowers through window culture brightened the home when Mother Earth was mantled in snow. She spoke beautifully and touchingly of Memorial day, and the elevating and refining custom of honoring the memory of the nation's dead with flowers. It was a beautiful fact she said that many of the battle fields around Richmond, that had been red with blood, have been whitened with daisies since the bloody strife; the seed it is thought were carried there in the hay, fed to the army horses.

It is said that the thistle which is generally considered such a nuisance, once saved the whole Scotch nation, by a barefooted soldier stepping on one, gave a loud cry of pain, which alarmed the camp of sleeping soldiers, and the enemy were driven back, and in grateful memory, adopted the flower as their national emblem.

Flower mission work had become a regularly organized branch of work in many philanthropic societies, and cited a case where a flower missioner in one of our great cities had said that when she could get a miserable tenement family to tend and care for a scarlet geranium, dirt and squalor vanished, and as long as she could see the scarlet blaze in the window she knew all was well within.

In closing her excellent paper, she said give the children flowers, even if they were mere toddlers who would pull them to pieces the next minute; do not let them look with wistful eyes and hearts unsatisfied. The love of flowers was inborn in every child; encourage it, let them grow up surrounded by flowers and the love of the beautiful cultivated.

DAIRY BUSINESS.

"Uncle" John Patterson, of Kirksville, the great butter maker, was then introduced. He has been in the dairy business for many years and knows more about cows and how to make them give the greatest quantity of milk for butter purposes than he was able to tell in the time assigned him. In the first place cows should be treated kindly. Though well fed and afterwards roughly treated, they would not give satisfaction in either milk or butter.

We do not supply near all the butter in this state that we consume, yet we have the best grass and corn land and the best climate in the world. He thought the dairy business paid better than raising cattle for beef. The feed that will make a pound of beef will make a pound of butter. Beef will bring you only about 5 cents and first class dairy butter should bring you from 17 to 25 cents. It was true that it required more work to make butter, but there was not the difference in the work that there is in the price received. A man must be at home mornings and evenings if he is in the dairy business.

The wife should be relieved from the duties of butter making. He believed if he had to follow a plow all day, that it would rest him to set down and milk a good gentle cow. When he got 17 cents for his butter his neighbors got 5 cents, and when 25 cents his neighbors were selling at 10 cents.

To make good butter you must first learn just how sour the cream should be. If too sour it loses its flavor and quality. The temperature should be about 60 degrees in winter and 62 in summer, or as near these as possible. He was partial to the Jersey, because she was the cheapest feeder and best butter maker.

He regarded fodder as the more economical feed for cows than timothy, and should be cut while the leaves were green, put in large shock until cured, then haul to the barn or shed for protection from snow, sleet and rain. Keep your feed in barns or sheds if possible. He thought it profitable to build a good barn big enough to hold all the feed he will use through the winter or better the year round.

In raising beef you get your money every two or three years; in dairy farming it is coming in all the time. He used a No. 2 separator, the cream going out through one spout and the milk through another. It will pay any one milking 8 or 10 cows to have a separator. A good cow should make nine pounds of butter per week, nine months of the year. Sorghum was a good feed for dairy cows, give it to them whole, seeds and all.

By keeping his cows in the barn he also saved greatly in fertilizing matter. A good barn would save 20 per cent of cost in fertilizers every year.

Stop churning when the butter comes to the size of a grain of wheat; don't gather it in the churn; use an ounce of dairy salt to the pound; when the water runs clear it is the time to prepare it; impure salt is an injury to your butter. In packing use parchment paper, it excludes the air. Build up a reputation for your make of butter, and it will sell itself.

Corn and cob crushed, clover, millet, ship stuff, etc., were good feeds, and always feed in the barn, which should always be warm enough to keep manure from freezing. Milk with dry hands, and with the finger ends. Did not believe in letting your cows go to the pond for water—supply them with good, claen water. He was partial to the revolving, barrel churn.

