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OFFICIAL SERIES.

THE FARMERS' JOURNAL,

AND

Transactions of the Board of Agriculture

OF

LOWER CANADA.

VOL : XII. JANUARY, 1860. NO. 5.

CONTENTS.

(General.)

FARMERS' JOURNAL.—(*Editorial Matter*;) Application of the Sciences to Agriculture; Grazier and Breeder; Poultry Yard; Rural Architecture; Enquiries and Answers; Foreign Agricultural Intelligence, Obituary, and Critical Notices, &c.
HORTICULTURAL JOURNAL.—(*Editorial Matter*;) Entomology, Meteorology; Ladies Department; Markets.
EMIGRATION.

All communications to be addressed—If for the French Journal, to J. PERRAULT, Esq., Secretary-Treasurer and Editor:—If for the English Journal, to JAMES ANDERSON, Esq., F. S. S. A., &c., &c., Editor, Board of Agriculture, Montreal.
N. B.—Communications received before the 15th of each month will appear in the ensuing Number.

*"O! fortunatos nimium, sua si bona norint,
Agricolos! quibus ipsa, procul discordibus armis.
Fundit humo facilem victum justissima tellus."*
VIRG. GEO.

MONTREAL

PRINTED BY D^RMONTIGNY & C^O PROPRIETORS & PUBLISHERS

18, St. GABRIEL STREET.

Subscription One Dollar per Annum.

JANUARY, 1860.

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TRANSACTIONS OF THE BOARD OF AGRICULTURE FOR LOWER CANADA.

Progress and encouragement of Agriculture in Canada; illustrated by the provision made for its encouragement in other countries—by James Anderson, F. S. S. A. &c., &c., &c., late of Petite-Cote, County of Essex, C. W., Editor of the Farmers' Journal.....

J A N U A R Y.

Though we date our new year from the commencement of this month, it often begins as early as the first week of November, and at times open weather extends far into December. At new year we have seen the ground so bare of snow, as to render sleighing impossible, and wheeled vehicles alone appeared upon the roads. There is, almost invariably, a January thaw early in the month, when the snows of December disappear; and sometimes we have seen rain and high winds. But presently, a cold north-west wind blows, and the new fallen snow is drifted in clouds along the roads and fields, blocking up the narrow lanes, and drifting into high banks along the fences.

At this season, you must be careful to have your stalls and stables well littered. Feed chiefly under cover, cutting and steaming at all times when convenient. Watch the approach of frosts, and protect your roots carefully against its influence as formerly directed. Be industrious in collecting materials for manure. If fodder should be refused, cut it up, mixing with meal and shorts—for, as we have already said, there has been a considerable expenditure of fodder already, owing to the early commencement of winter, and we must practise due and provident economy. Do not be too ambitious to make large sales of hay, especially if it be to necessitate the purchase of supplies of foreign artificial manures. It might be better applied in feeding stock on the farm—thus encreasing the home supply of manures—and saving an outlay in money, cartage, marketing expenses, &c., &c.

We are great advocates for cutting and steaming food. Much that would be otherwise unpalatable, by this method, becomes pleasant and nutritious, with the addition of a little meal. You must keep your poultry warm; give meat, pounded oyster shells, or lime to keep up a supply of eggs. Boiled potatoes, and buckwheat cakes alternating with grain are suitable feeding. Give the hogs plenty of straw for bedding, and encrease the manure as much as possible by throwing in daily supplies of dried muck and leaves collected in autumn. Clean out the pens often, using absorbents abundantly to keep the stock dry and comfortable. Keep your horses warm and well littered, and take care to have a blanket to cover them when standing out of doors. Take care to give them no water to drink, after driving, until they shall have become perfectly cool. Carrots are an excellent feed with dry fodder. This is a good season for marketing a portion of the produce. Vegetables, when sold, should be taken out in mild weather,—hay and grain at other times. Keep your sheep stock in warm pens. Give salt or salted hay, to keep them in health and vigour.

Remember that much less feeding will do, if you be careful to keep your stock comfortably warm at the sametime. Cut and draw wood, if it still remains to be done in part,—taking advantage of the early snow

roads for drawing. Have a years supply at the door, cut, split, and piled away ready for use, before the commencement of the spring work on the farm.

The variations in the weather during the past year have been great, almost without precedent. The frosts of July killed the early potatoes, and many tender vegetables, and the sudden changes of temperature have been frequent and remarkable. In last December, we have had warmth and moisture like a chilly day in summer, followed by the cold of winter so immediately, as to freeze up the warm genial shower ere it had ceased falling. The early autumnal frosts so unusually severe, were very discouraging. Many will have enough to do to carry their stock over winter, with the strictest economy of management, seeing that they had to commence feeding them early in November. He that knows the rigours of a Lower-Canadian winter, will fully appreciate our last remark. Large quantities of potatoes and turnips were covered by the first snow that fell. The fall ploughing was backward, and much of the work generally performed, in anticipation of the coming winter, had not been overtaken, the rigours of the season came on so unexpectedly—though the five days at the close of November permitted of accomplishing much necessary seasonal labours most opportunely. The deficiency in the hay crop caused by the inclemency, of the weather in early summer, and the supervening droughts, will have the probable effect in future of inducing the provident farmer to turn his attention more to the cultivation of root crops, and teaching him to have recourse to the numerous available expedients for economising his provender, by cutting and cooking his cattle food, hitherto too wastefully and improvidently dealt out; and he will find, that with less material, prudently managed, he will be enabled to support, in the best condition, a greater head of stock than heretofore; and thus taught by necessity, he will apply the lesson in times of plenty, much to his own profit, and the public advantage.

If they would be equally careful for a single season to collect, prepare, and apply in the most judicious manner, their manure resources, they would on no account neglect to continue the practice,—for the superiority of the crops of the year would be a sufficient inducement. We hope then, that farmers will take warning in time, and do their utmost, from this day forth, to practice the most rigideconomy, and not neglect to avail themselves of the immense advantages afforded by a few simple, and cheap labour and food saving machines, so easily procurable.

It is just possible, by the time this number shall be placed in the hands of our readers, that we may have taken our departure for the Old World, for a very brief visit, and we therefore take the opportunity of thanking them for the kind countenance they have so liberally extended to us; at sametime making offer of the compliments and heartily wishing them all the enjoyments of this happy season.—We have to apologize for neglecting to notice the receipt of several valuable publications till the appearance of our February and March numbers.

J. A.

GENERAL IMPORTANCE OF AGRICULTURE.

Every reflecting man recognizes the nature, and admits the value of agriculture; yet every such man is not himself a farmer nor can he conveniently become one—the lots of many being cast in other departments of labor. Probably there are more who would cultivate farms, than there are who, possessing them, would forsake them for a vocation less stable. Age with its wisdom, likes the farm better than youth with its too frequent vain show and empty aspirations.

If it be true, as Montesquien observes, that “countries are not cultivated in proportion to their fertility, but to their liberty,” then republican America must soon rank second to no other nation in her perfection of terra-culture. Our agricultural population may not directly lead or control the country, yet they hold the truest sword in its defence; and in the heat of any contest, will imbibe new courage from the recollection of their pleasant and enduring fields at home.

I desire to present some thoughts upon this subject, in the form of distinct propositions.

1. As the roots and trunk of a tree are to its branch, so is agriculture to society; it upholds it, and draws from the earth and dispenses its nourishment to the different branches of the social fabric, while at the same time it derives new vigor from a vital reciprocity. Hence—

2. Agriculture is the foundation of a well-established nation, and the most stable element of its wealth, independence and greatness. Therefore

3. Agriculture should receive the fostering care of the State, and the respect and encouragement of every patriot.

4. Every farmer to prosecute his business successfully, should feel and cherish an ambition in it; and, however unlettered he may be, under such incentives he will make great progress, not only in the profitable cultivation of his farm, but also in mental improvement. If he has not the stimulus of emulation, he should choose a business where he may be thus prompted, as agriculture can well spare the “slothful in business.”

5. Although farmers as a body may never expect to become erudite scholars, each and every one would be greatly benefitted by a small library of standard agricultural and miscellaneous books. They are faithful companions that always instruct and elevate.

6. If it be the “mind that makes the man,” it is not alone in its intellectual phase, but also in its moral. Every farmer who chooses, can attain to a degree of intellectual culture, and to a moral standard second to none. He can and ought to make himself the “highest style of man,”

7. Although—in their well-being—vocations are mutually dependent, to a greater or less degree, the farmer should never mistrust the value of his profession, but should defend its dignity and worth by a commensurate independence before all men.—D. W. L.—*West Bedford, Mass.*

FIXED FACTS IN AGRICULTURE.

