

THE LANSING VISITOR

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"THE FARMER IS OF MORE CONSEQUENCE THAN THE FARM, AND SHOULD BE FIRST IMPROVED."

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WHOLE NO. 395.

COUNTRY ROADS AND ROAD MAKING.

F. HODGMAN.

We shall not have good roads until farmers realize how expensive bad roads are. Bad roads cost more than good roads. Many are so used to bad roads that they seem to think such roads are good enough. Some would not have good roads for fear that a dude on a bicycle would use them.

Let us figure on what bad roads cost, keeping well within the truth and putting it in round numbers. We can not be exact. You can't haul more than two-thirds as big a load, nor travel more than two-thirds as fast on a bad road as you can on a good one. The wear and tear is more. The town I live in has seventy-two miles of roads. They are fairly good for country roads. If they were all as good as the best mile, the average load hauled could easily be half larger than it is. What the difference would be in a year depends on the amount of travel. Nobody knows what that is. Assume that, on an average, six teams per day pass over all the roads in town. That includes everything. In that case the difference would be two teams per day over seventy-two miles of road, because then four teams could do the work that six now do. Call twenty-four miles a day's work. Then six days work of man and team is wasted each day. Call it 2000 for the year. At three dollars per day that is \$6,000 a year wasted, where the travel equals six teams per day, or \$1,000 a year where it equals one team per day over seventy-two miles of roads.

Mr. L goes seven miles to market. He had 1,000 bushels of wheat to sell, and he wanted the money. He would have sold in March at ninety cents but, as the roads were, he could not deliver it. He sold later at eighty-five cents. What was done? Two loads a day was all one team could haul. It made twenty-four loads. He could have just as easily delivered it in sixteen loads over good roads. He lost the expense of eight trips. At \$1.50 each that makes \$12, which the bad roads taxed him that time.

THE SMALLEST ROAD TAX

we pay is that which is levied in the assessor's roll. The bulk of all this tax is unnecessary. We might as well throw the money into the fire. The highway tax that is assessed to us is enough, if it were all paid in money and properly handled, to make fifty per cent better roads than it does make. We never shall have good country roads until they are made and controlled by men who know how. Road making is a trade. We never shall have road work done economically until it is done under the direction of competent, prudent men and paid for in cash. That involves a change in our road laws which I see no reason to expect will be made in my day. Each township in Michigan has for years had the power to make the change, but how many have done it, or will do it. (See section 1354 Howell's Annotated Statutes.) When the country was new and the farmers in the interior of the State had to haul their wheat to Detroit and sold it there at fifty cents a bushel, money was mighty hard to get. Our road laws were then well adapted to the situation. Things have changed since then. Laws which were good under those circumstances are abominations now. We Americans are a hundred years behind the rest of the enlightened world in the quality and economy of our country roads, and there is small disposition among

our farmers to catch up with or to head the procession. Accepting things as they are the best thing to do for the improvement of country roads is to educate those who make them.

HOW TO MAKE ROADS.

Get the best location. That text warrants a long sermon. For main roads between important points use the shortest line which is consistent with the easiest grades, and lightest work in building. Locate the line upon the same principles that a railroad is located. We seldom do it. We locate roads on section or farm lines when it would be cheaper to buy a man's farm outright to get a good location, rather than to locate and build it on the boundary line. We are generous. We climb hills and dig them down year after year, at no end of trouble and expense to the public, just to keep some man's fields square so that his corn rows will come out even. We are going to keep right on doing so.

Having located the line, you want to build a road that shall have a smooth even surface; hard enough so that wheels will not cut ruts in it and soft enough for horses' feet to take a firm hold without slipping when hauling loads. If somewhat elastic it will be pleasanter to use. In some respects asphalt pavement is the ideal road.

Clear the road bed of trees, brush, stumps and stones, if there are any. Cut down hummocks and fill holes. Subsequent treatment will vary as the soil varies. As soon as things are ripe for it, begin grading. Do it systematically. Adopt a permanent grade and work to it, so that work once done will stay done. Finish as you go. Do not begin grading a foot more road than you can finish while you are at it. This does not apply to the big hills and hollows that must be dug down and filled up to all eternity.

Drain clay soils thoroughly. Water must be speedily got rid of if you would have a good road. Read that over till you have it by heart. Do not be afraid to go outside the road. Ask the owner to help you open the watercourse across his land till the water has a free outlet from the road. If necessary call on the Drain Commissioner. A few dollars spent in this way will sometimes do more good than ten times the amount spent on the road itself. Tile drains are a great help to some roads. Lay them lengthwise of the track on each side of it. They do little good under the track because the surface becomes puddled so the water does not reach them readily. Be sure the tiles are laid to a true grade and have a free outlet. Wherever there is a sag in the tile the sediment will settle. If the sag is as great as the bore of the tile it will sooner or later cause an entire stoppage. Lay the tiles from two to four feet deep, according to circumstances. Clay roads must be turnpiked or raised in the center, to carry off the surface water. Plow a backfurrow down the center of the road and keep plowing in until it has the desired slope. Keep the ground finely harrowed so as to have the soil perfectly homogeneous and uniform. Do not raise it too high in the middle. A rise of one or two inches is enough.

In Chicago they used to raise the center of the streets eighteen inches. They now raise them only eight inches and get better results. When a wagon is on the slope of a turnpike it is tilted to one side. The most of the weight is on the lower wheels increasing their tendency to cut a rut, which will intercept and hold more or less of the surface water. That softens

the ground and the wheels cut deeper. So it goes on from bad to worse until the limit is reached. The steeper the slope the worse it is, defeating the very object it was made for. The strain on the wagon is greatly increased and by taking the lower wheels and axles at a disadvantage greatly increases the danger of breakage.

DO NOT USE.

a scoop scraper in finishing a road bed. It is a nuisance. It leaves its loads in hard bunches with soft spaces between, some of which will surely develop into mud holes. Flat scrapers with toupes are much better. You can distribute the dirt evenly with them. A road machine is a good tool to finish the surface with if you know how to use it, or to spoil it if you don't. When you have the road-bed thoroughly worked and just where it ought to be, roll it down hard. Farm rollers are not heavy enough to do the best work. Rollers are made on purpose for it, and ought to be used more than they are. Bring the road bed to the grade where it is to stay the first time you plow it and then be sure that the plow never is put into it again. A man who will plow up a graded and well settled road bed ought to be prosecuted and fined to the full extent of the damage he does, including damages done to people's feelings who have to travel over such a road.

If the soil is muck, put an open ditch on each side of the road, at least twenty feet from the center and give it free outlet. If you have good reason to suspect the presence of a sink hole do not cut the surface at all, as it will do more hurt than good in case there is one. If the muck is very soft you may have to put in a log crossway for a foundation. Put good solid stringers lengthwise of the road bed. Notch the crosslogs on to the stringers so they will stay firmly in place, and be as even on top as possible. If they are flattened on top so much the better, they will need but little covering. If not flattened put on a good layer of brush and marsh hay and cover it with the best dirt you can get. A log crossway becomes in time a great nuisance unless the logs are below frost. The frost lifts them and keeps the road filled with bumping places.

Except in the softest ground, brush makes a better foundation than round logs, and will last until the ground is settled so it is no longer needed. Use plenty of it. Pack it as closely as possible and give it a good covering of gravel with a little clay in it if you can get it.

DO NOT TURNPIKE

a sandy road nor drain it. Wet sand makes a better road than dry sand. I am not speaking of quick sand. Sandy roads are usually pretty level and need little if any grading. They should, where it is necessary, be leveled off as evenly as may be. Encourage grass to occupy all the space it can. It pays well to give some sandy roads a heavy coat of manure for the benefit of the grass. Don't turnpike a sandy road. It is a damage to it. Put a coat of six inches or more of stiff clay on a sandy track and it makes a pretty good road of it. Straw, marsh hay, waste from sorghum mills and the like, make good temporary applications for sandy roads. They improve the roads greatly while they last, and it pays well to use them in bad places when you can not do better.

The time soon comes in the life of a road, if it is much used, when it will pay to give it a better sur-

face than can be had from sand, muck or clay. Where gravel can be had it is the first thing to use. It makes a surface hard enough for almost any country road, and is a good foundation for a pavement. When you gravel a road, begin at the part nearest the gravel and put on an even layer about four inches thick, driving over it as the teams come and go. When one such coat is on, wait awhile until it is solidly packed by the passing travel. Then put on more in the same way, until you have enough on. The object in applying it in this way is to have all the gravel solidly packed from top to bottom. It makes a big difference whether this is done, or whether you have a hard crust on top with loose gravel beneath. Don't use sand instead of gravel. It is a waste of time and money. The gravel should consist of grains from the size of a kernel of wheat to that of a hickory nut. Sharp, angular grains are best. If the gravel is to be put on sand, a little stiff, tenacious clay mixed with it is an improvement. On clay it will get all the clay it needs from the road-bed.

When your road-bed is well graveled, let it alone, except to patch up any holes as soon as they show themselves.

DO NOT PLOW IT UP.

Nothing better than gravel will be needed for a majority of country roads. When the traffic will warrant paving, it will generally warrant a railroad, which is pretty sure to come. If the road must be paved, call on an expert for advice. It is the best and cheapest way. I will suggest that brick is now considered to make by great odds the best pavement that can be had for the money. House brick will not do. They are too soft. Brick are made on purpose and burned very hard and tough. They are nearly as durable as granite and can be put down for two dollars or less per square yard.

I will close with a very few words on repairing dirt roads. A road machine is the most effective tool that I know of for this use. It wants a man to run it who knows his business. Such men are much scarcer than the machines are. The machine should be run over the road in the spring as soon as the ground is well settled, and afterwards during warm weather as often as the roads become rutted. It will smooth down the rough places, fill the ruts and leave the road in the best possible shape. If not properly used the road machine is a nuisance. I believe that a great deal more harm than good has been done with them. Too steep slopes are made with them, and big ridges of loose dirt are left in the center, compelling teams to follow the slopes. No ridge of loose dirt should be left. It should be evenly spread over the surface with the machine and then rolled down hard.

Climax, Mich.

MERIT VS. SPOILS.

Under the old system a man who desired a place at Washington had first to convince some local party leader that he could himself be of service in advancing that leader's fortunes. He then had to give up several weeks or several months to pushing and supervising the intrigues by means of which he finally got a place in the department. He often had to stay in Washington two or three months before he could accomplish his purpose, and in too many cases he only did accomplish it finally at the expense of some poor fellow who was already in the departments, but who

no longer had influence sufficient to insure his retention.

The scramble for office was very keen, and this, of course, meant that nine-tenths of the people that sought it did not get it at all. They abandoned their work that they might come on to Washington; they spent their money and became thoroughly demoralized and unsettled, only to go back finally with a bitter sense of shame at having failed to gain the coveted prize. The career of the average political office seeker is no less pitiful than it is shameful. In Bret Harte's striking story of "The Office Seeker" a vivid picture will be found of the degradation and heartbreak which are almost necessary attendants upon the old system of a greedy, selfish scramble for plunder.