Mr. Patterson's talks are always enjoyed from the fact that they are told in that practical, logical way that interests everybody.

STOCK FEEDING AND BREEDING.

Col. G. W. Waters talked of pure breeds and thoroughbreds, giving many facts of interest on this and other interesting topic's pertaining to the farm and other kinds of live stock. He takes the position that all kinds of stock are simply machines for the manufacture of the raw product of the farm ready for the market, some kinds of stock being better machines than others. The question for the farmer to determine is which breeds of these machines is the best and cheapest for manufacturing purposes, with a view to a profit above what could be realized from the raw products of the farm. That the scrub breed is not the best no one has any doubt. He stated that each animal in its class, sprung from a common origin, having some trait thot was with their ancestors in the beginning. We can not give to an animal a trait that was not in some way developed in its ancestors. Animals are improved by selection, feeding and training. You can not get a race horse by breeding to horses that were never in the speed ring or in training for the purpose of bringing out their best efforts in this line.

Environments, or surroundings, feeding and breeding had as much to do with development of a herd as with the individual. Good breeds are more easily handled than scrubs and will develop more rapidly on less feed and will bring better prices on the market.

Nature, surroundings, etc., produces a certain type of horses or cattle. Swift horses were grown on the Arabian deserts by the mother retiring far from the jungles which were the home of wolves and other carnivorous animals ready to pounce upon the young foal as soon as dropped, and there in seclusion she would nurture her young; and as it became older and stronger, she would return with it to the forests, where wolves would give it chase, and unless fleet, the colt would be run down and devoured. It was a question of the "survival of the fittest," and that is where the thoroughbred horses originated; here is where speed was developed; endurance developed; fright, viciousness, and combativeness, came from and is seen in the horse.

He had found by close study that different foods have different compositions, and that different compositions are desirable for different results. We should know what the compositions of a food is if we wish to get the best results. Certain foods produced muscle; and others produced fat. A young calf would require a larger amount of the muscle producing food, while a steer being fed for the market would need a larger amount of the fat and heat producing food.

He thought the farmers lost more from ignorant feeding than from all the stock disease combined. Feed only what the stock will eat and digest well, not what they will eat and pass through.

Mr. Waters is a scientific man, having given the subject of his lecture years of study, and having demonstrated nearly every point by careful experiments which prepares him for going before the people to reveal to them what can be accomplished in improving our stock and the best results to be attained in handling and preparing them for the market that the largest possible profit may be realized.

THE EXHIBITS.

There were several very nice exhibits made, but we regret there were not more.

Mr. N. Polk showed two squashes, one weighing 46 and the other 51 pounds.

S. M. Stout exhibited varieties of the Crawford, Vick's Surprise and the Rural New Yorker potato.

There were several fine plates of apples, but the exhibitor did not think enough of them to attach his name.

Mr. Blanchard had some fine samples of corn.

N. F. Murray showed a number of plates of apples, and some fine orchard and ornamental trees.

A number of fine chrysanthemums were shown, but no card to tell us who exhibited them. We believe, however, Mrs. Murray and Mrs. Mary Curry showed some.

Mr. Landers showed samples of the vineless yams and sweet potatoes.

W. R. Vining showed some very fine Ben Davis and White Winter Permain apples.

Each exhibitor was given a year's subscription to some agricultural journal of the state.

The institute, was very poorly attended, but those who did attend feel amply paid for the time consumed. It is a shame that the people are taxed seven to eight thousand dollars annually to support these institutes for the benefit of our farmers, and so few take any interest in them whatever, and yet many of these fellows will hang around the street corners, and yawp, "don't do anything for the farmer."

Come again, gentlemen, the people of our beautiful little city greatly appreciate these institutes, if the average calamity howler does not. They are educating and refining, and hence beneficial to all our people, whether they be farmers or not.

Our Cornet band kindly furnished music in the evening.

Catharine Hahn the Winner.