Somebody has made up the following list of “fixed facts” in agriculture. Though calculated for the Eastern States, many of the facts are of general application:

1. All lands on which clover or the other grasses are sown, must either have lime in them naturally, or that mineral must be artificially supplied. It matters but little whether it be supplied in the form of stone-lime, or marl.

2. All permanent improvement of lands must look to lime as its basis.

3. Lands which have long been in culture, will be benefited by application of phosphate of lime, and it is unimportant whether the deficiency be supplied in the form of bone dust, guano, native phosphate of lime, composts of flesh, ashes, or that of oyster shell lime— or marl—if the land needs it.

4. No land can be preserved in a high state of fertility, unless clover and the grasses are cultivated in the course of rotation.

5. Mould is indispensable in every soil, and a healthy supply can alone be preserved through the cultivation of clover and the grasses, the turning in of green crops, or by the application of composts, rich in the elements of the best mould.

6. All highly concentrated animal manures are increased in value, and their benefits produced by admixture with plaster, salt or pulverized charcoal.

7. Deep ploughing improves the productive powers of every variety of soil that is not wet.

8. Sub-soiling sound land, that is, land that is not wet, is eminently conducive to increased production.

9. All wet lands should be drained.

10. All grain crops should be harvested before the grain is thoroughly ripe.

11. Clover, as well as the grasses for hay, should be mowed when in full bloom.

12. Sandy lands can be most effectually improved by clay. When such lands require liming or marling, the lime or marl is most beneficially applied when made into a compost with clay. In slacking lime, salt brine is better than water.

13. The chopping or grinding of grain to be fed to stock, operates as a saving of at least twenty-five per cent.

14. Draining of wet lands and marshes adds to their value, by making them produce more, and by improving the health of the neighborhoods.

15. To manure or lime wet lands, is to throw manure, lime and labor away.

16. Shallow ploughing operates to impoverish the soil, while it decreases production.

17. By stabling and shedding stock during the winter, a saving of one-fourth of the food may be effected; that is, one-fourth less food will answer, than when the stock is exposed to the inclemencies of the weather.

18. A bushel of plaster per acre, sown broadcast over clover, will add one hundred per cent to its produce.

19. Periodical application of ashes tends to keep up the integrants of the soil by supplying most, if not all, of the organic substance.

20. Thorough preparation of land is absolutely necessary to the successful and luxuriant growth of crops.

21. Abundant crops cannot be grown for a succession of years, unless care is taken to provide an equivalent for the substance carried off the land in the land products grown thereon.

22. To preserve meadows in their productiveness, it is necessary to harrow them every second autumn, apply top-dressing, and roll them.

23. All stiff clays are benefited by fall and winter ploughings, but should never be ploughed when wet. If at such ploughings the furrow be materially deepened, lime, marl or ashes should be applied.

24. Young stock should be moderately fed with grain and watered, and receive generous supplies of long provender, it being essential to keep them in

fair condition, in order that the formation of muscle, bones, &c., may be encouraged and continuously carried on.

25. Milch cows in winter, should be kept in dry, moderately warm, but well ventilated quarters, fed and watered three times a day, salted two or three times a week, have clean beds, be curried daily, and, in addition to their long provender, should receive succulent food morning and night.

26. Full complement of tools and implements of husbandry are intimately connected with the success of the husbandman.

27. Capital is not only necessary to agricultural success, but can be properly used in farming as in any other occupation.

FARMER'S CLUBS.

The present is the season of the year most favorable for the institution of these most valuable auxiliaries to agricultural advancement. The evenings are long, work is early done, and one evening in the week can easily be devoted to the club meeting by almost every farmer in the State.

We are not a social people. Why we are not we will not discuss, but that we are not is evident to all. How few hearty, brotherly friendships are there between neighbors? What beneficial effects upon any two intelligent men, upon their lives and their farming, would grow out of a free brotherly intercourse, a friendship so strong that they would each study the other's welfare as well as his own, in his plans and studies of whatever may benefit his own business? The farmer's club is and ought to be the place for the formation of rich friendships and the reaping of such advantages. The exclusive, secluded life of farmers as a class is killing to our agricultural progress. If the go-ahead, wide-awake farmers would look at this matter in its length and breadth, there would be a farmer's club started at once wherever there is life enough to maintain one, and we doubt not that there is life enough about every post office village in the State.

We attended a meeting recently of the oldest farmer's club in the State, of which we have knowledge; its history has been already given in our journal. We refer to THE FARMER'S CLUB OF WEST CORNWALL, which has been in operation now, we believe, about eighteen years. It met at the house of Mr. J. P. Brewster, on Cream Hill, and was attended by the members, male and female of a dozen or more families. It was an exceedingly pleasant gathering, the early part of the evening being occupied by the men in one room in the discussion of agricultural business proper, and their wives and daughters by themselves in another room. At nine o'clock the discussions were concluded, and the two parties united, and the remainder of the evening spent in pleasant social intercourse and the discussion of cake and sweet cider, and some choice apples sent by Messrs. Smith and Hanchett, of Rochester, and exhibited as the State Fair. We were little surprised not to meet more young men; if farming and farming themes have few charms for them, certainly a bevy of young girls of sprightliness and beauty is an attraction to which they ought not to be insensible.

After the organization and election of officers for the year, the club adopted the subject of the dissemination of agricultural knowledge for discussion. It was conducted without constraint and without lofty flights of eloquence or frantic fancy, and was the sober discussion of thoughtful men who had given attention to the subject they were talking about. The subject of the agricultural lectures to be given next February at New Haven, was considered, and those present who were supposed to be well informed about them, were subject to thorough catechising. A plan for the increased usefulness of Farmers' clubs and for the as-

association of clubs in collecting statistical information for their mutual benefit and interest, was presented and received with favor. The great benefit to be derived from visiting other clubs or agricultural districts, by members or delegates, who go for the purpose of learning as much as possible about the systems of farm operation pursued, and who report to the club was dwelt upon, as was also the great advantage accruing from the reading of agricultural journals.

Our readers are already familiar in general with the proposed course of lectures, and we are glad to learn from various sources that it is awakening much interest among the farmers throughout the State, so that we think that it can hardly be doubted that it will be well attended by this class of our citizens for whom it is especially instituted. In regard to the plan for associating farmers' clubs in the collection of statistics, etc., we shall have more to say hereafter.

We inquired for the constitution or by-laws of the club, and were very happy to find the members uncertain whether they had any or not; some thought they had one, others thought they had none, and on the whole the subject was veiled in pleasing uncertainty.

CONSTITUTIONS AND FORMS OF ORGANIZATION FOR FARMERS' CLUBS.

We have long been of the opinion that a constitution is an unmitigated nuisance for a farmers' club. It does very well in a boy's debating society, and is necessary there, but in a farmers' club the few officers know their business well without; the chairman and secretary are the only important officers generally, and the latter may be treasurer also if the funds are no larger than is usually the case. The simpler such an organization is the better, and such rules only are necessary as shall promote freedom and vivacity in the expressions of the views of each one upon the subject under discussion. In the starting, some form is perhaps best—we propose the following as a "constitution" if you please to dignify it by so big a name.

ART. 1. This club—styled the——— Farmers' Club—is established for the collection and dissemination of agricultural information among its members.

ART. 2. The officers shall be a President, Secretary and Treasurer, and an executive Committee, consisting of three persons. The President shall be the member at whose house the club meets, or may be elected at each regular meeting of the club. The Secretary, Treasurer, and Executive Committee shall be elected annually by ballot, and all officers continue in office till a new election is made.

ART. 3. New members shall be elected by a two-thirds vote, and admitted by payment of——.

ART. 4. The meetings of the club shall be held (weekly, fortnightly, or monthly) at such place as may be designated by the Executive Committee, who shall also propose the order of business, subjects for discussion, etc., unless the club otherwise directs.

RULE.—No member may speak more than ten minutes at once, nor more than fifteen minutes in all, nor more than three times upon any subject, except by permission of the club.

This is enough, all that is needed; the executive committee have the power to vary the scope of the operations of the club as may be deemed expedient, and leave in fact with the secretary the whole management. This is better than to throw too much of a burden upon him alone. There should be accurate minutes kept of the club, and the results of experiments by individuals or under the advice or direction of the club, should be recorded with especial care and sent to some agricultural paper for publication. [lb.

THE CLERGY AND AGRICULTURE.