Thanks to the adoption of the merit system, all this has been completely changed. The business of obtaining government employment in Washington has been put upon the same clean, healthy basis that marks the business of getting employment in any big private enterprise. If a man wishes to try for a government position now, all he has to do is to write to the commission for information; he then enters some examination which is held near the place where he lives, and is therein tested fairly and in a perfectly common sense way as to his capacities for performing the peculiar duties incident to the position sought. If he does not pass well, then he fails to get the position for he does not deserve it. If he does pass well compared to the others in the examination, and if it is a position for which there is any demand he is almost certain to get it. He does not have to bother himself about any outside influence whatever; it will be entirely useless to him. All he does is to stay at home and go about his work without any disturbance and to wait until he receives a notification from Washington of his appointment. Once in, he has not the slightest fear of having his place declared vacant in order that some outsider with political backing may be put into it. If he does his duty he is protected and he knows it. He can look at a change of administration with absolute indifference. In the old days, on the contrary, the work at each department was diminished in efficiency to the extent often of a third prior to a change of administration, consequent purely upon the nervousness and anxiety of the unfortunate clerks about their future prospects.—Theodore Roosevelt in *May Cosmopolitan*.

WANTED—A MERINO RAM.

The Assistant Secretary of Agriculture, Mr. Willits, who is in charge of the exhibit of that department at the World's Columbian Exposition, is now taking measures for a thoroughly classified representation there of the wool industry of the United States. He has appointed a committee to look after this matter, consisting of Edward A. Greene, of Philadelphia, and Hon. John T. Rich, of Elba, Michigan. Mr. Willits desires to secure a fine Merino ram to be stuffed and mounted on a pedestal in the center of the exhibit. He would like tenders of such a ram, whose pedigree can be traced to one or more noted sires and that is now growing his third fleece. The animal selected will be exhibited with the name and address of the breeder attached as in the case of all samples of wool, where these are known.

LIPPINCOTT'S for June contains a complete story by James Lane Allen, entitled "John Gray."

Field and Stock.

THE CARE OF SWINE.

WM. BLOW.

No well regulated farm is complete without a few swine. The hog has always been the farmer's scavenger, converting into meat what would otherwise go to waste or become a nuisance; the scavenger being a source of more annoyance and receiving less care than any other tenant of the farm. Of late years he has received more attention, and there is a growing disposition to accord him the same considerate treatment shown the other animals of the farm.

The rapidity with which swine increase, the early age at which they may be profitably sent to market, the ease with which the meat may be preserved for future use, and the large use made of the fat, as also the abundance of corn so well adapted as a fattening food, have made swine breeding popular in all the Indian corn growing regions. While the readiness with which one or more pigs may be utilized as a profitable means of consuming waste products from the table and dairy have caused one or more pigs to be fattened annually by every villager or farmer.

So far as breeding the improved swine is concerned choose any one that your fancy may prefer, but when you have made your selection do not fail to breed from pure breed stock on the side of sire. In the breeding of our domestic animals great pains have been taken in building comfortable buildings for the horse, cow and sheep, but how is it with the pig? We often see hogs turned out in the open field or in some lane or woods with a rail fence to break off the wind, with a few boards thrown across two panels of the fence for cover, or a few sticks with a little straw for shelter in winter; or in a small yard with mud and filth to wallow in. No farmer can expect to have good success in this kind of treatment of his breeding swine. They should have good dry, warm and comfortable sleeping apartments, with a small field or a large yard for exercise.

I find that small breeding houses, eight feet square, with the floor built in such a way that they can be moved from one field to another, the most convenient places for breeding stock. These small breeding houses are very convenient for brood sows to farrow in if the weather is likely to be cold. I lay up four lengths of rails around the house, with a doorway to go in and out, and fill in between the house and rails with straw. In this way the sows are safe to farrow almost any time of year.

Great care should be exercised in the feeding of brood sows. We cannot expect to have good success in breeding pigs if we feed all corn as many farmers do, and with perhaps nothing but snow for drink. I feed my brood sows at least two months before farrowing time, and all the time they nurse their pigs, with oats and corn ground with middlings and bran mixed, well wet up with dishwater and any waste from the house. In cold weather I give this food warm. Great care should be taken in feeding the sow after farrowing. She should not have any food for twenty-four hours after farrowing. If she should come out of her bed and ask for food give her a little dishwater warm; feed her light food for the next week or ten days or until the pigs are strong enough to consume her milk. Very many sows and pigs are lost by over-feeding at this time. I treat my hogs kindly, and never strike them with a stick. I keep them so I can handle them at any time.

With this kind of treatment I have had good success in breeding pigs. Molly Oxford has farrowed four litters, thirty pigs, and raised all of them. Last spring I had five sows farrow thirty-five pigs and raised all of them but one. It is very essential that no strangers go near or around the sow about farrowing time and some time thereafter to annoy them. They should as a rule be fed and cared for by one attendant, as no other farm animal is so quick to suspect danger as swine.

It is stated by eminent writers

on this subject that it takes but a trifle more than half the fertility from the soil to produce a ton of pork than it does to produce a ton of beef or mutton; and it takes not much more than half of the feed to produce it. The farmer is not able to foretell the future; he is not expected to foresee the kind of crops or the kind of animals to produce that will be the most profitable for the next year, but he must do something to sustain himself and family, and perhaps pay off some debt already contracted. It seems to me that with a State so well adapted to all kinds of farm products as ours is, that it is good policy for our farmers to practice a mixed husbandry. We ought not to raise all horses, cattle, sheep, or hogs when the prices are high for other articles. If we practice that course we are apt to be at least one year behind the good prices anticipated, but the better course would be to produce a little of everything that is usually produced on our farms, a few fat hogs included. In selecting our swine for feeding the most important things to be taken into consideration are early maturity, size, quality, form and disposition. The latter may seem of little moment but in reality it is just as essential to have hogs of good quiet disposition as horses or cows. Cross, fretful, restive hogs are seldom good feeders; the females are not good mothers and the males are dangerous to handle. We want a hog that has good digestive machinery, that will eat what you give him and go to his bed and lie down; not one that takes a bite or two and then commences traveling around his pen squealing for something he has not. This performance may have a tendency to develop muscle but does not assist in laying on flesh. In quality our hogs should have a soft mellow feeling when the hand is placed on them. Hogs differ as much in this respect as cattle or other animals. Early maturity is very essential for the reason that it shortens the time we have to feed. We ought not to expect a profit in feeding hogs if we shut them up in a four square rail pen and feed them on the ground with nothing but corn to eat and that thrown in the mud, but they should have a good warm place to live in with a floor to eat on, and it should be kept clean and sweet, with a good bed of straw to lie on. The pig should be kept growing every day of its life.

It has been found by experiments that on the average four and one-half pounds of corn produce one pound of increase of live weight, or about twelve pounds of increase to one bushel of corn.

In a paper that I heard read at an Institute the gentleman said it cost him two and one-half cents per day to keep his hogs. If these hogs should increase only one pound a day during their lives he would receive a good profit.

In discussing this subject a farmer said he had fed his hogs on boiled potatoes and they gained two and one-half pounds per day. Another gentleman says it is his opinion that swine are the most profitable stock to the farmers.

One of the most successful farmers of this county bought nineteen pigs, weighing 2,058 pounds. He fed them thirty-three days then sold them. These pigs increased one hundred pounds each during this time. They were fed seven bushels of ear corn per day during this experiment; thus being an increase of over eight and one-half pounds of live weight for one bushel of ears of corn. At three and one-half cents per pound live weight the gentleman received thirty cents per bushel of ears for his corn. I find by referring to the United States report of agriculture a table showing the price of corn and hogs commencing with the year 1872, ending with 1889. The average of all these years show the price of corn to be forty cents per bushel of 56 pounds, the average price of hogs to be \$4.80 per hundred live weight. By referring to these tables it is clearly shown that the price of hogs is It is seen, by the above figures, that eight and one-third pounds of hog product equals one bushel of corn in price. If we allow five pounds of corn to one of hog product there would be eleven pounds of hog to the bushel of corn. The practical farmer will try and ascertain the time of year in which his hogs will bring the best prices and have his hogs ready for market at that time.

It seems to me that if the farmers would investigate this question in its proper light they would be equally as well satisfied with the profits of breeding and feeding hogs as they are with any product of the farm. It is my opinion that as a special product no other commodity of the farm will pay any better than hogs.

Thornville, Mich.

GROWING RUTA BAGAS.

JOHN LESSITER.

We usually plow the ground, which may be sod or stubble and if stubble should have a good coating of barnyard manure turned under, at the time we plow our corn ground. As soon as plowed it should be rolled and then harrowed twice over, and once in every ten days after it should be harrowed over for the purpose of destroying all weeds, as all weed seeds brought near the surface will grow—in other words this is tending your bagas before they are sown. After this last harrowing, before seeding—it should again be rolled, and then the drill can be run easily and true over the ground with the baga seed on or about the twenty-fifth of June. We have sown earlier but we have raised the best crops by sowing about that time. Would make the drills about thirty inches apart and put as near as we can about half a pound of seed to the acre. A few days before we put in our bagas, we clean out our chicken houses, and take all the unleached ashes left after the soap making and say two barrels of cheap salt and one barrel of plaster, all mixed thoroughly together on a barn floor and shoveled over two or more times so to have it ready to apply as soon as seed is drilled. This will make compost enough for four acres and can easily be applied by hands on the rows where drilled and must be applied before the young plants appear above ground or it would injure them. It is a great fertilizer and promotes a fast growth and has a tendency to keep off the turnip fly which is sometimes troublesome. I have no doubt some of the phosphates advertised could be well applied here with good results. Would recommend a loamy soil as best for this crop. If this preparation is strictly adhered to, all the hoeing necessary will be to thin the plants to about ten inches in the rows; the rest of course will be done with the horse and cultivator between the rows which should be run through once a week until too large.

Cole, Mich.

HOW TO GROW ROOTS.

A. W. JEWETT.

The question how to grow roots suggests itself at this season of the year. To the average farmer it means time and extra work which must be used economically.

It will be well to consider carefully the condition of all things in detail before starting a crop. To aid in this direction one can derive considerable knowledge from the work which our experiment stations have accomplished.

We must have good soil in the right condition. Fall plowing is better for sod ground, with a thorough preparation in all cases, which can be had with the ordinary farm tools, using the roller for finishing.

Not all agree which variety is the most profitable to raise, most any can be used to advantage with the ordinary farmer. Decide which variety is to be grown for a crop, and secure seed of some reliable seedsmen. If the ground is limited and cultivation is done by hand the rows should be sixteen inches for carrots, and eighteen to twenty-four for beets and bagas. If the horse cultivator is to be used the rows can be marked with the ordinary corn marker. From May 15 to May 30 is the best time to sow beets and carrots and about June 15 for bagas.

Secure a reliable hand garden drill to put the seeds in with, and be sure to have the rows straight so that the hand cultivator can be used when plants are small, as it will be a saving of time and labor.

When harvest time comes if you have given the crop thorough cul-

tivation, a good yield may be expected.

Secure in good season and in the most convenient manner. If to be stored in cellar, it will be well not to put them in until late; however the crop can be pulled and put in small piles and with a little protection they can remain a long time. This adds much to their condition. Storing and feeding to advantage will best prove itself to the practical grower.

The question which comes to most farmers is, can we raise and care for a crop of roots profitably? This can only be answered by a thorough and practical test.

Mason, Mich.

PEDIGREE PLANTS.

R. M. KELLOGG.

Plants are male and female and new varieties are produced by cross fertilization, and the same advantage accrues from using specially perfect specimens for mating that obtains in the animal kingdom. If we have a plant entirely pistillate or from which its stamens have been removed at the proper time, by excluding it from insects which carry pollen and by proper isolation, we may cross-fertilize with as much certainty as with animals.