Another very important case taken from the Holt circuit court, has been handed down by the supreme court, which affirms the decision of the lower court, and which has been known under the title of Catharine Hahn vs. George W. Cotton. The case has been a most stubbornly contested one, by the attorneys, Messrs. Dungan and Knowles for Mrs. Hahn and Alkire and O'Fallon for Cotton.

The contest came up in the form of an ejectment, and plaintiff wanted posession of certain 39 acres of land in section 21, township 59, range 38; that plaintiff and defendants were adjoining riparian owners of certain lands; a large contiguous body of accreted lands had formed adjoining these lands; that defendant by extension of fences, etc., enclosed the whole bar in front of the lands of both plaintiff and defendant, and proceeded to put same in cultivation, and thereby took possession, for which the suit was brought by Mrs. Hahn to eject Cotton from the land, and in trial in the circuit court here, she obtained judgment, and Cotton's attorneys appealed to the supreme court, which body affirmed the decision of the lower court on Tuesday of this week.

Public Sale.

I will sell at public auction at my residence in Oregon, Mo., on

SATURDAY, DEC. 12, 1896,

the following described property, to-wit:

Wardrobes, Bureau, Chairs and Rockers, Heating Stoves, Cupboards and other articles too numerous to mention.

TERMS OF SALE:—All sums of $5 and under, cash in hand; on all sums over $5 a credit of 6 months will be given, purchaser giving note with approved security, bearing 8 per cent interest from date. Terms of sale to be complied with before any property will be allowed to be removed. Sale to commence at 10 o'clock a. m., sharp.

RUDOLPH SCHLOTZHAUER.

R. C. BENTON, Auctioneer.

—Letters remaining in postoffice at Oregon, Mo., for week ending Dec. 4th, 1896: In calling for these please say, "advertised:" Rev. G. L. White, James Edwards, (dead letter.)

HENRY SHUTTS, P. M.

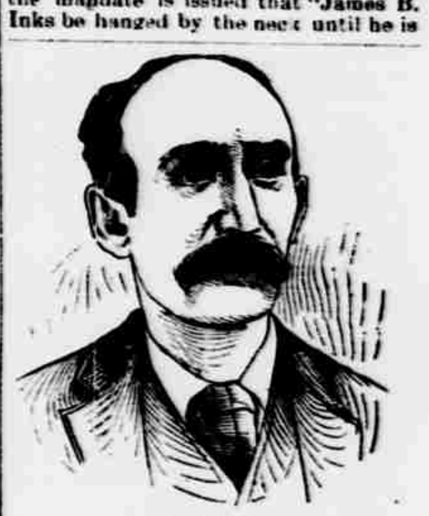
INKS' DOOM IS FIXED!

The Supreme Court Affirms the Rulings of the Trial Judge and the Appeal for a New Trial is Knocked Out

Wednesday, December 30th, 1896, is the Day Fixed by the Court for the Execution.

The supreme court on Friday, morning, November 20th, sealed the fate of James B. Inks, by affirming the decision of the trial court in Holt county, and the court fixed Wednesday, December 30, 1896, as the day for the execution.

The court was unanimous in sustaining the conviction of Inks. Now that it has decided the case, the attorneys will doubtless make the last effort to save the accused, and this will be in the shape of a petition praying the governor to commute the sentence to life imprisonment. If this is denied the case is again certified back to the proper officers, and the mandate is issued that "James B. Inks be hanged by the neck until he is



J. B. INKS.

dead." It is fair to presume that Inks' attorneys will take every advantage and resort to every move upon the legal chess board to give their client as long a lease of life as possible.

Sheriff Edwards feels anxious in the matter, and does not care to go to the trouble and expense of erecting the gallows and making preparations for the execution if the sentence is to be commited to life imprisonment. He says Inks has been a model prisoner giving him no trouble whatever, and evidently dislikes the idea of hanging him. Yet he says if it has to be done he will do his duty, and do it in the most quiet and humane way possible.