Every good cause looks very naturally to the clergy for sympathy, and for its most efficient helpers. In this commonwealth they have a well established reputation for hearty labors in the promotion of all the temporal, as well as the spiritual interests of men. From the first settlement of the country, until the last generation, they were identified with the agricultural interests of the parishes in which they were settled. It was customary in the settlement of a minister, to put him not simply upon a salary, but upon a solid piece of territory, a sort of index on the part of the people of the solid character of the pastoral relation. They welcomed him to a parsonage and glebe, and expected him to identify himself with all the temporal interests of the parish, to cultivate the soil, and to get his bread in part, by that primitive method, the sweat of his face.

Nothing is more common in the settlement of our townships, than these grants of land, either directly to a minister, in his own right, or to the parish for his own use. This course was indicated probably, by the necessities of a new country, where land was cheap and money dear, but it was as wise as it was necessary. It tended to make the pastoral relation permanent, and to draw forth the best efforts of the pastor in behalf of his people. He could feel at home among them, and lay his plans for the whole of life. It tended to make him a diligent student, for he had no expectation of moving to the next parish, to live upon the pulpit preparations of past years. Necessity was laid upon him to study and grow, mentally, to meet the wants of a people with whom he expected to die.

It tended to make him a diligent laborer in his fields, either in person, or in directing the labors of others, for he could expect to reap the harvests of the fields that he sowed, and to eat the fruits of the trees that he planted. He could gather around him the comforts of a permanent home in the country, and expect to enjoy it while he lived.

This policy of our fathers fostered a love of agricultural pursuits among the clergy, and some of the best farmers the state has ever produced, have been connected with this profession. Jared Elliot, of Killingworth, was a good type of the Connecticut clergyman of the last century. Says his biographer: "He published agricultural essays, and devised various ways for draining swamps in the interior, and also for reclaiming marshes from the sea. He was very industrious and methodical, and was particularly careful, that whatever he undertook should be well executed. It is difficult to conceive how one could be successful in such a variety of pursuits as those in which he was engaged; for he seldom failed in any undertaking. He possessed a very large estate in land, which consisted of farms in various sections of the State. These were generally better cultivated, and furnished more profits than those of his neighbors. Amid all his avocations, as a farmer and physician, he was distinguished for his piety and talents as a clergyman. So conscientious was he in the discharge of his duties as a minister, that he always so contrived his journeys as to be with his people, if possible, on Sundays; and for forty successive years in the course of his ministry, he never omitted preaching either at home or abroad, on the Lord's day."

Owing to the insecurity of the pastoral relation and other causes, there has been a great change in the habits of the clergy in regard to agricultural pursuits. The parsonage lands in many of the towns have been sold, and invested in stocks, paying larger dividends. The parsonage itself in many of the parishes,

especially in villages and cities, has disappeared, and the pastoral relation has become a matter of convenience between the contracting parties. Ministers have been virtually thrown back into a sort of nomadic life, having about as little attachment to the soil of their parishes, as the Arabs of the desert. They form no strong attachments, and for slight causes they ask dismissal of their own prompting, or to suit the caprice of the people. This instability of the pastoral office is by no means confined to the cities and villages. Rural parishes are quite as much infested with the love of change, and statistics will show even shorter pastorates.

It is not then altogether an irrelevant question that we propose to discuss, viz: What can ministers do to promote the interests of agriculture? The leading secular interest of three-fourths of our parishes is husbandry, and the temporal prosperity of these communities must wax, or wane, with the cultivation of the soil. For want of a better method of agriculture, many of these parishes have declined in wealth and population, very steadily from 1810 to 1850, and if the decline has been arrested, it has been within the last ten years. Many other parishes have remained about stationary, within the same forty years, while the increase of our wealth and population has been mainly confined to our cities and villages. The improvement of these rural parishes, their steady increase in population, wealth, the means of education, and of religious culture, depends mainly upon the improvement of their agriculture.

Clergymen in these parishes, then, have a vital interest in agriculture, and may as legitimately labor to promote it, as to labor for the cause of education, or of temperance, or for anything else, outside of their profession. But it will be said, perhaps, by some pastors, and by not a few of their hearers, that a minister ought to confine himself strictly to professional labors within the bounds of his own parish. It is undoubtedly true, that the details of parochial duty are enough to absorb the sympathies, and to occupy all the energies of the best men in the ministry. No parish is so small that it does not afford ample field for the display of the best talents in our churches. But religious sympathy is not a material thing, that it can be confined to the bounds of one parish. The charity which begins at home is least likely to end there. The pastor who finds more than enough to do at home, is the man, of all others, to put his hand to the work that needs doing abroad. It is not because our whole American population is evangelized that the churches have embarked in the enterprise of foreign mission. Whatever may be the philosophy of this mode of operation, it is generally conceded that it works well, that the churches doing most for the mission field abroad, are most likely to be prospered themselves.

True benevolence is not a hoard of treasures, that can be exhausted by any limited draft upon its resources. It is rather a fountain of living waters, fed by a thousand hidden springs, and giving forth its crystal treasures in perpetual fullness. The man who sustains a colporteur in some destitute field of christian soil, is the man most likely to consider the wants of his own master, and to foster religion in his own neighbourhood. We cannot see that a rule of benevolence acted upon by the churches at large, and by private individuals, is denied to pastors. Their is neither wisdom, nor justice, in that public sentiment which builds a wall around one parish, and bids him think only and toil only for the religious wants of the people that give him bread. It is not wise; for a self-denying enterprise undertaken for the public good, will often bless his own parish far more than any work aiming directly at their own improvement. It is not just; for the compensation given for his toil is not so far an equivalent that they can appropriate their minister and say he shall do nothing for others.

Pastors, like other disciples, are to do good as they find opportunity, whether within or without parish limits, whether in the cure of souls, or in the cure of

the bodies and their circumstances that the souls inhabit. Discreet ministers have a great influence over the secular affairs of their parishes. The strong hold which they have upon the people, as religious teachers and guides, give them great power in other things. They generally shape the interests of education and give much of their time and sympathies to schools and seminaries of learning. They ought, if it is necessary, to teach their people how to cultivate the soil to be themselves patterns of good husbandry in the garden and in the field. Some of course are so situated in cities, or villages, that this cannot be done. But the large majority can own or hire land enough to illustrate the principles of improved husbandry. Their mental discipline and acquaintance with the natural sciences, fit them to understand scientific agriculture much more readily than the majority of their people who live by husbandry. They can show upon a few acres of land how every farm in the parish can add twenty-five, fifty, or a hundred per cent. to its income. They can illustrate the advantages of thorough drainage, of deep tillage, of working muck mines, of saving manures, of raising improved stock, of cultivating fine varieties of fruits and vegetables.

We claim that the pastor may do this without detracting, in any case, from the value of his pulpit administrations, and in many cases the horticulture and farming will be found greatly to help the preaching and pastoral labor.

Most clergymen suffer both in physical and mental vigor, for lack of exercise in the open air. Many are habitually feeble, and lose days, weeks, or months, every year, from ill health. Those who have robust health, undisturbed digestion, and sound sleep seven nights in the week, and bring out their full tale of brick at the close of the year, are the rare exceptions. All men need to eat their bread in the sweat of their face, and must do it or do worse. Three or four hours of active exercise in the air and sunshine are none too much for physical health and the highest mental vigor. No sacredness of calling will save a man from the consequence of violating the laws of health. Dyspepsia, vertigo, and hypochondria, will attack a minister as soon as a layman, if he eat too much and work too little. Working with the hands was sound orthodoxy for a pastor in Paul's time, and neither human nature nor the operations of God's grace have changed, that it should cease to be true doctrine in our own time.

Those who preach, then, have either to take time to preserve health by outdoor employments, or to lose time for want of health, by their sedentary habits. No sane man can doubt which is the better for the profession, and for the cause of religion. Sermons full of the marrow of sound doctrine, and fragrant with the aroma of a healthful piety, need air and sunshine for their growth, as much as the clusters that purple the vine.

The labors of the garden and the field are as good for the mind as they are for the body. They were the employment of man in his innocence, and are appropriate to those who seek to retrieve the ruins of the fall. There is much in a daily intercourse with flowers, fruits and vegetables, to stimulate thought, and to make us wiser and better men. The clergy can do much as cultivators of the soil, being examples to the flock of all that is lovely and of good report, both within parish limits and at the fairs. They can also do much with the pen, in communicating to the public the facts in horticulture and husbandry, that come under their own observation. No class in the commonwealth have so much power to improve our agriculture. [Hartford (Conn.) Homestead.

FARM FENCING...VIII.

Written for the American Agriculturist.—Prize Articles.