Every seed in a strawberry is from a separate pistil in the blossom and may be fertilized with different pollen, so as to produce as many varieties as there are seeds; so that by the ordinary method we should have a mixture of everything. Not one in ten thousand would be worthy of introduction for general cultivation. Many would be weak because their parents had been exhausted by overbearing or would have inherited some disease or have foliage peculiarly susceptible to attacks of fungi, and while they would show much vigor and be prolific at first their weaknesses would for want of proper selection in propagating soon develop to such an extent that they would be thrown aside. When we have once got our "ideal" we perpetuate it by division of its buds, called grafting, budding, layering, etc., so that of all the many millions of the old Wilson's Albany strawberry plant now scattered over the world there is today really but one Wilson plant in existence. The same is true of the Baldwin apple, Seckle pear, and all others propagated in this way.

If then, all are practically one plant or one tree, where does the word "pedigree" attach to the one plant and not to the other. We must look for a definition of the word. Webster says it is "a record or genealogical table which records the relationship of families by degrees." Language like all things else changes and this word is now used to denote perfection; hence, a plant or animal is recognized as a "pedigree" when it possesses the highest points of excellence of its class and has ability to transmit this perfection to its offspring and so when it ceases to have this ability it ceases to be a "pedigree." When the buds of a plant are separated they come under different influences, are in different soil, subjected to different methods of cultivation and modes of propagation. Not one grower in a thousand pays the slightest attention to selecting special specimens or ever discards a weak or diseased plant, and his whole field soon becomes productive only in patches. They depend entirely on the manure pile and extra cultivation for success and year after year cultivate plants that are utterly incapable of producing fruit.

The greatest cause of deterioration in plants is seminal exhaustion, or the production of seeds. The plant throws its whole energy in this direction so that in the case of a strawberry which has produced an enormous crop it literally dies, leaves and roots, save a spark of life left in the crown, from which after a time it will emit new leaves as well as roots. Being exhausted in seed bearing—and you will bear in mind "fruit" is only grown to give a receptacle for seeds to grow in—it will now spend its energy in producing foliage, and neither it nor its buds nor runners can be made to compete successfully in fruit production with the plant that has not been allowed to exhaust itself. The person that uses plants taken from a bed that

has once fruited heavily is throwing away in a great measure his labor in fertilizing and in the use of the land.

Bud variation is very great in all varieties. Both fruit and foliage are constantly taking on new forms, color and other characteristics, and we must take advantage of this habit and propagate from individuals that vary in the desired direction and thus accumulate the good qualities of the varieties we have. In many instances the change is exceedingly slight, but in the course of a few years wonderful changes can be affected, and the longer we hold to our ideal type in selection the less the variations will manifest themselves and finally the type may be said to have become fixed.

The custom of taking plants from those that run out of the row into the path where they have stood isolated, freezing, thawing and heaving, till they have barely strength to grow, let alone rearing a heavy crop of fruit, should be abandoned. A special bed should be prepared, made rich and deeply pulverized. Then from the newly set fruiting field early in the season, before seeds have begun to mature in the fruit select the "ideal" plant, remove the green fruit to prevent exhaustion and transfer its runners to the special propagating bed and from thence set the new plantation. I am satisfied beyond all question that this has had more to do with my success in growing small fruits than any one thing. Location, soil, climate and cultivation all play their very important part, but the selecting of superior plants, as most growers do, will defeat them all. Initiate the stockmen and propagate from nothing with the pedigree of which you are not acquainted its pedigree, and the same will be yours.

Ionia, Mich.

IMPROVING THE LOCAL MARKET.

R. J. CORYELL.

The consumption of small fruits can be greatly increased in most of our home markets. It is here that the grower may look for surer returns and larger profits, for the prices are generally as high as in the larger cities and the freight bills and the commissions are saved. To improve this local market take upon yourself the extra trouble to place your fruits more favorably before your customers. Prepare to deliver your fruit directly to the consumer. Perfect your plans so that they can secure their supply with a certainty and with little trouble to themselves.

When the fruit ripens pick thoroughly and promptly, and if there is any inferior fruit sort it out as it is picked. Fill the boxes full, and with strawberries face the top—not with the largest berries to deceive, but with those of an average and uniform size. The boxes will be uniformly full and alike in appearance. No one will then hesitate to take the last box in the crate. Stamp the boxes with your name and warrant everything sold from your wagon true to appearance. In our smaller markets prices fluctuate much less than in the city. There are no gluts of damaged fruits to demoralize or days of scarcity to cause a daily change of prices. So it is possible for the grower to make very little change in his prices, and that point is very little a subject of debate between the buyer and the seller. With a uniform quality, quantity and price, it is surprising to see the amount that a family will buy in a season by using a regular quantity daily. It is a matter of surprise to the consumer to see what a necessity the once thought luxury has become. The habit of a daily use is the point for you to teach your customers. And this can be done by keeping a fairly regular price, and thus preventing them from holding off until the fruit becomes cheaper.

Plant such varieties as are known to be good croppers and give them the best of cultivation. Use the word *extra*, rather upon the cultivation than on the variety. Increase your acreage no faster than you learn how to keep the quality up to a high standard, but try to learn rapidly.

Agricultural College.

The Canadian Government has appointed a commission to enquire into the system of dishorning cattle, now so universally practiced in the western states.

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HISTORICAL SKETCH OF THE DEPARTMENT OF AGRICULTURE.

First Paper--Notes in Evolution.

HOWARD B. CANNON.

Washington and succeeding presidents urged the propriety of placing agriculture under the care of the government. The subject was considered at various times by Congress but the lack of general interest in proposals for improving agricultural methods constantly postponed favorable action. The first commissioner of patents, Henry L. Ellsworth, appointed in 1836, noticing the drift of invention toward agriculture, turned to aiding the cause unofficially by distributing such seeds and plants as were given him. In 1836 he asked Congress for \$1000 to carry on the work; in 1839 that sum was appropriated, and the agricultural division of the patent office created. In the report of 1841 Ellsworth recommends the gathering of agricultural statistics and the publishing of an annual report "as a preventative against monopoly, and a good criterion to calculate the rate of exchange."

In each report of the commissioner of patents till 1846 tables of statistics relative to agriculture with extensive remarks were published as an appendix. In 1845 a long essay appeared upon potato rot. This seemed to give the key note to a great deal of work, as the publishing of essays on a variety of topics in succeeding years indicates. In this voluminous report the ravages of insects are noted and horticultural and dairying interests receive attention.

The commissioner of patents had struggled to win a recognition by congress of the agricultural needs of the country, but his efforts met with but slight response. In fact, after the fine report of 1845 Congress failed to make any appropriation to continue the work in 1846, and, in consequence, no report was prepared that year.

In 1847 the report reflects the strong influence of the German work in agricultural chemistry. Statistics of cost of transporting agricultural products are given. The growth of the rural press is noted with pleasure. This aims to be a farmer's library in itself, and very likely in its day was the most reliable and progressive publication upon the topics treated which could be obtained.

By 1849 we find the Annual was not entirely a compilation, for it gives the report of a specialist upon breadstuffs. This number contains a stirring essay advocating agricultural education.

The tendency toward long essays and a gradual abandonment of tables of statistics is seen in the report of 1850 and subsequent ones. In 1854 a new feature was the report of Townsend Glover, who had been employed as entomologist. He gives an essay upon injurious and beneficial insects, finely illustrated.

The cooperation of the States in the work of securing statistics was urged by many commissioners.

In 1855 we see that sorghum, called Chinese sugar cane, had been introduced. German millet also and many valuable field seeds had been distributed.

The experiment of having an entomologist had met with such great favor that by 1856 the commissioner recommended that the services of a chemist and a botanist should be secured.

Before 1860 we find that the patent office had distributed thousands of tea plants; that it had seriously attempted to make sorghum syrup crystallize into sugar; that the native grape was being brought into cultivation, and that serious thought of domesticating our numerous wild animals had been given.

The annual report upon agriculture thus slowly took shape. Its value as a farmer's library, if we can judge from the demand for copies, must have been great. The editions were rapidly made larger

and larger till in 1859, 300,000 were printed. The distribution of seeds had kept pace with the growth of the appropriations.

The idea of encouraging agriculture conceived by Ellsworth had become much differentiated. No one longer thought that one clerk could compile the agricultural report and also take the census. The age of specialists if not arrived was soon to dawn. Already one permanent specialist was employed. Technical essays prepared by master minds had been published. Some of the topics treated thus are suggestive of lines which have since been more fully taken up by scientists in government employ—Animal life of North America, fish culture, silk culture, fiber culture, diseases of plants and animals, horticulture, meteorology, the dairy, nutrition of animals, the insect pests, the best kinds of grasses for different soils and climates.

Thus we see that by 1860 a foundation had been laid broad enough and deep enough to bear the proud superstructure of a mighty executive department which the next thirty years should witness building.

Washington, D. C.

FROM THE REPORTS.

DECATUR GRANGE.

Decatur Grange, No 346, Van Buren county, has a good record to show for the winter season. It has gained more than lost in membership; it constantly aims at improvement in every office and duty. Its members, one and all, are willing to respond to every call from the lecturer. Nowhere can a more faithful spirit, devoted to Grange principles be found, I believe, than in this little body. Best of all, it is an unselfish devotion, given not to their particular local organization alone, but to the Order at large. All the petitions to Congress and the Senate, relating to legislation for the farmer, sent us by the National Grange, have been promptly and unanimously indorsed and forwarded; the village factory whistle now gives the weather signals at the instigation of the Grange, for the benefit of country residents. Nearly every family is represented on THE VISITOR list. J. B.

ROLLIN GRANGE.

We have a membership of over eighty and are prospering finely. We held an Easter Social which was truly a novel feature. Here is an outline of the very interesting affair: At the time appointed we were called to order and listened to a fine program, consisting of songs, recitations, select readings, etc., after which came the social time. The Table Committee were all arrayed in fancy colored cambric caps, both gentlemen and ladies and the young ladies wore the little white aprons which used to constitute the regalia of a matron. Then came feasting on eggs; these were served in every conceivable shape and style and the table was beautifully arranged. An evergreen tree hung with eggs looked very nice. If any Grange has never had any such social they will find that there is an endless amount of amusement as well as putting into the treasury a fine sum. I was glad when I received a reminder from the editor of the GRANGE VISITOR that more subscribers were needed and I asked the W. M., to give me some time during the session to "boom" the VISITOR. Hon. S. H. Raymond helped me out by saying that of all the papers he was taking he prized the VISITOR as one of the best, and said the last two papers were worth to him all it cost for a whole year; and it is true, as an agricultural paper it comes to us, right in our line where we can understand just what the writers mean. I had hoped our Worthy Lecturer could act as press agent but her health will not permit.

Yours Fraternally,
Sec. Rollin Grange No. 383.

RESOLUTIONS ON THE ROAD QUESTION.

The following resolutions, adopted by Tallmadge Grange are very appropriate and timely; may they not be imitated by other Granges?

WHEREAS, our present system of road making is very imperfect, in that the roads are in a very bad condition for several months of the year, rendering travel and traffic very inconvenient. We also believe that all people would be greatly benefited by good roads, therefore be it

Resolved, by Tallmadge Grange, No 639, that we are decidedly in favor of State supervision of road and road making.

Also, that the State should appropriate a certain sum annually to be expended on the roads under the supervision of competent engineers.

Passed to the Higher Life

March 22

Brother George C. Jewett

Aged 63 Years.

The deceased had long been connected with Allegan Grange, and will be greatly missed by that body, as well as the community in which he lived. His calm reasoning and mature judgment, made him a valuable member in all Grange work.

