THE FARM AND STABLE.

USEFUL INFORMATION PERTAINING TO THE FARM.

Growing Clover--Breeding Poultry--A Job for Cold Weather--Injury to Stifle Joint--The Bee Moth.

Growing Clover.

There is no question among farmers who have tried it as to the value of clover on the farm, but their is a considerable difference in the manner of seeding and managing. There is no question but that difference in soil and location have much to do with this difference, as what is best in one locality will not always be best in another.

Some sow on winter wheat, sowing the seed in February, the exact date being largely determined by the season. Whenever it can be done it is best to sow reasonably early. Others claim that the best results are obtained by sowing with oats. Take the first opporunity in the spring for doing the work, as earliness is quite an item with both clover and oats. Others sow the clover alone about the time of the last snow, say about the last week in February. These claim that when the clover is sown with small grain after the crop is harvested the plants, being so suddenly exposed to the hot sun after being sheltered all through their growth previously, are killed out.

Some plough under early in the fall where a good stage of growth has been secured, claiming that there is a large amount of valuable plant food in the clover which, if ploughed under when green, will be returned to the soil. Others either let the clover die down in the fall or cut it down with a mower and let it lie until spring, when it is ploughed under. Those following this plan claim that keeping the soil shaded aids in storing fertility, and hence the advantage in letting the clover lie on the ground until spring, and then plough under and either plant to corn or potatoes, and then sow to wheat again in the fall, making a three years' rotation; or by having oats follow the corn or potatoes and then wheat and back again to clover, making a four years' rotation. Others plough under the second growth in the fall and sow to wheat.

In a locality where the oats can be sown early, usually not later than the last week in February, sowing clover with the oats will nearly always give good results, but when the seeding must be delayed until March, because the soil cannot be suitably prepared before, it will be best to sow alone or on the winter wheat in order to get the work done early. But the manner of sowing is not so important, provided it is done in a way that will secure a good growth, as it is to be sure and sow more or less every year. Clover aids to build up the fertility by mulching the soil. Shading the soil aids in the process of storing nitrogen, and a good growth of clover will shade the soil completely. The roots extend deep into the subsoil and bring up more or less fertility to the surface, and in this way the surface soil is enriched. Clover is a gross feeder and derives some of its sustenance from the air, and in this way adds to the fertility. The first crop may be cut for hay, be fed out to stock and the manure be hauled out and applied to the soil, and the second crop be ploughed under to add to the fertility. It is not best to depend upon clover alone to keep up the fertility, but it is a very important item, and on the majority of farms, especially in the West, there is not so much sown as there should be.

Breeding Poultry.

the poultry is fattened for market a sufficient number for breeding purposes should be selected out. These should be the best fowls on the place, if the quality of the flock is to be kept up. With chickens it is not best to keep all young hens or all young pullets, as old hens make the best mothers, while often pullets make the best layers.

Keep one rooster to every dozen hens, if the poultry are to be allowed to run at large. Better results could be obtained if the roosters could be kept from the hens until they are 18 months old. When young hens are used the roosters should be 2 years old. There is nothing gained by keeping more roosters than are needed for breeding, as they add to the cost without increasing the income.

One turkey gobbler will answer for a dozen hens, so that ordinarily one will be all that will be necessary to keep. From three to five hens, however, will be as many as an ordinary farmer's wife will care to look after.

Unless a specialty is made of keeping them for the eggs, one drake and five ducks are enough. They will make a good breeding pair. Ducks, if given comfortable quarters, will often begin laying the latter part of January or the first of February, but usually it is not best to commence hatching until March.

Guineas prefer to mate in pairs, but if fewer cocks are kept they will mate with several hens. They do not usually begin laying until spring and can be set at any time during the summer.

With geese the better plan is to keep the old geese for breeding and sell the young ones. The young geese will bring a better price in market, while the older fowls will lay as many eggs and grow as many feathers.

Pigeons mate in pairs in February, and it is not desirable to have odd fowls of either sex.

Do not undertake to keep to many fowls. More profit can be secured from a small number given good care than a large number left to shift for themselves. But those that are selected should be the best on the farm, and the selection should be made before they are fattened for market. By this plan a good improvement in the flock can be made at comparativly small expense.

A Job for Cold Weather.