In addition to the varieties of farm fence which we have described, the last and as yet doubtful application of the WIRE FENCE, remains to be considered. Were our climate more equable in its temperature, we think there could be little or no question of the entire practicability of wire being extensively used as a cheap and sufficient substitute for boards. The writer has seen it adopted with good effect on some farms, and on others, under like apparent circumstances, it proved a failure. Intense frosts contracts, or excessive heat expands the wire in length; consequently there is a difficulty in giving the wires, as they stretch along the several posts, such exact degrees of strain or tension, as will contract with the frost, without breaking, or stretch with the heat without sagging to a degree of preventing its sufficiency against unruly cattle.

It is our opinion, however, that a good wire fence can be made to stand; and entertaining such opinion, we proceed to describe the mode of making it according to the best lines of fence that we have seen, and which have thus far proved themselves permanent in their object.

At the end of the fence line, plant a stout, durable, heavy post, at least three feet in the ground, the earth well tamped, so that it shall stand perpendicular—and if there is any doubt about it, brace the post on the straining side, so as to render it secure. Then plant a line of common sized fence posts, either split or sawed—no matter which—at intervals of about sixty feet, if the whole line of fence does not extend more than four or five hundred feet. If the line is a very long one, say half a mile or more, let a post like the corner or commencing one be inserted at every five or six hundred feet distance, on which the wires can be effectually wound from either way as a permanent fastening for the whole line of wires so stretched. Through the end or commencing post, bore quarter, or half inch holes, beginning at a foot from the bottom, or nearer if it be necessary, and at about a foot, or less, or more, distance apart—depending on the creatures to be fenced against—until it is as high from the ground, as the fence is wanted when finished. Thus there is a line of posts in range, and the first one bored is a guide for all the others.

As to the WIRE and its size. None but wire of the best and toughest quality should be used, and the size may vary from that of a common goose quill down to a rye straw, or but number 9. The smaller size, we think, taken together, is as good as the larger, besides being much cheaper, and easier managed. To make the wire perfect in quality, and most durable, let it be annealed, or thoroughly heated to near or quite red heat while in the coil, and afterwards boiled or scalded in linseed oil. The heating makes it soft and pliable, without breaking at a short bend or twist. The oiling makes it impervious to rust for some years, taking the place of paint.

To prepare the wire for stretching into the fence after annealed and oiled, it should be wound off on to a light reel, say a foot in diameter. This reel can be made of slats nailed on to a couple of heads, made of boards, through the center of which holes can be bored, to admit a round stick on which the reel can revolve, to let off the wire as it is stretched along the line, one or two men, according to its weight, carrying it along. Then, having settled the distance from the ground, at which the first wire shall be drawn, and the distance apart for the other wires, take a stick the height of the fence, and mark it at such distances, as the wires are to be apart. Then have a hand basket, in which is a hammer, a good strong pair of pliers, and a quantity of small iron staples cut and bent,

with the heads sharpened to drive, made of the same size *annealed* and *oiled* wire, as the stretchers are. Thus prepared, run the first end of the wire from the reel through the lower hole in the starting post, turn it round the body of it, and fasten it with your pliers. Proceed on to the next post, the man, or men carrying the reel, which revolves as you pass along, letting off the wire. When received at the post, measure off with the stick already described, and mark the places where the wires are to be secured, then laying the lower wire at its place, and drawing it as taut as possible with the hand, drive in a staple over the wire into the post, *nearly home*, so as to keep the wire well in its place. Thus go on for half a dozen posts or so, when, if the wire on the reel is not all used, it may be cut off, and a turn given round the *principal* post, (one of which should be occasionally set as before observed,) and secured by a twist clinch round the main line of wire *for the present*. Then begin with a new wire, secured as the first, where the other is left off, and follow to the further end post in this line of fence.

In this way let the whole line of the lower wire be stretched. Then do the next in like manner, and so on, until the several strands are completed as high as you wish the fence to be. As it now stands, you have a line of wires secured by staples to every post, and these posts fifty, sixty, or more or less, feet apart, as you may choose. The wires sag, of course, and by a little effort almost anything, even a horse or cow, might crawl through or break it. Therefore the fence is not complete. Now, take a lot of stakes, either split or sawed, of *durable* and *hard wood*—pine and hemlock are too soft and brittle—sharpen them at one end, divide them equi-distant between the posts already set, say ten to fifteen feet apart, according to the strength you want the fence to be, and drive them with an ax, sledge, or maul, about a foot into the ground—less than a foot will do, but the deeper the stakes, the stronger they stand. Then measure off the distances for the wires apart, on these stakes, as was done on the posts, drive staples over them as before, and this part of the job is completed.

If the wires as already laid, are not sufficiently taut, get a tool somewhat like an old fashioned *bed-winch*, and go to one end of the wire where secured at the post, either at the end or along the line of the fence, undo it with the pliers, and apply the winch, until the required amount of tension is obtained, and then secure the end of the wire by turning it around, as before. This can be done with every different strand, bearing in mind, however, that all the wires should have an equal strain, so as to contract and stretch as near as possible with the changes of the weather; and also minding the temperature of the atmosphere when the stretching is done, and allowing, *according to your judgment*, for the required amount of contraction and expansion. In this way, the wires will be somewhat loose, in extreme hot weather, but kept in place, and at their proper levels by the intermediate stakes.

In addition to the wires, and to secure the foot of the fence better against breaches, some builders recommend that instead of the bottom wire, a line of foot wide boards be nailed on to the posts and stakes. We do not consider this board an improvement, only as defending the enclosure from geese and other small animals, as the wires are quite as strong as the board, and not a quarter so expensive. Others may prefer to bore all the posts, and let the wires pass through these holes; but in this way the reels holding the wire, must be stationary, and the wire by one end drawn through the whole series of posts. We do not think either way particularly preferable, only as matter of convenience in putting the fence up. The holes in the posts will cause rot sooner than the staples, and it is more work to make the holes than to drive the staples. After all the wires are all made taut, and the strain equalized, the staples may be driven *quite home* and thus the wires are effectually secured.

It will be seen that where trees stand, either at the end or along the line of the fence, they may be used, if of a hardy kind, to secure the wires. They are, of course, better than posts, and will save expense. In a very considerable part of the United-States, where timber is scarce, and boards dear in price, wire fence can be adopted to advantage.

EXPENSE.—This may be more or less according to the cost of posts, and stakes, and wire. Altogether, the expence *need* not exceed fifty cents a rod, nor *should* it cost a dollar. Each one who proposes to make wire fence, by knowing the value of material at his own place, can determine the exact cost for himself. As to the efficiency of the fence, we have seen herds of cattle on one side at pasture for weeks together, and a field of grain, with other plowed crops, on the opposite side of the fence, and the cattle never broke through. This was the cheapest kind of wire fence, costing not more than half a dollar a rod.

We make the further qualification as to the expediency of adopting the wire fence in *all* climates. Far north, the contraction by cold, and expansion by heat is greater than at the south, where the tension of the wire is less affected by the temperature. The climate will therefore, somewhat govern the expediency or economy of its adoption for general fencing purposes.

TRIALS OF PLOUGHS. (*)

New forms of the plough are annually presented to the public, and trials are made with a view to obtain premiums. All well—but we see that most of these ploughs are so large and heavy as to require a four ox team to move them.

At the State Show in Maine, some of the large ploughs were tried and dynamometers were procured to measure the power necessary to move them. But the large ploughs required so much power that the instruments could not measure the draft—it was beyond their capacity. Some of the ploughs turned furrows fifteen and a half inches wide and eight and a half deep.

Some savans wanted to see the furrows lapped, one on the other, but the farmers wanted to have the furrows turned flat and even, so as to bury all the green surface matter. Who is to decide?

These large ploughs, with double and treble mould plates may do for a time—till practical husbandmen have tried them.

But we have an old prejudice against what are called the mammoth breed. Mammoth Ships seven hundred feet long will do well enough to talk about and engage the public gaze; but smaller vessels will be found more useful and more profitable.

Mammoth oxen and cows are not the best stock for farmers—and mammoth ploughs are in the same category. Six oxen are not so good to break up the newest and toughest soil as one good yoke. It was the custom sixty years ago to use an immense plough for new land, just cleared and burnt, and drag its slow length along with twelve yoke of oxen. Farmers exchanged work, and they had a jolly time with a breaking-up team.

One man held the plough—another went by its side with a heavy lever or sled stake to clear the plough. Then the twelve yoke of oxen were driven by their owners; for no one would trust another with his team in such a gang. Six or eight drivers were therefore needed for the twelve yoke of oxen to break

(*) We shall remark on this paragraph in the present or a future number of the Journal.

up an acre of land! The cost, at modern charges, would be not less than twenty-two dollars an acre, where the average price of farm lands was twenty dollars.