Appropriate resolutions were passed by Allegan Grange of which Bro. Jewett was a member.

VERMIN IN THE HENNERY.

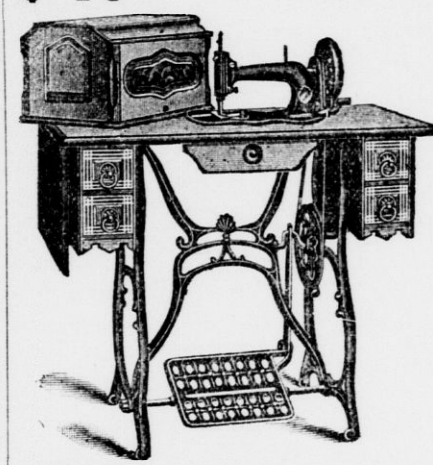
J. S. Woodward, Ontario Co., N. Y., writes to *American Agriculturist*: "To free a hennerly from vermin, spray thoroughly with kerosene emulsion, so as to fill every crack and crevice with the liquid. The trouble with either whitewash or fumigation is that they fail to go to the bottom of the hiding-places of the vermin. The emulsion gets there. To make the emulsion for this purpose, take of hard soap one-half pound, or of soft soap two quarts, and one gallon of boiling water; stir until the soap is all dissolved, then add one quart of kerosene, stirring until well mixed. An egg-beater is a good thing to mix with, or a small force pump is better to pump it back into itself. When thoroughly united, add ten gallons of water, and again stir well. With a force pump spray the inside of the house and roosts or, in the absence of a pump apply with a brush, sponge, or large cloth. No matter what, if it be bountifully used. It is a capital plan to spray the fowls at night, when on the roosts, only when this is done there should be added one-half more water. If the house is sprayed about twice, and the fowls sprayed three times, each summer, 'nary a louse' will remain. Extreme care must be used in spraying the fowls, and if the house itself be thoroughly cleaned this will be found unnecessary."

HOG CHOLERA.

Farmers' Bulletin No. 8, of the U. S. Department of Agriculture, prepared by Dr. D. E. Salmon, Chief of the Bureau of Animal Industry, consists of a review of several attempts made in recent years for the protection of swine against hog cholera by inoculation. It presents a large amount of evidence gathered from those who have tried it, giving the results of their experience, as also a full report of the inoculation experiments conducted in La Salle county, Illinois, last year under the supervision of a committee of farmers. Dr. Salmon's conclusions, based upon the evidence which he presents in this bulletin upon the results of the investigations made by the Bureau on the subject, is that inoculation as a preventative against hog cholera is a failure from whatever point of view it be regarded, and the farmers are warned against the use of

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that method, which he shows to have been in many cases more fatal than the disease it is intended to prevent. As an instance of this he cites the fact that whereas the losses following inoculation in Nebraska during the past year were ten per cent, the losses among uninoculated animals were but four per cent. Copies of this bulletin may be had upon application to the Secretary of Agriculture, Washington, D. C.

EXCURSION RATES.

For the following conventions, the Chicago and West Michigan Ry, and Detroit, Lansing & Northern Ry, will sell excursion tickets at one fare for the round trip:

REPUBLICAN NATIONAL at Minneapolis, Minn. Sell June 2d to 6th. Return limit, June 25th.

AMERICAN MEDICAL ASSOCIATION at Detroit, Mich. Sell June 6th and 7th. Return limit, June 13th.

DEMOCRATIC NATIONAL at Chicago, Ill. Sell June 16th to 20th. Return limit, July 8th.

PROHIBITION NATIONAL at Cincinnati, O. Sell June 28th and 29th. Return limit, July 6th.

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THE GRANGE VISITOR

Published on the 1st and 15th of every month.

Kenyon L. Butterfield, Editor and Manager,
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Entered at the Postoffice at Lansing, Mich., as Second Class Matter.

Remember 60 cents for this year and next to Patrons! Remit at once, please.

We acknowledge the receipt of the Digest of the National Grange, with the compliments of Secretary Trimble.

Don't forget to send us reports of your work in the Subordinate Granges. Make them brief and to the point.

Be sure to read carefully the article on Roads. It is very practical. Study it, and preserve it. It may be useful to you in the future.

We went to press last issue several days early and as a consequence two or three notices of meetings appear in this issue that should have gone in May 15. We regret it, but it was unavoidable.

"The rain descended and the floods came" and the poor farmer was helpless. There is usually, however, a bright lining to every cloud if we will only look up and see it. We think that before the season is over the grumbler will have pretty good reason to be satisfied.

Many of the Granges have responded to our offer, and several large lists have been sent in. The prize list, however, has come from Grand Traverse Grange No. 379, which sent in a club of fifty-four names, each subscriber taking two copies=108 copies. What Grange will volunteer to beat that this month?

Patrons will be interested in the articles on the United States Department of Agriculture, the first of which appears in this issue. This department of government is one that lies close to the hearts of Patrons; it is in some sense their offspring, and they are glad to know more about it and to observe its magnificent development.

We continue our "May offers" for this issue. We are glad to state that our subscription list has taken a big leap forward during the month of May. And we are aware that it is chiefly due to the loyal support of the Patrons that we can say this. There is work to be done yet, however. There are many Patrons who do not yet take the VISITOR; and we ask the Secretaries and Masters, and Patrons in general, to see that every family in the Grange has the VISITOR.

REPORTS FROM POMONA.

Please be prompt about sending in reports of Pomona Granges. Sometimes we are obliged to get the matter to the press earlier than usual, and unless you are prompt, we may be obliged to omit your report from the issue in which it belongs.

THE MODERATOR.

Every teacher knows the Moderator. We offer the GRANGE VISITOR and the Moderator from now till July 1, 1893, for \$1.50, the price of the Moderator alone for one year. We hope teachers will respond to this offer. We shall have articles in the VISITOR that every progressive teacher ought to read.

THE SOLDIER DEAD.

Another Memorial Day has come and gone. Once more the hearts of a loyal and patriotic people have

bowed before the heroism that sleeps beneath the sod; once more their affections have turned toward those who long ago gave treasure, ambition, life, for our flag. And, in this busy, toiling, fretting world, it is very fitting and very wise for us to pause for a day and recall the terrible struggle that shook the foundations of our country. It is well for us to remember that gold is not the best treasure; that Ambition is not a fit god for our worship; that patriotism, honor, purity, truth, are now the great things, as they were when they were called forth by the exigencies of bloody strife.

Then was a time when men did not think of wealth or happiness, but of honor, duty, love. Aye, they sacrificed the dearest things of earth—home, wife, children, and marched forth to battle for right. We get too selfish in peace and prosperity. We let grow these weeds and fail to mature the pure, bright flowers of life. We need to reflect on these deeper currents of life. We need to get outside of self interest and see how in days gone by men have given all they had for truth and humanity.

We may gain further inspiration from this day if we will. We may learn that there are struggles in progress to-day that need our heroism. We may learn that we must be unyielding against wrong, tyranny, oppression, dishonesty; that we must be as brave as the boys in blue, as thoughtless of self, as obedient to the needs of our fellows.

All honor to those whose silent lips teach us so eloquently our duty and our privilege!

WOMAN AND TEMPERANCE.

The State Woman's Christian Temperance Union held a convention in Detroit last week. There are those who say that this organization has accomplished little or nothing of practical good; who believe that the persistent, unyielding attitude of the Union has militated against efficient legislation and has made enemies of many who would otherwise be friends. It may be true that this sentiment is abroad; that many good men do not approve of the ideal methods of these ladies. But every man can learn one lesson from this gathering, a lesson too that very many men need to learn, and that is unyielding, uncompromising hatred of wrong and persistent, heroic, invincible effort to right the wrong. Some may doubt the wisdom of the policy that has governed this body of women; none can fail to see the supremacy of the high principle that pervades it.

But we not only honor this clinging to principle, we also have a strong belief in the practical mission of the W. C. T. U., as now conducted. The pioneers of a reform are not always the agents that carry it forward. They are apt to be too ideal, often fanatical. The practical agents in a reform movement usually work by indirect methods, by compromises, sometimes by retreats, often by feints; their policy is one of constant restriction. They do not attack the enemy in force. They cut off supplies, ravage the country, harass, worry, take a battery here and a picket squad there. Finally a pitched battle ensues; a gallant impetuous charge is needed to annihilate the now weakened opposition. It is then the enthusiast, the idealist, the brigade that has been restlessly watching the contest and pleading to be allowed to fly at the enemy, is called for. And how gallantly they charge! Furiously and resistlessly they hurl themselves on the foe, and victory is but a question of moments!

It is our opinion that the liquor question must be solved thus. We believe that religion, education, politics, economics, morality, law, must all contribute to the suppression of the traffic.

But we do need a brigade of gallant, impetuous soldiers, to inspire, to lead, to encourage, to charge for us. And we believe that this same noble body of true women is to be the conservator of the sentiment that will conquer alcohol; that it is to be the vanguard who will ever bear aloft the standard of victory, who are always anxious for a pitched battle with the enemy, and who will eventually have the honor of the final charge that shall shatter the hosts of evil.

SUNDAY CLOSING AT THE WORLD'S FAIR.

The House of Representatives has adopted an amendment to the appropriation bill for the World's Fair, providing that the government exhibition shall not be open Sundays, thus leaving the broader question of opening the gates at all to the management of the fair.

There seems to be a tendency in cities toward the keeping of Sunday as a sacred day of rest rather than as a sacred day of worship. This sentiment appears to be gaining among many moral and religious people; while the more lax find pleasure in the day, the vicious, opportunity. We believe there is a mean between the rugged puritanical sabbath and the French gala Sunday, a mean that will satisfy the feelings of most thinking moral people. A conflict between the two ideas has arisen over the question of closing the World's Fair to the public on Sundays. The freer and more secular class claim that the working people of Chicago can not see the fair unless it is open Sundays; and that to turn loose so large a multitude as will be in Chicago over Sunday would be to endanger the peace of the city, at least to lure the visitors into various vices. The church people are in favor of closing on Sunday. We do not believe but that the workmen of Chicago will be able to see the exposition on other days. If that were not true what hope is there for the workmen of Minneapolis, St. Paul, Milwaukee, St. Louis, Detroit, for seeing the Fair? Surely the employers of labor of the land are not so inhuman and greedy as to refuse to allow their laborers who have saved enough for this purpose to enjoy the exhibition of their toil!

As to the second point, there will be fewer people spend Sunday in Chicago than might seem at first thought. Thousands within a radius of 30 miles from the city would make their visit between two Sundays, preferring rather to go a second time than to stay so long away from home. Many will find that long enough both for muscle and purse. Then those who do remain will be tired enough to appreciate a good Christian Sabbath day's rest, and they will not care to wander forth and despoil the city.

There is another side to the question, however. Is there not a means of accomplishing some good on the Sabbath? Could not the grounds be open and free a portion of the day and the art museum open at a nominal admittance fee? Could there not be provided bands of music and orchestras to discourse inspiring strains? It would seem that from architecture, music, art, every soul ought to draw help. But the thought of running the entire plant on Sunday and thus making this day indistinct from any other day will not be borne by our right-minded people. The best sentiment of the country is against

any such action. We can't afford to do it.

As to selling liquor on the grounds, one sentence will suffice—it will be an everlasting disgrace to our national name.

CONGRESS.

Mr. Holman says there are 130,000,000 acres of public lands in the west surveyed, but as yet undisposed of.