Out-door painting that has for any cause been postponed, may now be done to even better advantage then in warm weather. It is not quite so agreeable to paint out-doors in cold weather as it is in the warm months, and the paint does not spread quite so easily; but there is more leisure to attend to it, and the paint, if it does take a little longer to dry, lasts better than when applied in late spring or early summer. It is asserted in fact that a coat of paint put on now and one applied next June will need renewing at the same time, so that there is an actual gain of half a year in enjoyment of the fresh coat. The cost of painting may be very largely reduced by doing it oneself. It is not a difficult craft to learn, if one has "gumption" and uses his wits to get the knack of it. The farmer whose buildings need painting, and are deteriorating for the lack of it, may feel that he cannot afford to hire professional painters at high wages to do the work. But he can do the work himself, taking his own time, at a good deal less than half the cost. It is the time, not the material, that counts up the cost.

In buying paints avoid the prepared article, which rarely proves durable. It is much better to buy the best white lead and raw linseed oil, and mix the colors as desired. Painters say that the yellows of various shades make the most durable colors, and as they are, unless too intense, agreeable to the eye, it is desirable to use them. The best dryer to use is brown Japan, other dryers, such as litharge, patent dryer, sugar of lead, etc., being unreliable. Raw linseed, in connection with the brown Japan, is preferable to the boiled.

It always pays, in getting paints for outdoor work, to buy the best quality, for a good article will long outlast an inferior one.

Injury to Stifle Joint.

Horses and cattle are extremly liable to injury of the stifle or hip-joint from the wide and prominent portion of the body. Added to this barn and stable doors are generally too narrow, and hung on hinges which permit the door to blow shut, or partly so, and the animal's entrance drags it against the hips. Horses and oxen are too often unharnessed or unyoked and forcibly driven into the stables. Going in with a rush the hips are violently thrust against the sides of the door. Sliding doors will greatly lessen these injuries. Even though the injuries to the hips of animals may not be serious, yet the bruises and sores on the hips of horses or cattle are unsightly, and painful to the poor brutes when lying down. And in summer flies torment them because of the sores. These bruises or sores should be fomented or poulticed till the fever is removed, and then daily dressed with the following: Tincture of arnica, two ounces; acetic acid, one ounce; ammonia, one ounce; soap liniment 10 ounces; carbolic acid, two drams. Mix and keep in a well corked bottle. The use of tar or grease from the wagon axle is serviceable, but for horses uncleanly, as the hands and harness are sure to be soiled.

The Bee Moth.

The bee moth, Galleria cereana, says Prof. Cook, is a generally recognized enemy of the honey bee; yet it is usually powerless to injure but weak colonies, especially of the yellow races of bees. Though called the wax moth, it really feeds mostly on pollen, though it cuts the comb in a ruinous fashion, as it tunnels through and through it in search of its real food. It is not considered a serious enemy by any well informed bee keeper, but will often do serious mischief to weak colonies of bees by matting, soiling and tunneling the combs, and in this way exciting and dispiriting the bees. It is also ruinous to exposed combs, and thus makes caution on the part of the bee keeper an imperative necessity to success.

Some Pointers.

It takes as much feed and care for a scrub as a thoroughbred.

Ten per cent more cattle in the country and 30 per cent more corn. Happy coincidence.

There is a ready market for large horses in Eastern cities, but the supply is not equal to the demand.

A Western journal throws out a hint to inventors to try and utilize the now useless corn husk. Who will take the hint and carry it into effect?

Some may raise scrub cattle because they require but little attention, but with the lazy man this is an unanswerable argument in favor of the scrub.

It is true in breeding as well as in growing crops, the man who weeds the closest and most intelligently is the one who grows the largest crop and at the least cost.

What sane man would deliberately waste a quart or two of good new milk? And yet many do this very thing by being harsh with the cow, and still consider their minds sound.

The annual loss of agriculutral products in this country by the depredations of insects is estimated at 10 per cent. But what does this mean? Taking the estimate of our farm products at the figures given, $3,800,000,000, it means that these little pests destroy every years products worth the snug little sum of $3,800,000. If such a sum were stolen in bulk what a sensation it would create!

A large variety of grasses in pasture land makes better feeding and a longer season than where only few are present. Twenty to forty varieties may often be found in an old pasture, and with a good top dressing of manure in the fall or the application of a fertilizer in spring such a pasture map be kept in a satisfactory condition for several years.

It has been suggested that as far as possible, roads should be made to wind around hills instead of going over them. But it is a fact well-known to horsemen that a horse can travel longer on a road that has ups and downs—if the grades are not too heavy—than if it runs for a long distance on a dead level. The secret of this is that by going up and down hill different sets of muscles are brought into play, while on a level road the strain is on the same set continuously.

SCIENCE AND INDUSTRY.

LATEST ACHIEVEMENTS OF THE MEN OF SCIENCE.

To Teach the Blind--Telegraphy Without Wires--Photographs From Above--Why Sixty Minutes Make an Hour--Scientific Jots.