Then consider what furrows were turned. Where there were no roots or stones, the plough would go twelve to fifteen inches deep! to what purpose? The poorer loam was turned to the top. The ashes and little brands were turned to the bottom, there to lie till some inventor of a mighty large plough can persuade the owner of the land to *put in*, and turn *up* the rich matter which was turned *down* sixty years ago.

It must be admitted that this was an expensive mode of subduing new lands—yet this was the mode often practiced by large proprietors as many witnesses now living are ready to testify. But we have a word to add as to the advantage of this mode of ploughing. Fashions in dress change often, and the dress-makers are the winners, but in farming we cannot so easily be persuaded to change back and forth.

Though we are often told we cannot plough too deep—yet as we know better, we shall abide by our integrity and look to facts to guide us. And we insist that we can do better than to plough *very deep* in any soil that has come under our observation.

New lands, particularly—virgin soils, should never be ploughed deep. The vegetable matter and the ashes on the surface are wanted for the first crops, and they must not be buried deep, as they will be with mammoth ploughs and long teams. The modern mode of breaking up new land is much better as well as much cheaper. The large roots are permitted to remain *unpulled* till they decay under the surface and by a slight ploughing—or even harrowing, much better crops of grain are obtained than when this surface matter is turned under to the depth of ten or twelve inches.

A near neighbor of our own has lately practiced on this principle in the town of Framingham. He cleared a piece of woodland of a heavy growth of oak, maple, and pine. He set fire to the bush in autumn and cleared off all combustible matter. Then he put one good yoke of oxen on to a small iron plough, and rooted up his burnt ground. His plough seldom went more than one foot deep.

He held his own plough and drove his own oxen. He would not thank any one to drive them. We were much amused at the time to see him work along between the rocks and large stones. When he caught a large one his team would naturally back up for a moment—their was the moment to turn the point of the plough off that it might go free.

Thus there was no backing, or hawing and geeing, as there must be when a large plough with a long team runs against a stump. It is the work of some minutes, with a team of twenty four oxen, to get off when it is holden fast by a root. Just compare the cost of ploughing an acre with twelve yoke of cattle and one yoke

Then look at the harvests. Where two or three inches of soil were turned, the wheat and rye were much heavier than they have been with deep ploughing. Our neighbor drove his own oxen and held the plough. He subdued his land and killed the bushes in a very few years, and now that land will bring more than it would if ploughed with a double moulder or a plough with six mould boards.

Let us not be deceived. The Great Eastern steamer is a catch penny thing and made only for show. Its owners now admit that the cost of freight in it will be as great as in other vessels. Where then is the gain? Give us vessels of convenient size and balloons that can be managed, if you give us any.

Give us no ploughs that require three or four yoke of oxen to draw them lest the cost of drawing be too high and the furrows ploughed be too deep.—*Musgrave Ploughman.*

SALT FOR RUST—SIZE OF TILES FOR MAINS AND LATERALS—
FEEDING CATTLE AND SHEEP—CARE OF SHEEP.

As a sure preventative to rust, to give stiffness to the straw, and to expedite ripening of wheat, by four or five days, Mr. Johnston sows five bushels of salt to the acre, broadcast, after seeding. He thinks moreover, that for each of the five bushels of salt almost an extra bushel of wheat may be expected.

SIZE OF TILES FOR MAINS AND LATERALS.—A too common error with improving farmers is that of using too small tile for main drains, and too large for laterals. Those accustomed to the roomy conduits of stone drains suppose that nothing less than a three-inch bore will conduct the drainage from the surface into the mains, and curiously enough the same persons, unmindful of the large area drained by each system of laterals, or in using mains but little larger in bore than the latter. If any are willing to look into the results of the drainage on our Central Park, the most stupendous work of the kind in this country, and one of the best conducted, they will find that the one-and-a-half-inch and twelve inch tiles there used for laterals do not run full even after the most violent and protracted rains, and yet from a single "system" of twelve acres, the discharge after a recent rain was at the rate of 3000 gallons per hour. This error of using too large tile Mr. Johnston fell into, and now that he has learned better after a twenty years' experience, he cautions his brother farmers against using larger than two-inch tile for laterals. For mains each farmer must provide as the quantity of water to be conducted is greater or less. In many cases Mr. Johnston has used two rows of four-inch, in others six-inch, and in one, semi-circles of eleven-inches, one at top and one at bottom, making a pipe nine inches bore to discharge water. At first he had many to take up and replace with larger pipe to secure a complete discharge. Main drains he makes six to eight inches deeper than those emptying into them—not with an abrupt shoulder—but levelled up, so that the descent may take place gradually in the length of two tiles—29 inches—and always giving the laterals a slight sidewise direction at the end, so that their water will be discharged down stream into the mains.

Another error he at first fell into was, in having too many drains on lowlands and not enough on the upland; thus seeking to carry off the effect, while the cause—the out-cropping springs on the hill-side—remained untouched. Where the source of the water is most abundant, the means for removing it should most abundantly be furnished. Rain water falls on hills, sinks to an impervious stratum, along which it runs until it either finds a porous section through which it can fall to a lower level, or, not finding such, continues on the hard bottom to the side of the hill, where it crops out in the form of a spring. If this spring water is suffered to run down hill, it washes the hill-side more or less, and coming to the lowland, sinks as far as it may into the soil, makes it sodden, and produces bad effects. To drain effectually, then, we must cut off the supply above, and fewer drains will be necessary below. Here is the whole secret of the thing, and here we see why so much money is spent to so little purpose by those who think that they should only drain the wet lowland. Appearances are deceitful, and we should not suppose that a seemingly dry up land is really dry.

FEEDING CATTLE AND SHEEP.—A word as to this most important subject. On poor lands good crops are got by the use of much manure. This all know.

But do they know as well that all manure is not equally good ; that a cord of it has been leached by drenching rains throughout Fall and Winter, and that has been shone upon by the sun through a hundred hot days, has lost the greater part of efficacy ? That the rivulets of brown liquor that run from the barn-yard into the public road will make more wheat than the brown-washed straw which remains ? And that, by manure ever so well cared for, the value may be increased at will by the food given to the animals that make it ? If they don't, Mr. Johnston does ; and so, instead of freezing his stock until they are almost *in articulo mortis*, and starving them on dry stalks and refuse hay until the bones well nigh pierce the skin, he has comfortable sheds, and deeply-littered yards for his cattle, and feeds them well at regular intervals with sweet hay, oil-cake, bean meal, and grain. The result—but what other could you expect ?—is that in Spring they are in store condition ; he loses none, has no disease among them, saves a large quantity of such manure that one cord of it brings more wheat or corn than four of ordinary dung, and he grows rich. Reader, if you desire to be a good farmer, go and do likewise !

CARE OF SHEEP.—Mr. Johnston bought thirty Leicesters one Fall, put them in his yards, fed them each twelve ounces of oil-meal with wheat-straw, and *no hay*, all Winter. In Spring, he sheared from them 5 lbs. of wool each, pastured them all Summer, kept them over until the following February, and sold them for *nine dollars and twenty cents each*. They cost him \$2. Sheep fed with oil-cake, meal or grain, eat but little salt, make richer manure, more wool, and more carcass. He gives usually one pound of oil meal when feeding with straw, and half a pound with hay. If there should be any signs of foot rot in the flock, he pares the hoof and rubs into a salve of blue vitriol and lard. In very hot weather he mixes tar with the salve, to make it adhere. Sheep are never let out of the yards in Winter, but to the yard they have free access at all times from the low, open sheds, and every part of the sheds and yard are deeply bedded with clean straw. The shepherd, instead of wading through slough worse than that described by Bunyans, walks on a soft bed of straw, so clean at any time as not to soil the white fleece of the cleanest Leicester.

SELECTION AND PREPARATION OF SEED.

From the Wisconsin Farmer.

The first requisite to proper seeding is the selection of good seed. This involves several important considerations : among which variety, perfect developement and full maturity, perfect soundness and health of the germ, and freedom from the seeds of all other plants than the one in question, are prominent.

The Question of Variety can only be determined after a full investigation into the character of the climate and nature of the soil ; and these investigations must be experimental, not merely speculative. Thus, of the different varieties of wheat and Indian corn, there is a great diversity of opinion even in the same neighborhood, when there is but little difference in the quality of the soil and none in the character of climate—a diversity more dependant, probably, upon the style of preparation and mode of cultivation than any other circumstance, and not, therefore legitimate as evidence of their relative merits. In cases of this sort we can give no better advice than that each cultivator test the matter for himself by actual and repeated experiments—experiments which shall determine the adaptedness of the several varieties to the length of the growing season, to the severity of the winter, if intended to be sown or planted in the fall, to the

drouths of summer, the propability of their escaping the ravages of insects, and the various diseases to which plants of their class are liable, &c.