The Hatch anti-option bill was not allowed discussion in the House, the motion to that effect being defeated by a tie vote.

A bill was introduced to make the term of president and vice-president six years, and to make them ineligible to re-election.

The matter of increasing the navy aroused warm discussion in the Senate, a bill finally being passed to authorize the building of one battleship and of sundry gun and torpedo boats.

In discussion upon the River and Harbor bill in the Senate, it was developed that the Senators seem to think Michigan has been treated with exceeding liberality, and refused a couple of requests for more money.

Judge Chipman has introduced into the House a bill allowing a tunnel to be built under the Detroit river at Detroit. It must be begun within two years and completed within six years and the plans must be approved by the Secretary of War.

Mr. J. D. Taylor of Ohio, criticized the present methods of making appropriations for river and harbor improvement. He asserts that much money is wasted simply because there is not enough given to complete the work and the result of that already appropriated come to naught. He thinks Congress should select the most meritorious schemes and appropriate enough to complete them, and to repeat the process yearly, instead of squandering so much by scattering here and there.

RAISE MORE FRUIT.

The Treasury statements of imports and exports for the nine months ending March 31, 1892, has recently come from the press. In it the comparison is made with the commerce of the corresponding period of last year.

Some figures relative to our fruit trade may be interesting. It may be remarked that the crop of '90 was short, that of '91 generally fair. The figures are as follows:

IMPORTS.	
1891.	
Dutiable.....	\$12,428,100
Free.....	7,070,468
	\$19,498,568
1892.	
Dutiable.....	\$8,602,698
Free.....	6,261,750
	\$14,864,448
Decrease in imports of fruit....	4,634,120

EXPORTS.	
1891.....	\$1,937,908
1892.....	5,911,911

Total for two years..... \$7,849,819
Contrast with total imports for two years..... 34,363,016

We pay out to other lands nearly five dollars for fruit to one dollar they pay us. Should this leak not be stopped?

Of course, we wish to be fed with the choicest fruits of every clime. We must always expect to import, in largest part at least, our bananas, dates and coconuts, unless Cuba and other warm regions become part of our territory. The last year's importation shows that we paid four and a quarter millions for these tropical fruits. We paid over a million (\$1,151,447), however, for Zante currants. This we need not do, for the Sultana seedless raisin is much superior to the "English" currants, as the Zante are called. We are now raising beautiful Sultana raisins, and they can be grown in Arizona, New Mexico, southern Texas, as well as in California. Now, we pay more for Mediterranean lemons than for the Florida lemons, but hope before many years to supply our own market.

There is no good reason why Michigan apple orchards should not supply as many barrels as those of New York, were equal care given. We sometimes think of Florida and California as the great fruit states, but New York's hor-

tical interests are much more valuable than either. The time is ripe for Michigan to be the great apple state. We have nature; let us have nurture also.

H. B. C.

THE FARMER'S VEGETABLE GARDEN.

H. P. G.

The large amount of rain that has fallen, and the cool weather, has delayed garden work much, but by the first of June most garden vegetables should be in the ground.

See to it that peas and radishes are sown to succeed those planted earlier in the season. Radishes grown on heavy soil do not do well, but are apt to be wormy, and the roots small and irregular in shape. A small space in the garden can be fitted for radishes by drawing sand and mixing with the soil until the whole is quite sandy.

Bush beans should be planted when all danger from frost is past. Perhaps the most satisfactory way is to sow in drills three feet apart, and have the plants four to six inches apart in the rows. Red Valentine, Cylinder Black Wax, and Mammoth Wax are excellent varieties. Pole beans are very desirable in a family garden. The vines produce a large number of pods of most excellent quality. The hills should be from four to five feet apart each way. It is best to place the pole in the ground when the beans are planted, then the plants are not disturbed in setting the poles. Golden Cluster is a good variety of pole bean. Lima beans deserve a place in the garden, and we now have several bush varieties that are easily grown and that are productive.

Tomatoes should be started in the house or hot-bed, and the plants should be large enough to set out by the first of June. If you have not plants started in this way, it is better to buy a few dozen plants than to sow the seed outdoors and wait for the plants to get large enough to set out.

Cucumbers and squashes require warm soil to grow. Both early and late varieties of squashes should be planted. For early-summer, Crookneck and Turban are good. Boston Marrow and the Hubbard are excellent late varieties.

Celery is a vegetable that is seldom grown in a farmer's garden, but it is well worth the labor spent in growing it. Sow the seed in shallow boxes, or in a well prepared spot in the garden and cover lightly. The seed requires two or three weeks to come up, and should be sown in drills, so that the plants can be kept free from weeds. When the plants are about two inches high, thin out and transplant to two inches apart. It is well to cut off the tops of the plants when about four inches high to make them grow stocky. The plants may be set out in the rows during July or August. The soil for celery should be light and easy to work. The rows should be four feet apart, and the plants set six to ten inches apart in the rows. When the plants are nearly full-grown they should be banked up. This process must be repeated several times until the tops of the leaves are left above the bank. In a short time the plants will be blanched and fit for use. Some of the dwarf varieties are best for general growing.

MC LEAN CO., Ill, April 6, 1892.

Mr. O. W. Ingersoll:

DEAR SIR—I have used your paints and think they are excellent. My building has been painted nine years and looks better than some of the buildings here, painted only three years since. I want some more of your paints, and would ask that you send me Sample Color Cards.

Fraternally yours,

JAMES DOYLE.

[See Adv. Ingersoll's Liquid Rubber Paints.—Ed.]

THE MODERATOR

AND THE

GRANGE VISITOR

TILL

July 1, 1893,

FOR

\$1.50.

POMONA GRANGES.

BRANCH COUNTY.

Many of the Patrons of Branch county will long remember Thursday, the 19th day of May, not alone because it was a rainy day, but that the very rain made it possible for members of the Grange, to the number of one hundred or more, to attend the meeting of Pomona Grange, held at Union Grange hall. The morning session was devoted to the usual business. Every Grange in the county was reported, all showing a good degree of work and interest, while several reported an increase in membership and activity.

Bro. C. G. Luce being present, was called upon for suggestions for the good of the Order. He had but nicely commenced his talk when the dinner bell sounded, putting a stop, of course, to work of any kind. The members of Union Grange then served a bounteous dinner to the hungry multitude.

The exercises of the afternoon were public, and were listened to with interest by many outside the gates.

All were made to feel welcome indeed, by a few well chosen words spoken by Sister Leander Burnett, Pomona's thanks for the same being graciously voiced by Worthy Master Smith. The main subjects discussed were: "How to make subordinate Grange meetings interesting," "The care of house and yard plants," and "How may we attain self-possession?"—the last named being quite a spirited discussion.

These discussions were interspersed with recitations and music. The music, which was provided by Union Grange, was very fine, and was fully appreciated by those present. Upon being given an opportunity to complete his remarks, Bro. Luce gave an interesting, though short talk.

This closed the exercises of the afternoon, and all left for home, feeling amply repaid, even though a long ride, facing the rain, was in store for many.

CLINTON COUNTY.

Clinton county Pomona Grange No. 25 met with Essex Grange No. 439 at Maple Rapids May 11, 1892.

The meeting was called to order at eleven o'clock by the Worthy Overseer Brunson. The forenoon session was taken up with the usual order of business.

Considering the inclemency of the weather a large number were present and in the afternoon nearly all the Granges were represented and reported in favorable condition.

Dinner was announced, and an adjournment was taken for one hour and a half. The afternoon session opened with a song by the choir, followed by the welcome address by Geo. Jewett, Master of Essex Grange. The response was given by O. A. Whitlock. A short discussion on road making was listened to with apparent interest. The program in the afternoon was well responded to.

The question, "Are trusts and combinations injurious to the farmer?" was fully discussed by nearly all present.

The discussion was opened by F. W. Redfern by saying that they were indeed injurious, if carried too far. A very interesting program was listened to and enjoyed by all in the evening. Some very choice selections were given.

A song by the choir closed a very instructive meeting, both afternoon and evening.

ANNIE JEWETT,
Sec'y pro tem.

HILLSDALE COUNTY.

Hillsdale county Pomona Grange No. 10 met with Moscow Grange, in the village of Moscow, May 5, 1892. After going through with the regular routine of business the following named brothers and sisters responded to the call for remarks for the good of the Order: Bros. W. A. Armstrong, N. I. Moore, A. W. Mumford, S. E. Haughey, E. C. L. Mumford, Reuben Strait, H. W. Mumford and Sister Wm. A. Armstrong. It was thought that it paid to belong to and attend the Grange, socially, intellectually and financially. The brain must guide the hand. It was also thought that the ladies should take a more active part in the discussions and work of the Grange. Patrons should attend

each meeting, and be punctual, and each one do his or her part to make the Grange interesting and profitable to all.

The time in the afternoon was given to the Worthy Lecturer, and the following program listened to: Music furnished by Moscow Grange, "The Army of Husbandmen."

Welcome address—Sister Belle Sutfin Moore, of Moscow.

Response—Bro. S. E. Haughey, of Acme Grange.

Song, "How I cheated Parson Brown"—Miss Jennie Mumford, was well received.

Discussion, subject, "Production of Corn." Opened by Bro. H. H. Dresser, of Litchfield. He saved his seed carefully in the fall; liked a clover sod, well manured; plowed not too deep, from five to seven inches.

Bro. Reuben Strait, of Moscow, liked fall plowing and a solid seed bed. Several others gave their ideas.

Music—"Sunshine ever follows rain."

Paper by Sister C. M. Parker, of Moscow Grange, "Woman's Work in the Grange." Can any or all of its features be adopted in our Grange? The Worthy Lecturer took the following thoughts or questions from the paper, and called upon the sisters for their ideas. Sister McDougal, "What do you think of Children's day in the Grange?" She thought it a good thing to interest the children.

Sister F. S. Blackmar, "What do you think of contest work in the Grange?" She thought the results of contest work were not always the best. Sister E. C. L. Mumford, "What kind of reading should we provide for the home?" She thought a variety of papers, magazines, journals and books of high religious and moral standing should be furnished, so that each one of the family might suit his taste or bent of mind.

Bro. Wm. McDougal of Litchfield, "How many should be listening members in the Grange." He thought all should listen except the one who was speaking.

Bro. E. C. L. Mumford of Moscow Grange, "Do the farmers take proper care of their health?" He thought as a rule they were too anxious to make money and worked too hard; not spending time enough in reading and study, in order that they might better know how and when to work.

Bro. H. W. Mumford of Moscow, was asked in regard to thoughts. He said he thought some talked too much without thinking, and that others spent all their time thinking without saying anything. He thought it would work well to combine the two.

Bro. H. H. Dresser, "What is our duty as members of the Grange to one another?" He thought the Golden Rule would apply in Grange work.

Recitation by Sister Alice Peas, of Wheatland.

Music, "We shall reap as we sow."

Bro. Wm. McDougal then gave a description of his trip south and west.

The Worthy Lecturer asked if the Grange thought we needed fractional currency.

Bro. H. H. Dresser then spoke in the interest of the GRANGE VISITOR. Music. Closed in due form at 3:30 P. M.

Grange work in Hillsdale county is prosperous.

By request of the Grange, the welcome address, also Sister C. M. Parker's paper, will be sent for publication in the VISITOR.

A. W. MUMFORD,
Moscow, Mich. Secretary.

INGHAM COUNTY.