As for Inks himself he retains his cool, calm manner. His long confinement has made him pale, and he looks feeble and careworn, but his general bearing would hardly indicate that he stands in the shadow of the gallows, and that during the holiday tide, unless the executive interferes he will be launched into eternity. It will be the first legal execution that has occurred in the history of our county.

The Weather.

Corrected weekly by William Kaucher Justice of the Peace, Oregon, Mo.

	MAXIMUM.	MINIMUM.	PRECIPITATION Rain Fall.	Snow
Nov.				
26	58	17	0.37	
27	15	7	Trace	Trace
28	18	1		
29	23	3		
30	26	0		
Dec.				
1	41	15		
2	34	24		
3	40	17		Trace

The mercury failed to fall below zero here in November this year, but along the northern border the severest winter weather prevailed. Temperature ranging from 10 to 30 degrees below zero have been recorded daily for about two weeks past. This was accompanied by severe snow storms that have been destructive to life and have suspended all trade and travel for days at a time. The cold extended to Galveston and New Orleans, where ice was formed. At Huston and Galveston more snow fell than here. This is remarkable when it is considered these places are more than ten degrees further south than we are, but then our time will probably come later on. As long as it does not we will perhaps be contented. The rainfall for November was below the average and is so for the early days of December. A heavy snow fell in Georgia on the 2nd. The street cars in Atlanta were impeded by it.

No meteors in November when they should have appeared.

The mean temperature for November for 42 years, including the present year, is 39.11 degrees; the lowest 9.5 below zero on the 27th day in 1887. Other years in which the temperature fell to zero or below were as follows, to wit:

1856 -1.0 on the 8. 1857 -1.0 on the 23
1863 -3.0 on the 28. 1871 -3.5 on the 29
1872 -4.0 on the 29. 1875 -4.0 on tue 29
1896 0.0 on the 30.

The sign - means below zero.

It is a notable fact that the coldest weather in November has appeared on or about the 29th day oftener than any other, for it has so occurred thirteen times in 42 years.

The highest temperature for the month in 42 years was 82 degrees in 1866. Only five times during this period has the temperature reached 80, to wit: 1866, 1868, 1871, 1882 and 1887.

The mean rainfall for 42 years is 1.7 inches. The greatest was 7.81 inches in 1879. The least, 0.18 inches in 1875.

The mean snowfall for 42 years is 3.34 inches, and the greatest, 13 inches in 1857. No snow fell in November in 1861, 1865, 1883, 1890 and 1894.

The Stock Shipment Muddle.

An informal, but important conference was held at Jefferson City Tuesday of last week between representatives of the railroad lines centering in Kansas City, representatives of the Kansas City stock yards, and the Kansas City Traffic Association and the state board of railway commissioners. The conference was held as a result of the movement by shippers for the abolition of the present system of shipping live stock by weight, and the restoration of shipping at car-load rates. The conference developed the fact that rates on stock are higher on the roads going into Kansas City from north of the Missouri river than they are on lines entering that city from south of the river. The fact that the present method of shipment discriminates against Kansas City in favor of Chicago was also shown. A conference is to be held in Chicago this week, and the result is to be reported to the state board of railway commissioners on the 15th inst., at which time the board is expected to take the matter up, and make a ruling upon it.

What I Told McKinley.

Mr. Editor—I saw a squib in the Democrat as though it was writen to Major McKinley, and I thought if the same came under the Major's notice he would think there was quite a contrast in the opinion of the two parties in Oregon. I wrote Mr. McKinley a few lines on the 29th of October, and congratulated him on being our next president, and these repudiators, anarchists and silver cranks would be buried so deep that they would'nt make the law abiding and liberty loving people of this great and glorious country any more trouble, especially on that line, and that confidence would be restored and the flag of our country would hang to the breeze and would have to be respected both on land and sea, and would have the pleasure of bidding farewell to our free soup houses and our American people would be employed and our farmers would have protection by having our home market restored.

JACOB KING.