Many intelligent farmers are of the opinion that an occasional change of varieties is essential to the continued health and productiveness of the crop, and are therefore accustomed to import their seed from neighboring districts, or remote sections of the country, lest the land become weary with growing the same old sort for years in succession. That such changes may result advantageously sometimes, is highly probable; indeed, we are all familiar with cases in which the benefit has been marked. But the reason is probably quite different from the unphilosophical one assigned by the farmer, who by his fancy endows the soil with all the likes and caprices of the human heart.—It can hardly be ascribed to the difference in the chemical composition or physiological characteristics of the different varieties, on the principle of the *rotation of crops*, since the composition does not materially vary in the several cases. To what, then, is the improvement due?—Evidently to the circumstance that the first was all the while faulty in its adaptation to the soil or climate of the region, or to the fact of its degeneracy by defective cultivation until the seed preserved is no longer able to produce a perfectly healthy plant.

The last circumstance—that of degeneracy, through inadequate cultivation—is probably the chief cause, and may justly be charged with four-fifths of the abortions which characterize the agriculture of this country. This leads us to speak, in the next place, of *the perfect development and full maturity of seeds*.

No sane farmer could ever expect to raise fine stock of any kind from inferior unsound, or diseased parents; the idea is preposterous, and contrary to all physiological law. The history of the human race is equally refutive of such a theory, and has made oft-repeated and fearful demonstrations that the hereditary law is as inexorable as fate. But this law quite as truly and completely controls the vegetable world as it does the animal. A healthy and vigorous plant, capable of perfect development and maturity, was never born of a diseased or otherwise imperfect germ. This principle cannot be too strongly enforced, for none other within the whole range of agricultural science is more frequently ignored in practice.

If the farmer would plant potatoes, he first selects out such as are fit to eat, or will bring the highest price in market, and the remainder, the smallest and half rotten ones, he heaps up by themselves as *seed*. The result is just what should be expected—a meagre crop of diseased tubers, hardly worth the cost of planting. And the world fold its hands, repentant in view of some national violation of moral law, and impiously talks of the dispensations of a mysterious and divine Providence! If he would grow wheat he is not content with utterly neglecting the due preparation of the soil, but is equally reckless in the selection of his seed, satisfying himself with such as he may have left over from a preceding inferior crop, or with such as he can purchase at the lowest price of some chess-growing, smut-producing, weevil-feeding neighbor. And so of all the crops ordinarily grown by the farmer.

We repeat it, *good crops can only come of good seed*. In making choice, it were better that the selection be made directly from the field, where it is always easier to determine the relative value of different portions of the crop, and that of such selected portion only the most perfect seed to be saved, even though a considerable amount of care be requisite. No labor could be more economically bestowed, and no well-founded expectations of a good harvest can be rationally entertained without such care.

In the olden time, when the seed-grain was gathered with the sickle, carried by itself to the barn, threshed by the hand so as to beat off none but the most perfect kernels, and, after careful winnowing, was thrown across the floor with

a shovel, against the wind, and then again assorted only that which was heaviest, and therefore fell the farthest, being preserved for that purpose; when, if the farmer was unfortunate and without such grain as he would be pleased to sow for a future crop, he scoured the whole country until he found some one who could supply him—in those times there was less talk about chess, smut, the rust, the weevil, the chinch bug, the midge, and Hessian fly, than in these days, with all our boasted progress in the art of agriculture. Of course we have no desire to fall back into the “good old times” when the crooked stick for a plow, the sickle, the flail, and the hand-winnower, jounced upon the thigh, were the instruments of husbandry; but we do not insist that the old carefulness be restored, and that the progress of the mechanic arts shall not deceive the farmer with the vain hope that the time has come when the physiological laws of the plant and the slow, noiseless forces of nature may be entirely set aside for patent methods and new-fangled machines. The last are good helps, and we glory in the age which has produced them; let us thank God for them but not stultify ourselves by condemning the methods of nature.

But it is not enough that the seed should have had a perfect development and full maturity; it must also have a *perfect soundness and health of the germ*, at the time of planting. In other words, it must have been perfectly preserved.—This point likewise requires emphasis and reiteration; for many of the failures are solely attributable to neglect of this important matter.

Wheat and other grains not unfrequently spoil in the granary, though perfect when harvested, in consequence of being stored in large heaps when partially green, or damp; and sometimes the germ is killed by the frost. Corn suffers from the cold, and on that account should be thoroughly dried before being put up to keep. The old-fashioned way of selecting from the field, the best and earliest ears, braiding the husks together and hanging them up in the garret to dry until spring, is about as safe as any, and such seed rarely fails to germinate and bring forth fruit in due season. If the quantity required be too great to allow of this method, then it should be thrown upon some scaffold floor where there is constant and free access of air so as to thoroughly dry before the coming of weather sufficiently cold to freeze the germ.

But heat and cold are not the only sources of injury to the germ of seeds; the machinery employed in threshing is not unfrequently destructive to them, as no one can fail to appreciate who will note the proportion of seeds which, after machine-threshing, are partially crushed or broken. It is on this account that, in another connection, we have urged the propriety of threshing out the seed by hand; whereby it will be possible not only to avoid this danger, but also to leave such grains in the head as are not fit to be sown.

In the fourth and last place, *the seed should be perfectly clean*, that is, there should be no admixture of the seeds of other plants. The importance of this consideration will be fully appreciated by such farmers as have had those noxious and almost ineradicable pests, the daisy, the Canada thistle, &c., introduced upon their lands, through foreign importations; while comparatively few have entirely escaped the annoyance of some kind of weeds.

When perfectly pure seed cannot be obtained, there are three means of cleaning, some one of which, or all together, should be employed without stint of care or labor. These are, first, screening thro' well arranged fanning-mill sieves; secondly, throwing the seed with a light shovel, or, at least in small quantities, across the barn floor, saving only such as shall fall farthest from the operator, as suggested under another head; and thirdly, washing with water. This last is most effectual, and may be easily done by putting the best cleaned seed into a vat of water, and continuing to stir and skim off until the noxious seed, which almost without exception will be lighter than the grain to be cleaned, have risen

to the surface. It is hardly necessary to add that after washing, the grain must be spread out in an exposed place and as quickly dried as possible.

Preparation of Seed.—The soaking of seeds in simple warm water, with a view to facilitate the sprouting, has, to some extent, been practiced from time immemorial—sometimes rationally, but often with injury to the seed, and of course to the future plant. If the soil be exactly in the right condition as to temperature and moisture, and the season be too far advanced, there can be no question of the advantageousness of such a process; but if the soil be warm and dry—in which condition the process is more commonly used—the quickly sprouted germ will be in danger of perishing before sufficient moisture is furnished to the surrounding earth to sustain it. Usually it is safer to omit the soaking altogether; and the only cases in which it is admissible are, first, that in which the season is late and the moisture in the soil sufficient to sustain the young and tender plant; and, secondly, where, though the rain be dry, a fall of rain is confidently expected immediately after sowing or planting. But inasmuch as rain can never be anticipated with absolute certainty, this second case will hardly constitute an exception to the general rule of inadmissibility.

In addition to the mere soaking for the purpose of hastening germination, it is also common to use a variety of chemical substances, with a view either to stimulate the growth of the young plant, or to prevent the ravages of depredating insects and animals, or of some of the diseases to which the plant in question may be liable.

Of this class of chemical agents used to stimulate the growth of the plant, common salt, nitrate of soda, lime, wood ashes, saltpetre, nitric and sulphuric acids, were formerly in common use. And while we do not question the effect, we nevertheless doubt the philosophy of this practice; for the reason that forced growths of plants which ordinarily need a whole season for their development, and are required to perfect their seed for the perpetuation of the species, are necessarily weak and unhealthy. If the soil contains the needed elements, and is properly prepared, there can be no need of using means of stimulation; and, if those conditions of the soil are not present, then such means will avail nothing and may even do harm, if, indeed, they produce any result at all—which we are disposed to question in view of the facts that the germ is fed in the first stages of growth by the store of food contained within the seed itself, and, that the amount of stimulating substance adhering to the outside of the seed is but trifling at best, and moreover in a situation not to be available for the little rootlets, which feed beyond the particles which immediately surround the seed.

As preventive of disease, particularly of smut and caries, lime, common salt, alum, copras, blue vitriol and arsenic are recommended; though the accounts are so conflicting that they can hardly be relied on with great confidence. Nor in those cases in which beneficial effects have plainly appeared to follow is the rationale determined.