A meeting of Ingham County Pomona Grange was held with Cedar Grange at Okemos, May 13, and 14, 1892. The evening session was devoted to the transaction of business during which time a class of fourteen candidates were instructed in the fifth degree.

Morning Session, May 14.

Opened with singing by the Cedar Grange choir and prayer by the Rev. Ward, of Okemos. A recitation was given by Grace Craig, of Bunker Hill Grange, after which the subject of "Home Culture" was presented in an essay read by Carrie M. Havens of Fitchburg. The discussion on this subject was followed by a song by the choir,

after which J. H. Forster of Williamston, in a very interesting paper gave his "Experience in Farming." The writer dwelt more on his failures than on his successful experiments, but as he is known to be a successful farmer we concluded that his defeats like those of the general of Revolutionary fame must have had "all the effects of victory." A recitation was then given by Will Marshall of Cedar Grange, after which a most excellent paper was read by Mrs. A. Ayres of Capitol Grange, on the subject of "Overworked Women."

A reasonable amount of work is conducive to health and enjoyment, but overwork is too often inflicted on the farmer's wife. The writer suggested that if farmers were as proud of their wives as they are of their driving horses, they would take better care of them. The discussion which followed the reading of this paper was long and interesting.

The morning session was closed with a song by I. D. Luke and wife entitled "A Jolly, Good, Hearty Laugh," in which all joined in the chorus. The meeting then adjourned for dinner.

Afternoon Session.

Opened with a song, followed by a recitation by Miss Della Wright of Felts Grange. Dr. W. J. Beal of the Agricultural College, then gave an interesting description and illustration of the roots of farm crops, showing the different stages of root growth.

We next listened to "The Legend of Bregenz," which was neatly recited by Miss Katherine Mullett of Cedar Grange.

A paper read by Miss Fannie Oviatt of Capitol Grange, informed us of the work of the Humane Societies. The audience appeared deeply interested in the subject and listened intently to the description of the noble work done by these societies in protecting helpless creatures from abuse.

This paper was followed by a song by Mr. and Mrs. Luke, after which an essay was read by Mrs. G. S. Williams of Capitol Grange, entitled "Amusements in the Country." Farm life should be a joyous life, but often from lack of amusements it becomes dull and its labors irksome. Several games were mentioned which could be used in the farmer's home to make the evenings more pleasant and profitable. The Grange was recommended as the best source of entertainment and one which no farming community can afford to be without.

The last on the program was a lecture by Miss Hattie Hewitt of Lansing, on "The Cost of Intemperance," in which she showed by means of a chart the annual cost of intemperance as compared with that of food, of clothing, of education and of religion in the United States. The cost of intemperance being sixteen times as great as the cost of religion. This paper received especial interest from the fact that the speaker was a child of only twelve years, and whose voice and manner is needed to comprehend the impressiveness of the address.

This meeting was a very successful one, and was of unusual interest, being the first held with Cedar Grange for some time on account of its almost dormant condition. But it has recently been subjected to a revival and Ingham county now rejoices in the support of another thriving Grange.

The next meeting of the Pomona Grange will be held with Felts Grange, June 10 and 11, 1892.

CARRIE M. HAVENS,
Secretary.

ADDRESS OF WELCOME.

[Read at Hillsdale Pomona.]

Brother and Sister Patrons:

We extend to you, here today, a most hearty welcome. One in thought, one in mind, and one in purpose—it is our pleasure to bring you greetings, it is our pleasure to take your hand in a warm and hearty God-bless-you grasp, and it is our pleasure to call you brothers.

Today we have left the field of labor to glean in the unbounded field of knowledge. Today we have laid aside the burden of toil, which, carried in cheerfulness and temperance insures strength to the body, to take up a burden of advancement.

We have come to put our shoulders to the wheel of progress, to roll yet a little farther the ball that for

twenty-five years has been rolling, and as it has rolled it has enlarged its proportions, and will continue to enlarge until political servants will no longer try to oppose it or turn it from its destined course because their own future welfare will require of them one of two things, either to get out of its way, or to lend a hand.

Now, for this we are all striving—the advancement of the farmer as a class, and pure legislation. And how can we obtain pure legislation, excepting through the efforts of pure men, and where can we find purer men than in the farming profession?

The farmer should be, if he is not, morally above the average. And what counts more, anyhow, than a true sense of right and wrong, than purity and virtue, and an ever present sense of gratitude to our divine Maker?

With God's pure air all around and above us; and with nature, his hieroglyphic hand book, spread out before us; and with his everlasting love, the key to this hand book, in our hearts who can stand above us?

And, again we greet you because we are brothers and sisters.

What can send the life current on its way with such an ecstatic bound, what so kindle the face with that expression of loving remembrance, and moisten the eye with visions of innocent joys now past forever as those simple words, brother, sister? How they carry us back to the rose-tinted days of childhood! Smiles and tears, sunshine and shadows to be sure; but the good always outweighing the bad, and the joy the sorrow. And all under such loving, tender care.

Free as air, pure as lilies that grew at our feet, happy as the birds that sang above us, are but a few of the joys of childhood for brother and sister.

How memory stirring are these few beautiful lines by one of the Cary sisters, this loved vision of memory, this sweet tribute to childhood scenes:

"I once had a little brother
With eyes that were dark and deep;
In the lap of a dim old forest,
He lieth in peace, asleep.
Light as the down of the thistle,
Free as the winds that blow,
We roved there the beautiful summer,
The summers of long ago."

Yes, we welcome you as brothers and sisters.

Old Moscow Grange in love throws wide her doors to welcome sisters—brothers of the plow. May God, our Master, welcome us in Heaven, as we, on earth, give welcome to you now.

BELLE SUTFIN MOORE.

HELPFUL WORDS.

Williamston, Mich., May 1892.

EDITOR VISITOR—Permit me to say that your May-day issue is attractive and interesting. I like its make-up and general tone. The offer you make to your subscribers and others is more than liberal. The quality of your goods is good, though cheap. A cheap coat does not, by any means, mean a poor or cheap man inside of it. Patrons ought, one and all, to avail themselves of your liberal offer. I presume it is, in some sort, an experiment. If it fail, I'd like to see the other side tried, to wit: raise the subscription price to \$1.50 per year and give us a weekly paper. Some people value things by the price asked for it.

I note with approval your comments on Annie L. Diggs' article lauding the Farmer's Alliance. Like a lady, she is vivacious and oblivious of the logic of facts. She will know more when time shall have mellowed her imagination and tested the stability of the Alliance. Time is the true touchstone.

The Grange is not dead, but liveth, and is doing a grand work, although it came near being wrecked on those shoals and quicksands of politics and personal selfishness which the good ship Alliance had better look out for. The trouble with us farmers is, that when we form a party, purely of our own, to right manifest wrongs we are too apt to admit wolves into the fold whose only object is to fleece the sheep. The Grange door-keepers are good shepherds and have regard for the sheep. Politics in any form, written or incarnate, they keep out.

The Patrons, while having only good wishes for the Alliance, beg to assure dear Annie L. Diggs that we are happy in our fold, and are content to pursue the even tenor of

our way, which is bringing our noble Order so many blessings.

Wishing the VISITOR continuing and increasing popularity, I remain,
Yours to serve,
J. H. F.

RESOLUTIONS.

Resolutions passed by the Davisburg Grange No. 245, May 14, '92.

WHEREAS, There is an effort being made by the citizens of Detroit and other cities to secure one cent letter postage, at the expense of free mail delivery in rural districts, a thing which is not only selfish and unjust, but is a bold effort to advance and sustain class legislation by seeking to deprive one portion of the people of the privilege of even one daily delivery of mail, when the city mail is already delivered from three to five times daily at government expense; and

WHEREAS, The success of the farmer largely depends upon his knowledge of the markets. Therefore it is important that he should have daily reports from all the leading markets where farm products are sold; and

WHEREAS, The Postmaster General has demonstrated practically that the free delivery of a daily mail in the rural districts is self-sustaining; therefore

Resolved, That the law establishing free mail delivery in certain cities, and not in the rural districts, is class legislation; and further

Resolved, That we, as farmers and Patrons of Husbandry, will not support for members of Congress any person who favors such class legislation.

Resolved, That we cordially and earnestly invite the farmers, and the State and subordinate Granges, to work and vote for free mail delivery in the rural districts.

R. K. DIVINE,
D. M. GARNER,
B. J. PHILLIPS,
Committee.

The Grange instructed their reporter to forward the above resolutions to the GRANGE VISITOR for publication.

R. K. D., Reporter.

WEATHER REPORTS.

Arrangements have already been made by which weather crop reports will be sent each week, from spring to late autumn, to the Secretary of each Subordinate Grange in several States, to be taken by him or her to the next meeting of the Grange and posted up for the use and information of all the members, and thus farmers, by knowing the truth about the weather, the growing crops and the yield, will no longer be at the mercy of speculators, who are always "bears," until they get the crops in their own possession.

The great extension of the system of warning flags for cold waves and frosts in the cotton, tobacco, cranberry, trucking, fruit and other special and perishable crop States, has already resulted in savings amounting to millions of dollars. "Forewarned is forearmed," and the knowledge gained by the farmer about the coming of adverse weather will enable him more and more to prepare for emergencies.

And thus we have one more instance of the good practical work being done for agriculture by the Grange. If you are a member, talk these things over with your neighbor who is not, and invite him to help us along in the good work. If you are not a member, join the nearest Grange, or unite with your neighbors in having one right among you. It will help you all, socially, educationally and financially.

Fraternally,
MORTIMER WHITEHEAD.

\$150 CABBAGES.

At the Hillsdale Fair for 1892.

The Hillsdale (Michigan), Fair will give this year for the three largest and best cabbages on exhibition there \$100.00 and \$50.00 to second. These we believe are the largest vegetable prizes ever offered in America. This fair also offers \$40.00 to the best five varieties of apples for market and \$20.00 for second, and the rules require only five apples of each variety to be shown. Like premiums are also offered for the best five varieties of apples for dessert and also the best five varieties for cooking.

The above and other premiums offered by this popular society are open to the world for competition. Entries will close Sept. 27. Fair Oct. 3, 4, 5, 6 and 7, 1892.

Ladies' Department.

THE CHALLENGE.

I have a vague remembrance Of a story, that is told In some ancient Spanish legend Or chronicle of old. It was when brave King Sanchez Was before Zamora slain...

WOMAN'S WORK.

To the Patrons of the State:

As your servant you have reason to inquire why I have been silent so long—and not doing duty in the line of work in the field. Please remember dear friends that I have many duties elsewhere...

again was the glorious work of saving humanity being carried out. At that time twenty-three poor girls who had no place to go save this haven, were resting, gaining health and strength. There was another home for little children. And still another for old ladies, who were so unfortunate as to have no home of their own...

HOME CULTURE.

When a farmer sows his crops or plants his orchards, he knows that certain states of weather and soil give certain effects, and so far as it is within his power brings about those which are beneficial and averts those which destroy. No plant, tree, or flower is more sensitive to sun, shower or soil than is every human life...

taking with him the principle that if he can dissipate and cheat without having it known, he is none the worse? Too seldom are we taught by example to do right simply because it is right; to avoid and hate wrong simply because it is wrong. In discussing any proposed action the first consideration usually is "will it pay?" And the second "how will it look?" Any economy which we are obliged to practice must be carefully hidden from our neighbors as though it were a disgrace...

TALENT.