To Teach the Blind.

A daughter of Rabbi Brown, in a recent essay before a Cleveland high school, suggested that the phonograph be employed in teaching the blind, as a successor to the comparatively crude, cumbersome and expensive books with raised letters, which now form the chief vehicle of information for the unfortunates.

Rabbi Brown wrote to Mr. Edison regarding the matter and the great inventor replied that the idea was entirely new to him, and that it was practicable. He added that he would begin work at once on the changes in the phonograph needed to carry the plan into operation. He expressed the belief that it would prove satisfactory in every way.

Miss Brown suggested the reading of lessons and studies into the phonograph in order that the teaching of the blind might be facilitated; and, going beyond the educational standpoint, and the reading of the popular novels, histories, books of travel, and whatever else might prove interesting and instructive into a phonograph to be repeated wherever and whenever desired. Her idea was that this plan, if carried out, would enlarge the libraries of the blind and decrease the expense of providing matter for them. The reading of books by paid readers might be entirely done away with so far as the individual was concerned. In other words one person could read to the blind of the world, the only limitation being the language in which the reading was done. There are comparatively few books that have been reproduced in raised letters. In fact the Bible is the only book that has a common circulation among the blind.

"There is one difficulty to be overcome," said W. S. Gray, manager of the Chicago Central Phonograph Company, in speaking of the plan proposed by Miss Brown, "and that is the limited capacity of the cylinder in use in the phonograph at present. A cylinder is run through in five minutes, on an average, and the most rapid speaker will not talk more than 1000 or 2000 words in that length of time. This would necessitate a great number of cylinders for the transcribing of a single book, still they could be arranged with the title of the book and the relative number of the cylinder in raised letters at the end, facilitating their use by the blind. In carrying out the plan of reading books into the phonograph much in the way of descriptive might be omitted, shortening the story to the truly relevant matter.

WHAT EDISON IS DOING.

"Mr. Edison is now conducting experiments, in fact he may be said to have completed the work, of reducing the size of the cylinder and increasing its capacity. In accomplishing this he has made the recording needle just half the size of the present one. The screw is also made smaller, increasing the number of revolutions of the cylinder from 100 to 200 to the inch, thus doubling its capacity. Special machines could be constructed admitting a much larger cylinder and, with the new receiving needle, the number of words might be increased to 4000 or 5000. As to the durability of the cylinders they are practically indestructible. I had one cylinder in use in St. Louis, which was made to repeat its words 3000 times, and the last time it was on the machine it reproduced the sounds as accurately as the first time. It was accidentally broken or it might still be in use. A single reading could be taken on any number of machines, and each of these in turn could tell its story to a hundred blind people and repeat as desired."

The lessons recorded on the instruments by the most cultivated teachers, especially trained for the work, are as nearly perfect as possible and the listener may have each sentence repeated hundreds of times until he is assured a perfect pronunciation and proper intonations of any foreign sounds. The machine can never get a headache and become cross and snappish, a recommendation that applies equally well to the teaching of the blind. Many clergymen, litterateurs, and public men are studying German, French, Italian and Spanish by means of the Meisterschaft system combined with the phonograph.—Chicago Tribune.

Telegraphy Without Wires.

At the third annual dinner of the Institution of Electrical Engineers Prof. William Crookes, in proposing the toast of the evening, "Electricity in Relation to Science," said that they had happily outgrown the preposterous notion that research in any department of science was mere waste of time, says the London Gazette. The facts of electrolysis were by no means either completely defected or co-ordinated. They pointed to the great probability that electricity was atomic; that an electrical atom was as definite a quantity as a chemical atom.

It had been computed that in a single cubic foot of the ether which filled all space there were locked up 10,000 foot tons of energy which had hitherto escaped notice. To unlock this boundless store and subdue it to the service of man was a task which awaited the electrician of the future. The latest researches gave well-founded hopes that this vast storehouse of power was not hopelessly inaccessible.

Up to the present time they had been acquainted with only a very narrow range of ethereal vibrations, but the researches of Lodge in England, and Hertz in Germany, gave an almost infinite range of ethereal vibrations or electrical rays from wave lengths of thousands of miles down to a few feet. Here was unfolded a new and astonishing universe—one which it was hard to conceive should be powerless to transmit and impart intelligence. Prof. Nikola Tesla had lighted a room by producing in it such a condition that an illuminating appliance might be placed anywhere and lighted without being electrically connected with anything. He suspended two sheets of meatal, each connected with one of the terminals of the coil.