Among the best preventives of which we have personal knowledge, we feel warranted in recommending the following—wishing it directly understood, however, that in nine cases out of ten we are able to trace the disease to some fault of the seed, or the method of cultivation;

1. *Lime.*—Into a vessel of tepid water—some prefer urine—throw as much seed as, when stirred, will allow the lighter grain to rise to the surface that they may be skimmed away; dip out, spread upon the floor and sprinkle thereon freshly slaked lime, in the proportion of about one bushel to twelve; stir with a shovel until a thin coating of the finely pulverized lime adheres to every seed, and leave for about ten hours; stir again and finally, spread in thin layers to dry.

Ashes, gypsum, &c., may be used in like manner.

2. *Blue Vitriol*.—One or two ounces, to the bushel, of this salt of copper, dissolved in as much water as may be necessary to thoroughly wet the grain, has been so often declared a preventive of smut by careful and reliable experimenters, that we feel confidence in its value. The wheat, we acknowledge to a considerable degree when once wet with the solution milk-warm, should be allowed to steep for about one hour, and then spread out in an airy place to dry.

To prevent the deprivations of animals, such as gophers, squirrels, mice, and various worms, it has been proposed to steep the seed in solutions of arsenic, cop-peras, &c. ; and some have claimed that the smoking of seeds would prove sufficient. There is little doubt that the arsenic, if used liberally, will disturb the digestion and consequently impair the appetite of the deprading animal ! but to make it sure will involve a considerable expense and the risk of more valuable life.

Saltpetre is also recommended ; and some are in the habit of soaking in tanner's oil. Turnip seed particularly, is often treated in this way, and it is maintained that the plant escapes the fly as a consequence.

But we have already devoted more space than we intended to a branch of the subject, upon which we are able to furnish but little information. It is really important as a field for investigation, and we trust that some simple and harmless compound may yet be manufactured which shall exactly meet the necessities of the case. We have no doubt of the practicability of the thing, and would urge the farmer to keep trying until it is done.

H.

ORGANIC MANURES—PLOWING IN GREEN CROPS.

It is probable that most of the readers of these remarks are aware of the chemical distinction made in all plants between the organic and inorganic substances of which they are composed, but as these terms may not be entirely understood by all, we have concluded to make a slight digression in order to explain this simple matter, which has unavoidably been often referred to in previous articles. The organic division consists of an organic structure produced by nature which cannot be artificially formed. On examining any plant, it will be seen that it contains a certain superstructure, composed of pores, veins, &c., which has been formed by life and growth, and as it is impossible for us to create life, it is equally so in regard to its remnant, which is organic matter. If a plant, tree or animal is burnt, a combustion takes place, in which the largest part of its substance is carried off in the air, leaving a small portion (ashes) which will not burn. Thus the organic matter is separated by fire, which is one of the means used to effect this purpose, as by its influence in causing the combustion of the organic, it separates it from the ashes or inorganic parts, which remain unaffected by fire.

The organic or vegetable matters have been entirely overlooked and disregarded by most scientific researchers, while the inorganic portions or ashes have in porportion been entirely overrated, so much so that but for the experience of practical men, who have seen the necessity of applying bulky manures, consisting of organic matters, our farmers would have been sadly led away by this homœopathic plan for enriching their farms.

We will venture to say that the mistake made by scientific and well-informed men in this particular, has done more to prejudice the minds of many against their instructions, than any other cause. This scientific hobby appears to have

been so much ridden of late, that it is now past its zenith, and its followers are glad to withdraw with as little publicity as possible, although unwilling still to bend the knee to those who, from their mistake, have learned to pursue a clearer course. We think all scientific, as well as practical men, must agree that the organic constituents of plants are at least as necessary to their growth as the inorganic, which matter settled, it must be easily granted that no soil can be kept in a fertile state without the application of vegetable manures, unless it is assumed that all requisite organic substances can be obtained from the air. This theory has been advanced, but no reason can be brought for its truth in all cases, though we are aware that certain plants are enabled to gain by far the most of their constituents from that source; hence the great advantage of green fallowing, as it is called, in reinstating the soil with these substances so necessary to vegetation. Fallowing is also resorted to for this purpose, but with far less beneficial results, as by this system the soil only regains those trifling constituents from the atmosphere which it naturally attracts; while if green crops are sown, their hungry mouths are always distended, by which to obtain the nourishment which they will eventually yield up for the enrichment of the soil in these organic elements.

A great many that would otherwise try green fallowing for the improvement of their lands, are deterred from the fact that it has been of late much recommended by scientific farmers, and is consequently thought by many to be a new theory, improved either by science or practice. This mistake has heretofore presented a barrier which has only now in part been removed by the statements of the European agriculturists, whose instructions for the last few years have operated so beneficially upon the public mind.

The practice of ploughing under green crops is indeed a very ancient one, and has attracted the early attention of civilized man more or less from the time of Xenophon, who wrote as early as four hundred years before the commencement of our era. He recommended green plants to be ploughed into the soil, and that plants should be especially cultivated for that purpose; these, he says, enrich the earth as much as dung. Most early writers on agriculture recommend the lupin very highly for this purpose, and it is extensively cultivated at the present day in the south of France, in Spain, Italy and in Tuscany, as a fallow crop.

In all parts of America the value of ploughing under a stiff sward for Indian corn is well understood and almost universally practiced; but with the exception of this, green fallowing is rarely undertaken, and when it is, is often attended with so little judgement and discretion, that it frequently proves a failure.

Green crops not only enrich the soil by their own decomposition and fermentation, but they cause the decomposition of any woody fibre which may be buried near the surface, and which is useless in an undecayed state, so far as immediate effect is concerned. They should be ploughed under if possible just before they come in flower, or as soon as practical after that stage, as at that time they contain the largest amount of soluble matter. If left to stand longer, although they may gain in nutrition, they proportionally exhaust the fertility of the soil, and are less useful as a manurial agent on account of their less speedy decomposition, and the loss which naturally accrues from this cause.

Their effect is the most surprising on poor, light and sandy soils, such as are frequently utterly devoid of vegetable matters.

Lime is a valuable agent in causing the speedy decomposition of these crops. It should be applied broad-cast just before they are ploughed under, or immediately after, and harrowed in. On clays it is particularly beneficial, as it joins with the decomposing plants and exerts a strong mechanical influence.

The following qualities are requisite in all plants which are to be used for this purpose. 1. They should flourish on poor soils. 2. Should require little labor of cultivation. 3. Have cheap seed. 4. Be of quiet and sure growth. 5. Stand all weathers and vermin. 6. Run their roots deep. 7. Bring up such inorganic matters from the subsoil as the succeeding crops require. 8. Should smother weeds, and 9. They should produce a large quantity of herbage that will readily decay in the soil.

It will be said that a plant containing all these qualities can hardly be found, and we grant it; but should advise any one who wishes to carry out this important system of manuring successfully, to obtain crops which will possess as many of these desirable qualities as possible, and then, "our word for it," if the matter is systematically carried out, success will be almost inevitable. The crops usually used for this purpose may be enumerated as follows: Grass of all kinds, clover, lucern, buckwheat, rye, maize, oats, teazel, rape and turnip tops.—G. T. H.—*Country Gentleman*.

TRAINING OXEN.

A word on training oxen. I have found that by far the best time to train steers is when they are calves, say the first winter. Oxen that are trained when quite young, are much more pliable and obedient, and this adds much to their value. Steers that run until they are three or four years old, are dangerous animals to encounter. They are always running away with the cart or sled whenever there is a chance for them, and often serious injury is the result. I would not recommend working steers hard, while young, as it prevents their growth; there is a difference between working them and merely training them. I have observed that very little attention is paid by our farmers to train their steers to back, but as they become able to draw a considerable load forward, they are often unmercifully beaten on the head and face, because they will not back a cart or sled with as large a load as they can draw forward, forgetting that much pain has been taken to teach them to draw forward, but none to teach them to push backward.—To remedy the occasion of this thumping, as soon as I have taught my steers to be handy, as it is called, and to draw forward, I place them on a cart where the land is a little descending; in this situation they will soon learn to back it. Then I place them on a level land and exercise them. Then I teach them to back a cart up land that is a little rising, the cart having no load as yet. When I have taught them to stand up in the tongue, as they ought, and back an empty cart, I next either put a small load in the cart, or take them where the land rises faster, which answers the same purpose; thus in a few days they can be taught to back well, and know how to do it, which, by a little use afterward, they never forget. This may appear of little consequence to some, but when it is remembered how frequently we want to back a load, when we are at work with our cattle, and how convenient it is to have our cattle back well, why should we not teach them for the time when we want them, thus to lay out their strength? Besides, it often saves blows and vexations, which is considerable when one is in a hurry. I never consider a pair of oxen well broke until they will back well with a reasonable load, and I would give a very considerate sum more for a yoke thus trained.