There are few persons who have special talent, but there are none who have not ordinary abilities and can so direct and cultivate them as to make of themselves a success. First, be sure you are right and then go ahead. It does not depend half so much on special talent as on energy and ambition for success in life; you have got to work, work, work, and dig, dig, dig, if you expect to succeed...

something, yes something, to do; do not sit idly waiting for fortune to turn up some marvelous scheme. Satan always finds mischief for idle hands to do. If you expect anything to turn up you must turn it up yourself. One must begin right if he would accomplish the desired object. A person who desires an education must begin with the rudiments of knowledge and then advance to higher attainments...

OUR THOUGHTS AND LIVES.

We sometimes think our burdens are greater than we can bear, but our courage comes to our aid, and in a measure, we scarcely know how or when, our burdens slip away. Outward surroundings help to drive these feelings of sorrow and sadness from our lives. There are two currents in every life, a surface current and an under current. We work, we laugh, we receive company, we visit and mingle in society...

coerce our feelings too much, but let them take possession of us for a little time. It will do us good. I believe it healthful for mind and body. This under current of feeling will come to the surface in spite of us, and seeking to hold it in complete control is an outrage on our finer natures. There is an antidote that will be a great relief to our minds and which will tend to make our burdens seem lighter, and that is to compare our blessings with the blessings of those less favored, and by extending a helping hand to them...

THOUGHTS.

Some things God gives often; some he gives only once. The seasons return again and again, and the flowers change with the months but youth comes twice to none. While we have it we think little of it, but we never cease to look back to it fondly when it is gone. Poets always paint the Gods young, and half of our heaven is in the thought of our youth returning. Health to life what light is to the landscape, making even bleakness and barrenness beautiful. Prudence grows very slowly, and seldom flowers freely before manhood. No one is ever really contented, or quite clear of something like trouble. As we get older we get conservative, but the young have no past only a future. In youth we grow, manhood, broaden. Two natures wrestle in our breast, and at no age more fiercely than in our youth. Nothing grows duller than mere amusement, and no one needs it so much as he who has most of it. Youth—Cunningham Geike.

TRUE, VERY TRUE.

A writer in the New England Farmer says of the Grange: The corner stone of the Grange edifice is education, but many members make a mistake by giving too narrow a construction of the word, applying it only to what is obtained from books, experience and observation relating to farm and public life; that which relates to buying and selling they say is the financial feature of the Order and should be separate and distinct from the educational part. It does not occur to these good brothers and sisters that finance is one of the most intricate problems, not only in the lives of individuals but of nations also. One great trouble with the farmers of New England, and the whole country as well, is their lack of education in business methods. They let others do the trading for them and get beaten at both ends of the deal. Let the education of the Grange embrace finances and politics as well as other lines of knowledge. The declaration of purposes not only permits these features of Grange education, but it makes it the duty of the membership to continually add to their knowledge in this direction. The thoroughly educated farmer is a good business man.

May Offer No. 1 The Grange Visitor From now until Jan. 1, 1893 For 25 Cts See Offer No. 2

"THE BUYERS' GUIDE."

Nearly a million households use it as a reference book.

A million purchasers learning how to make four dollars do the work of five.

Sent only upon receipt of 15 cents in stamps to pay the postage. (550 pages, 30,000 quotations, weight two pounds.)

MONTGOMERY WARD & CO., 111 to 116 Michigan Avenue, CHICAGO.

OFFICIAL DIRECTORY

Officers National Grange. MASTER—J. H. BRIGHAM, Delta, Ohio. LECTURER—MORTIMER WHITEHEAD, 1618 Q. St., N. W., Washington, D. C.

Executive Committee. J. J. WOODMAN, Paw Paw, Michigan. LEONARD RHONE, Center Hall, Pennsylvania. X. X. CHARTERS, Fredericksburg, Virginia.

Officers Michigan State Grange. MASTER—THOS. MARS, Berrien Center. OVERSEER—M. T. COLE, Palmyra. LECTURER—A. J. CROSBY, Jr., Novi.

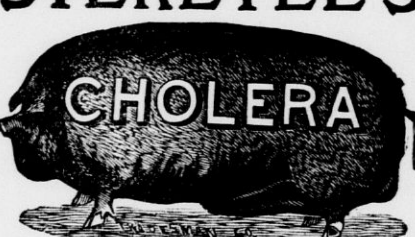
General Deputies. Hon. C. G. Luce, Coldwater. Hon. J. J. Woodman, Paw Paw. J. T. Cobb, Schoolcraft.

Revised List of Grange Supplies. Kept in the office of Sec'y of the Michigan State Grange. Porcelain ballot marbles, per hundred, 75.

GERMAN HORSE AND COW POWDER. In the highest value to horses, cattle, hogs, and poultry. It assists digestion and assimilation.

Wholesale Prices—viz: Barrels—20lbs in bulk, 75c per pound. Boxes—60lbs in bulk, 8c per pound.

STEKETEE'S



IMPROVED Hog Cholera Cure.

Greatest Discovery Known for the cure of HOG CHOLERA, and PIN WORMS IN HORSES.

HUNDREDS OF THEM. Mr. C. G. Stekete:—Your Hog Cholera Cure, of which I fed two boxes to a yearling colt, brought hundreds of pin worms and smaller red ones from her.

CHICAGO and West Michigan R'y. Favorite route to the summer resorts of Northern Michigan.

GRAND RAPIDS and Indiana Railroad. Dec. 13, '91.—Central Standard Time.

Table with columns: GOING NORTH, No. 1, No. 3, No. 5, No. 7. Rows: Cincinnati, Lv., 2:20; Richmond, 10:55; Fort Wayne, Ar., 6:00.

Table with columns: GOING SOUTH, No. 2, No. 4, No. 6, No. 8. Rows: Mackinaw City, Lv., 7:20; Potoskey, 9:10; Traverse City, 10:45.

College and Station.

FORECAST OF FROST.

Dr. Kedzie has published a very interesting pamphlet with the above title. He shows that there is an intimate relation between the danger of frost and the humidity of the atmosphere.

The apparatus required is very simple and can be constructed by any farmer at slight expense. This apparatus technically called a psychrometer, is only a combination wet bulb and dry bulb thermometer.

As to the practical help of this we quote from the pamphlet: "If the hoed crops of the farm are cultivated with reference to securing a constant supply of moisture in the upper soil—to draw by capillary action of the soil upon the reservoir of water in the subsoil, and at the same time keep the surface soil in such condition as to prevent the too rapid dissipation of soil moisture—the fields may be saved from the frost by a covering as impalpable as air but as effectual as eider-down.

DRY AND FROSTY AIR. This immunity from frost afforded by a moist atmosphere is a matter of great importance. I once read in a newspaper of the experience of a farmer who feared a frost on his growing corn, and who cultivated the field, stirring up a moister soil, and thus promoting evaporation, with this result, a heavy dew and a rescued crop, while neighboring fields of corn were cut by frost.

Ten years ago some beautiful beds of coleus were near my house. Early in October there were threatenings of frost. Every evening the beds were thoroughly wet down with cold water, and the tender coleus plants escaped frost while other plants near by were killed.

This use of water to guard tender plants from frost has frequently been used at the college, and generally with good results. Strawberries and grapes in blossom may be saved in this way and with little trouble, if a good supply of water and a sprinkling hose are available.

When water is not available for such purpose, advantage may be taken of fire to ward off frosts; not by the hope of warming the body of air over a field, but by forming a canopy of smoke over the field to prevent the escape of heat by radiation from the ground.

Dr. Kedzie will be glad to send this pamphlet free to any one interested enough to send for it.

MICHIGAN PLANTS.

An economic catalogue of the plants of Michigan is now in press and will appear soon in the thirtieth annual report of the Secretary of the State Board of Agriculture.

- "Planting a grove." "Planting a wild grove." "Botany and the common school." "Plants indicating a fertile soil." "Trees valuable for timber." "Trees and shrubs best suited for screens and wind-breaks." "Native forage plants." "Weeds, bee plants, native and introduced."

A complete list of the plants of this State together with their distribution, etc., is given in the body of the work.

COMMON LICE.

The common lice affecting our domestic cattle may be divided into two groups, the suctorial and the biting or running lice. In the former group the mouth parts are modified into a tube provided with a piercing instrument which aids in penetrating the outer skin.

As these are very difficult parasites to destroy, prompt and thorough treatment should be used. The seed of the common larkspur steeped and applied in the form of a wash is highly recommended.

In case these remedies fail, fumigation may be resorted to. The animal should be placed in a small, tight box-stall provided with a close fitting door at one end and a stanchion in the other.

Hogs are sometimes troubled with suctorial lice. Carbolic acid soap and kerosene washes are very effectual. Allowing the animals to roll in the fine dust of the road way may be sufficient to destroy the pests.

The biting or running lice are most troublesome to cattle and poultry raisers. The "little red lice" occurring on cattle in the spring of the year belong to this group.

There are six different species of biting lice which attack our domestic fowls. Probably the best known however, are the common chicken lice which often find their way into the best kept hen-coops.

IS RED CLOVER A BIENNIAL? In response to an inquiry relative to clover being a biennial or a perennial plant we present the following answer by Dr. Beal.

- 1. Is the soil rich or poor? 2. Are the tops kept moderately short, or are they permitted to seed? 3. Are the autumns favorable for producing strong plants, or are they weak when going into winter? 4. Are the winters and springs favorable or unfavorable to the

plant by way of snow, infrequent or frequent thawing or freezing? 5. Is the drainage good, or is the soil too wet?

The seed is usually sown in the spring where wheat was sown the previous autumn. The clover makes feeble growth until the wheat is removed, usually becoming well established and thick by autumn.

So far as I have observed, mammoth clover is more likely to be perennial than the early red clover. W. J. BEAL.

COPPER SULPHATE.

Can I put copper sulphate with London purple without making Bordeaux mixture? If so, how much to 200 gallons. W. N. T.

There is danger of burning the foliage when you use copper sulphate alone, and especially if you also use London purple.

For apple trees there would not be much harm in using six pounds of copper sulphate and one pound of London purple for 200 gallons of water, but I would not risk it on grapes.

As stated above, I should prefer to use 12 pounds of copper sulphate, 9 pounds of lime and one pound of London purple for 200 gallons. This can be used with safety on all plants, and is far more effective than the other. L. R. TAFT.

RED RUST.

Will spraying stop the rust on my blackberries, or must I uproot them. W. H. E.

When red rust appears in blackberries the entire plant affected should be removed and burned. Sometimes it can be checked if taken in time by cutting out the shoots on which the rust has appeared, but it is safest to remove the entire plant.

When the disease has appeared in a plant no application of fungicides can destroy the fungus, but the spores can be destroyed and the spread of the disease to other plants can be prevented.

After destroying by fire all diseased plants I would spray the plantation with Bordeaux mixture, repeating at the expiration of ten days. The ground as well as the plants in the vicinity of diseased hills should receive particular attention. L. R. TAFT.

FARM WAGES IN RUSSIA.

A writer quoting the wages of farm hands in Russia says: "As regards the price of labor, I may say that wages ruled low last year in Odessa, Tagaurog and adjacent districts, a result of an abundant supply. The best prices paid were in Astrakhan and Stravopol, namely, 38 cents per day, the man paying his own board, or 28 cents per day, living at his employer's expense. The average wage per day in the southeastern provinces was 28 and 26 cents, for men, and 21 and 15 cents for women, per day."

No wonder these laborers wish to emigrate.

The chief of the Agricultural division of the World's Fair declines to change the date of shearing sheep to be exhibited at the Fair in 1893, from April first to an earlier date, as asked by many sheep breeders. The date will be not earlier than April first.