If an exhausted tube was carried anywhere, between these sheets, and placed anywhere, it remained always luminous. The extent to which this method of illumination might be practically available experiment alone could decide. From Tesla's researches it appeared that a true flame could now be produced without chemical aid. The slower vibrations to which he (the speaker) had referred revealed the bewildering possibility of telegraphy without wires, posts, cables or any of our present costly appliances. It was vain to attempt to picture the marvels of the future. Progress, as Dean Swift observed, might be too fast for endurance. Sufficient for this generation were the wonders thereof.

Why Sixty Minutes Make an Hour.

Why is the hour divided into sixty minutes, each minute into sixty seconds, etc? Simply and solely because in Babylonia there existed, by the side of the decimal system of nations, another system, the sexagesimal, which counted by the sixties. Why that number should have been chosen is clear enough, but it speaks well for the practical sense of those ancient Babylonian merchants.

There is no number which has so many divisors as sixty. The Babylonians divided the sun's daily journey into twenty-four parasangs, or 729 stadia. Each parasang or hour was subdivided into sixty minutes. A parasang is about a German mile and the Babylonian astronomers compared the progress made by the sun during one hour at the time of the equinox to the progress made by a good walker during the same time, both accomplishing one parasang.

The whole course of the sun during the twenty-four equinoctial hours was fixed at twenty-four parasangs, or 720 stadia, or 360 degrees. This system was handed on to the Greeks and Hippalchus, the Greek philosopher, who lived about 150 B. C., introduced the Babylonian hour in Europe.

Ptolemy, who wrote about 150 A. D., whose name still lives in that Ptolemic system of astronomy, gave still wider currency to the Babylonian way of reckoning time.

It was carried along on the quiet stream of traditional knowledge through the middle ages, and, strange to say, it sailed down safely over the Niagara of the French revolution. For the French, when revolutionizing weights, measures, coins and dates, and subjecting all to the decimal system of rekoning, were induced by some unexplained motive to respect our clocks and watches, and allow our dials to remain sexagesimal, that is, Babylonian, each hour consisting of sixty minutes.

Here you see again the wonderful coherence of the world, and how what we call knowledge is the result of an unbroken tradition of a teaching descending from father to son. Not more than about 100 arms would reach from us to the builders of the palaces of Babylon and enable us to shake hands with the founders of the oldest pyramids.

Artificial Diamond Dust.

Carborundum is a term which has been applied to a manufactured substance intended to take the place of diamond dust and bort in the abrasion of hard substances. The product is said to be wholly unlike the substances from which it is derived. In composition it is almost pure carbon; in construction crystaline, and in hardness it is 10 on Mohr's scale. On account of these qualities it is, to all intents and purposes, manufactured diamond powder, but its color is slightly darker. Under the microscope many of the crystals are dark green, others are yellow, still others are blue and some are absolutely colorless.

Carborundum is the result of experiments by E. G. Acheson, who made his first efforts in the direction of his discovery in 1880 in the laboratory of Thomas A. Edison at Menlo park, N. J. The new material can be sold at a price which will enable it to complete favorably with natural bort and diamond powder.

A company has been formed for the purpose of manufacturing carborundum, and a plant capable of supplying it in whatever quantities the uses to which it can be put may require has been established at Monongahela, Pa. The article has already been introduced by agents of the inventor in the diamond polishing centers of Europe. —Jeweler's Weekly.

Photographs From Above.

The latest method suggested for the taking of photographs from the sky is by using a kite. This is easier than the employment of free or captive balloons, and may be tried by any one.

The camera is made of wood and card-board with mountings of aluminum, and is capable of making a picture about eight by ten inches. A triangular support screwed above the main rib of the kite supports the camera, the method overcoming the rotary motion which is apt to occur. The shutter is of the simple guillotine pattern, and the exposure is made by a slow match or a second cord releasing the spring of the shutter. The latter means is preferable as it enables the exposure to be made at the most suitable times. Photographs that have been made with this apparatus possess wonderful sharpness and detail, and can be enlarged to any desired size.

Scientific Jots.

The greatest known depth that oceans have been sounded is over 4,600 fathoms, in the Japan sea.

Scientists say that the orange was originally a berry, and its evolution has been going on for more than 1,000 years.

The British Museum, so it is reported, is to be presented with a collection of stamps worth $100,000, owned by the late Mr. Tappling.

Nine hundred and fifty submarine telegraph cables are now in operation, most of them in Europe; their total length is over 89,000 miles.

It is reported that an English chemist has discovered a practical substitute for platinum in the manufacture of incandesent lamps.

By a new device pieces of metal may be shaped with rapidity by being forced under dies while rendered soft or plastic by an electric current.

San Domingo is to have an electric light, the government having granted an exclusive franchise to a company for a period of ten years.