C. A. H.

THE PACES OF SADDLE HORSES.

The horse has four distinct natural paces. The *Walk*, *Trot*, *Canter*, and

Gallop; any other is artificial, or a defect arising from a bad or imperfect education. Difficult as this may be to describe upon paper, I will endeavor to make myself understood. The *walk* is known by the feet beating time upon the road distinctly at regular intervals, thus, 1, 2, 3, 4, i. e., the off-fore foot near hind, one after the other; this is professionally called equal action, constituting soundness, and the deviation from this regular motion is called unequal action, denoting unsoundness from some cause. It should be the especial care of the breaker or teacher of the young horse to see that he walks well and smart. He should then be taught to trot, slow at first, and as he progresses to perfection, improve the speed; the latter is a work of time, and not the duty of the breaker.—The *Trot* differs from the walk, inasmuch as the beat upon the road is more like 1, 2, 1, 2, as if the horse had only two feet instead of four; this is produced by the off fore, and near hind feet moving together, or nearly so, and the near fore and off hind doing the same, and this professionally, like the walk, constitutes equal action, or soundness.

When horses are going very quick, they appear to move the fore and hind legs on the same side together, but this is only in appearance, not in reality; when pushed to the utmost trotting pace, some gallop with one hind leg, and very few are able to maintain the pure trot.

The *Canter* should also be taught, not only for the purpose of carrying ladies, when wanted, but it is a relief on long journeys, both to the horse and rider, to change the pace.

The *Gallop*. In this pace, generally speaking, the horse should lead with his off fore foot, but a lady's horse especially should always do so. Full blooded horses, when racing, are very clever hunters, can change and go well, and it is an advantage to do so, but it is the exception and not the rule.

The *Gallop* is used for racing and hunting; the word *running* is often used instead of galloping. When horses are running a race, they are in the act of galloping, not running; a horse running is not galloping, nor galloping is not running, excepting when the word *race* is also applied, a running horse is a trotting horse, not a galloping race horse—I will endeavor to shew.

The *Pace* is artificial, and is learned by habitually carrying a good horse in a fast walk. None but perfect roadsters can do this; it is performed with the fore legs walking, and the hind ones trotting, the horse can do this well, about six miles an hour, is valuable as a hack, and is called a *pacing hackney*.

Running.—The running trot is also artificial, mis-called a *pacer*. The run or trotting trot is exactly the same as the walk, but quicker, the feet beat time distinctly, at regular intervals, the same as the walk, 1, 2, 3, 4, no matter how quick; this is running, and when well done is a very easy pace for both horse and rider.

There is a nondescript way of going which some animals are allowed to assume, consisting of the fore and hind limbs on one side moving together the same as the fore and hind legs on each side were tied together, as is sometime done with hill sheep, when they are mischievous, causing a motion as unnatural as it is ugly; it is an imperfection, arising from neglect, ignorance, or ill-treatment all or any of them, easily remedied, and never should be allowed.

The Amble.—“With an ambling pad pony to pace o'er the lawn.” The *Canter* is a modification of the gallop, but shorter and slower, and the *Amble* is a modification of the *Canter*, still shorter and still slower; as the former is used for ladies, so the latter is required for old age, and young children, the one requiring ease and the other experience.

I have only to observe that every horseman, who studies the comfort of himself and his horse, will not ride with long stirrups, and his toes sticking out; and with his body as stiff as if he had swallowed a poker. He will sit as easy as if

he was in an arm-chair, with his reins in one hand and the other in any position the most easy and agreeable to himself—OLD WHITE, in N. Y. *Spirit of the Times*.

Ladies Department.

A hot shovel held over varnished furniture will take out the white spots. If you are buying a carpet for durability, choose small figures. Scotch snuff put on the holes where crickets come out will destroy them. Half a cranbury bound on a corn will soon kill it.

The longest time of eggs being preserved for cooking purposes, was effected by dipping them into melted fat, and storing them in a cold cellar when the coating of fat on each was hard. If we tried lime, we should bury the eggs in slacked lime. A layer of eggs and of the powder alternately, using a cask, and placing it in a cold dry place.

Some afternoon, when you think everything will be killed with frost at night, pull up your vines that are loaded with green tomatoes, and hang them in the cellar; they will ripen off finely. I took some from my cellar last Christmas day, that were very nice.

BAKED SWEET APPLES. If they are of a good kind, they are very nice baked in an earthen dish, which is better than tin. If you cook them in a stove, there should be a little water in the pan, else the juice will be burnt and be lost. They are best done in a brick oven. Put them into a jar with no water or sugar, but cover them close, and bake five or six hours. A rich syrup will be found in the bottom of the jar, and the appearance and flavor of the apples will be very fine.

CABBAGE.—Remove the waste leaves, and divide the stump end as far as the centre of the cabbage. It is good boiled with salt meat; but if cooked by itself, salt should be added to the water. Cabbage should be put into boiling water, be well skimmed, and boil an hour or hour and a half, according to the size.

CIDER-MAKING WITHOUT PRESSING.—It is stated that a man at Parkersburg, Va., is successful in making cider by the following process: He grinds the apples, and fills casks with one end open the bottom having some sticks and straw, like leach-tub for ashes. On the pomace he pours as much water as it would yield juice by pressure, and that displaces the juice, and sends it to the bottom from which, after two days, it is drawn by opening the faucet and as the cider is heavier than water, it runs off at first pure. The pomace, too, having an affinity for water, absorbs that, which displaces the natural juice, and leaves the pomace quite tasteless. This process may be useful to persons who have a few apples and no cider-press.

THE FARMERS' JOURNAL.
MONTREAL RETAIL MARKET.

December 1859.

	BONSECOURS.			
	s.	d.	a.	s. d.
FLOUR.				
Country Flour, per quintal	14	0	a	15 0
Outmeal, per quintal	10	6	a	11 0
Indian Meal, per quintal	0	0	a	0 0
GRAIN.				
Wheat, per minot	0	0	a	0 0
Oats, per minot	1	10	a	2 0
Barley, per minot	3	0	a	3 1
Pease, per minot	3	3	a	3 6
Buckwheat, per minot	2	9	a	3 0
Indian Corn, yellow	3	0	a	3 6
Rye, per minot	0	0	a	0 0
Flax Seed, per minot	5	6	a	6 0
Timothy, per minot	9	6	a	10 0
FOWLS AND GAME.				
Turkeys, (old) per couple	5	0	a	7 6
Turkeys, (young) per couple	0	0	a	0 0
Geese, (young) per couple	4	0	a	6 0
Ducks, per couple	2	6	a	4 0
Ducks, (wild) per couple	3	0	a	3 6
Fowls, per couple	2	6	a	3 0
Chickens, per couple	0	0	a	0 0
Pigeons, (tame) per couple	1	3	a	2 0
Pigeons, (wild) per dozen	2	6	a	3 0
Partridges, per couple	0	0	a	0 0
Woodcock, per brace	0	0	a	0 0
Hares, per couple	0	0	a	0 0
MEATS.				
Beef, per lb	0	4	a	0 9
Pork, per lb	0	5	a	0 7
Mutton, per quarter	5	0	a	7 0
Lamb, per quarter	2	4	a	0 0
Veal, per quarter	5	0	a	12 3
Beef, per 100 lbs	35	0	a	40 0
Pork, (fresh) per 100 lbs	30	0	a	40 0
DAIRY PRODUCE.				
Butter, (fresh) per lb	1	0	a	1 3
Butter, (salt) per lb	0	9	a	0 10
Cheese, per lb, skim milk	0	0	a	0 0
Cheese, per lb, sweet do	0	0	a	0 0
VEGETABLES.				
Beans, (American,) per minot	0	0	a	0 0
Beans, (Canadian) per minot	7	6	a	10 0
Potatoes, (new) per bag	3	9	a	4 0
Turnips, per bag	0	0	a	0 0
Onions, per bushel	0	0	a	0 0
SUGAR AND HONEY.				
Sugar, Maple, per lb, (new)	0	4½	a	0 5
Maple Syrup per gallon	0	0	a	0 0
MISCELLANEOUS.				
Lard, per lb	0	8	a	0 9
Eggs, per dozen	0	11	a	1 0
Halibut, per lb	0	0	a	0 0
Haddock, per lb	0	3	a	0 0
Apples, per barrel	10	0	a	20 0
Oranges, per box	20	0	a	22 6
Hides, per 100 lbs	0	0	a	0 0
Tallow, per lb	0	4½	a	0 5
BREAD.				
Brown Loaf	0	11	a	0 0
White Loaf	0	9	a	0 0