Idleness gets the better of some; vice of others; and, in still more, the cold air of the world throws their noblest nature into a frozen sleep. It is only by an effort that conscience can be drowned while we are young men. When we are older it takes an effort to rouse it. God wrestles with us in the dawning of the day.

Notices of Meetings.

ST. JOSEPH POMONA.

St. Joseph Pomona Grange will hold its next meeting first Thursday in June, at Centerville Grange hall. All members are requested to be present.

MRS. HENRY COOK, Secretary.

KENT POMONA.

Kent County Grange No. 18 is invited to convene at Cannonsburg Grange Hall, on Wednesday, June 8, at 10 o'clock, A. M. An interesting program is prepared, and a pleasant and profitable meeting is expected. A large attendance from all parts of the county is specially desired at this meeting.

LECTURER.

NEWAYGO POMONA.

The next regular meeting of Newaygo County Pomona Grange No. 11 will be held with Hesperia Grange No 495, June 8 and 9, 1892. This will be the last meeting of the county contest, and we expect the largest attendance and the most interesting meeting ever held in the county. The meeting will be public, and all are invited to attend.

A. L. SCOTT, Lecturer.

A PICNIC.

Thursday, June 16, is the day appointed for Colfax Grange picnic at their new hall. All are invited to attend. If it is convenient for our State Lecturer to be present, we would be very much pleased to see him, or any others that may avail themselves of the opportunity. There will be a meeting of the Pomona Grange in the evening. A good and profitable time is anticipated. Respectfully,

MRS. RICHARD NUGENT, Sec. Wadsworth P. O.

TRAVERSE DISTRICT POMONA.

The next meeting of Traverse District Pomona Grange No. 17, will be held with Summit Grange, at Summit City, June 8 and 9, 1892.

Sister S. E. Wiley will deliver the address of welcome, which will be responded to by Bro. L. M. Tompkins, Master of Pomona.

An open meeting will be held in the evening, to which all are cordially invited. Music will be furnished by Summit Grange, and the following exercises also given:

Papers: The Farmer's Home, A. S. Dobson; Does It Pay? E. H. Allyn; The Farmer and the Schools, F. C. Warner; Good Cooking Essential to Happiness, Mrs. Isabel Kingsley.

Discussions: The Dairy Question, Geo. Hargraves; The Democrat, the Republican and the Third Party, William Rose.

Recitation—Mrs. Etta Lackey. Recitation—Miss Laura Wiley. Poem—Phillip Rose.

E. O. LADD, Lecturer.

HILLSDALE POMONA.

Hillsdale county Pomona Grange will meet with Adams Grange on Thursday, June 2, at 10 o'clock, sharp. The morning session will be devoted to Grange business and good of the Order. At the afternoon session the following program will be presented, as requested by Adams Grange. Fourth degree members specially invited. Let every Grange in the county be represented, and each member be prepared to respond to call by a quotation from some American author.

Music; welcome address, Bertha Edwards; response, Worthy Master Haughey; music; the Discovery of America, Mrs. H. Hunker; America's Advance, Wm. Hunker; recitation, Fena Kilburn; America's Resource, Herbert W. Mumford; Michigan's Resources, George Edwards; music, Brother and Sister Haughey; Our National Patriotism, Gilbert Travis; Our Army and Navy, E. Casky; declamation, Arthur Taylor; America's Future, Electa D. Nokes; Rehearsal, Mary Carter; music, America.

MRS. E. D. NOKES.

D. AND B. C. COUNCIL.

D. and B. C. Council, P. of H., will be held in town hall, Rochester, on Thursday, June 2, 1892. Called to order at 10:30 A. M. All fourth degree members are cordially invited. Program: Usual order of business. Reports from different Granges. Suggestions for Good of

the order; 12 M. Recess; basket lunch; tea and coffee free.

Public session, 1:30 P. M.; music; prayer, Rev. P. Schermerhorn; Address of welcome, Mrs. J. C. Wilson; response, Mrs. Julia Haynes, Oxford; music; The farmer's relation to other callings, Thomas Mars, Berrien Centre, Master of State Grange; song, C. S. Bartlett; What are the farmer's greatest needs at the present time, and how can they be supplied? G. M. Trowbridge, Pontiac; J. G. Noble, Oxford; Dr. J. C. Wilson; Essay, Should woman interest herself in political affairs? Mrs. Maude Shattuck, Pontiac; Should we not have a graduated income tax? J. Van Hoosen, E. S. Babcock, Southfield; J. P. Coon, Orion; Select reading, Mrs. J. Van Hoosen; How should United States Senators be elected? J. M. Norton, E. L. Richmond, Wm. Satterlee, Birmingham; Song, America. All are invited. Come and take part in the discussions.

NEWS NOTES.

MICHIGAN.

Mrs. Custer has been in Detroit. W. C. T. U. convention in Detroit. Congregational council at Jackson. Condensed milk factory at Howell. Fumigation at Agricultural College. Lapeer public school is on the diploma list. Lansing business men are booming the city. Hon. H. A. Beecher of Flushing is dead. Northville Keeley institute goes to Ypsilanti. Mt. Clemens wants a shore road from Detroit. Port Huron bicyclists pay \$1 per year tax apiece. Bay City hopes to have a circle of electric railways. Joseph Dunnebacke of Ypsilanti dies of glanders. James Clark of Hunter Creek was killed by the cars. Meeting of college Republican clubs was a big success numerically. State encampment of militia will be held at Brighton, August 18-22. Henry R. Pattengill is mentioned as Republican candidate for Superintendent of Public Instruction. Field day at Agricultural College June 2-4. Olivet, Hillsdale, Albion, and the Normal will be represented.

NATIONAL.

Mrs. Harrison continues very ill. \$2,000,000 and 40 lives lost by floods at Sioux City. Prof. J. G. Schurman is now president of Cornell. The National Miller's Association met in Chicago. Dr. Briggs will be tried by the New York presbytery. Dr. Young of Kentucky is moderator of the Presbyterian assembly. Big fire in Oswego, N. Y., among the large elevators on the water front. The Department of Agriculture has issued a report on the wages of farm laborers in the United States. Gen. Miles thinks bicycles are practicable for military work. A relay race was run from Chicago to New York, over fearful roads. The national weather bureau will endeavor to provide for Michigan people so that coming thunder storms can be announced by telephone. Wellington, Kansas, a town of 10,000 people, was struck by a terrific cyclone. Hundreds of buildings are wrecked or damaged. It is thought that 50 lives are lost. The political situation is getting interesting. During the past week Blaine sentiment has developed wonderfully. Cleveland is meeting opposition and Hill enthusiasm seems worn out. The Methodist general conference at Omaha allow lay delegates seats and women also if one-third the annual conferences and one-fourth the general conference do not construe the word layman to mean only male members. The Presbyterian assembly passed the following, which will be presented to Congress in a memorial as an amendment to the constitution: "Neither Congress nor any state shall pass any law respecting any establishment of any religion or prohibiting the free exercise thereof or use its property and credit or any money raised by taxation, or authorize either to be used for the purpose of founding, maintaining or aiding by appropriation, payment for services, expenses or otherwise any church religious denomination, religious society, or undertaking which is wholly or in part under sectarian or ecclesiastical control."

FOREIGN.

Virulent cholera is raging in Egypt. Our pork is now admitted to all parts of the world. Reported that 1,200 lives were lost in a hurricane at Mauritius. Anti-christian disturbances in China. Balfour's Irish local government bill passes its second reading. The King and Queen of Denmark celebrate their golden wedding. The Wergeland, a steamship direct from Norway, arrived at Chicago. One hundred and twenty sailors of a Brazilian war ship were drowned.

NOW AND THEN.

The new name for the man who throws a banana peel on the sidewalk is a banan-archist.—Texas Siftings.

The woman who paints her face forgets that the world is full of people who have good eyesight.—Ram's Horn.

At sea—She—"And why is a ship called 'she'?" "Aye, ma'm! because the rigging costs so much."—Judy.

Amy—Mable, do you ever think about marriage? Mable—Think is no name for it. I worry.—Brooklyn Life.

"That is an angel of a house," said she. "Not quite," he replied, "it has only one wing."—Harper's Bazar.

When you find a woman who thinks her husband is the wisest man who ever lived, you find one who hasn't been to school much.—Ram's Horn.

"What do you do when a woman asks you to guess her age?" "I guess my guess to myself, knock off thirty per cent, and generally come near making myself adored."—Harper's Bazar.

Mrs. Van Ogden—Oh, we poor women! We have to ask for every cent we get. Mr. Van Ogden—That's where you are lucky; we men would be mighty glad to get it by asking.—Smith, Gray & Co's Monthly.

Bertha breaks her doll, and it is sent out to be repaired. A few days later Bortha goes to the store after it, but it cannot be found. "Her name is Marguerite," she explains, to facilitate the search.—Le Figaro and Evening Post.

Doesn't Keep Anything.—Scribbler—I lent the editor my umbrella a few days ago, as he forgot his, and it looked like rain. Tomson—Has he returned it yet? Scribbler (sadly)—No; but he will; he returns everything of mine.—Truth.

Friend.—What on earth are you doing with that picture? Great Artist—I am rubbing a piece of raw meat over this rabbit in the foreground. Mrs. De-Shoddie will be here this afternoon, and when she sees her pet dog smell of that rabbit she'll buy it.—New York Weekly.

"My darling," said the ardent young chemist, "you are worth your weight in pure iridium." And she felt just a trifle uneasy about it until she made inquiries next day, and found the dear, foolish fellow had appraised her at six million dollars and some odd cents. Puck.

NATIONAL EDUCATIONAL ASSOCIATION.

The National Educational Association is the largest assembly of its kind in the world. Its 20th session meets this year at Saratoga, July 12-15. Michigan teachers have arranged a delightful trip on this occasion. The route takes in Toronto, Thousand Islands, Rapids of St. Lawrence, Montreal, Lake Champlain and Lake George to Saratoga, and return by Albany, Rochester, and Niagara Falls. The cost of the round trip is but \$16.34. Tickets good to Oct. 1, and stop-over allowed at several points. The excursion is not confined to teachers. Any desiring further particulars can get them by writing D. S. Wagstaff, Detroit, Mich.

The completion about June 15th of the extension from Traverse City to Petoskey and Bay View of the Chicago & West Michigan Railway will open a new and popular route to the Northern Michigan Summer Resorts. The new line will be up to the high standard of the C. & W. M. and D., L. & N. system, and with the excellent train service, which will be a special feature, it will speedily prove to be a favorite. It will be the scenic line of Michigan, running as it does along the shores of lakes and rivers for more than forty miles, passing through the towns of Barker Creek, Spencer Creek, Bellaire, Central Lake, Ellsworth, and last, but by no means least, beautiful Charlevoix, than which there is no more delightful summer resort and to which it will be the only rail line. Elk Rapids is also reached by a short branch from Williamsburg. For several miles the road skirts the shore, almost at the water's edge, of Little Traverse Bay, nearly the entire distance from Traverse City being a panorama of beautiful scenery. Our new Summer Book, now ready, will be sent to any address on application, and much information may be obtained from it regarding the Northern Resorts, and the advantages in reaching them possessed by the C. & W. M. and D., L. & N. lines. Through sleeping and parlor cars will be run during the summer between Chicago, Detroit, Grand Rapids and Petoskey, via Traverse City and Charlevoix. GEO. DEHAVEN, Gen'l Pass'g Agent.

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