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LOWER CANADA

AGRICULTURIST

MANUFACTURING, COMMERCIAL, AND COLONIZATION INTELLIGENCER;

OFFICIAL SERIES OF THE AGRICULTURAL BOARD AND SOCIETIES

PUBLISHED UNDER THE DIRECTION OF

M. J. PERRAULT,

Member of the Provincial Parliament for the County of Richelieu.
Pupil of the Royal Agricultural College of Cirencester, Gloucestershire, England
and of the Imperial Agricultural School of Grignon, Seine and Oise, France
Member of the Imperial Zoological Society of Paris, &c.

AUGUST 1864.

SPARGERE COLLECTA.

OFFICE—TOUPIN'S BUILDINGS, PLACE D'ARMES,
MONTREAL.

AGRICULTURAL REVIEW.

AUGUST.

Official Dep'nt.

BOARD OF AGRICULTURE FOR LOWER CANADA.

Montreal, 12th July, 1864.

Present:

HON'BLE. L. V. Sicotte, President; Major T. E. Campbell, Vice-President; Hon'ble. P. U. Archambault; O. E. Casgrain, Esq.; P. O. Chauveau; J. C. Taché, Esq.; Revd. F. Pilote; Revd. J. Langevin.

The President takes the chair. The official report of the Minister of Agriculture, indicating the result of the election of the Members of the Board of Agriculture for Lower Canada, for 1864, is read and ordered to be kept in the registers. The Board then proceeds to the election of a President and Vice-President.

On motion of Mr. Casgrain, seconded by Mr. Taché, Major Campbell is elected President; and on motion of the Honble. L. V. Sicotte, seconded by Mr. Taché, Mr Casgrain is elected Vice-President.

On motion of the Rev. F. Pilote, the Board unanimously vote thanks to the Hon'ble. L. V. Sicotte for his good administration of the affairs of this Board during his presidency.

The Secretary having submitted to the Board the requests of several law districts in favor of certain candidates for the bursaries offered by the Board, the Revd. F. Pilote presents three others, and the Board having examined these different requests, made the choice of the following candidates, namely:

1st. Edward Blainville (Rimouski); 2d. Clovis Roy, L'Osier, (Kamouraska); 3rd Louis Auclaire, (St. Hyacinthe); 4th. Michel Gauvin, (Quebec); 5th. Pamphile Tramblay, (Chicoutimi); 6th. Augustin Fortin, (Montmagny).

The President being obliged to leave, is succeeded by the Vice-President.

Resolved, That Messrs. Sicotte, Archambault and the Rev. J. Langevin, form a committee to fill up the list, and make a final choice of candidates to be benefitted by the bursaries offered by the Board, with instruction to meet on Wednesday the 24th August.

Resolved, That the Secretary be instructed to inquire from the Director of the Agricultural College of St. Ann, to know the exact day of the opening of the Agricultural classes, and ascertain whether the College will be able to give accommodation to all the bursars who may be chosen by the Board. Also to ascertain from the Director of the College of Ste. Thérèse, when and how many bursars, the College can receive.

Lecture of a petition from the Counties of Compton and Rimouski, praying that they be allowed to form a second Society in those Counties.

Resolved, That the Secretary be directed to correspond with the existing Societies, to inform them of the contents of the above petitions.

Petition from Agricultural Society No. 2 of Verchères, praying that permission be given to employ the amount subscribed by its members to purchase clover seed. (Agreed.)

Petition from Agricultural Society No. 2 of Verchères praying permission to have a competition for the best cultivated farms instead of an exhibition of stock and agricultural products. (Agreed.)

Petition from Agricultural Society No. 1 of Charlevoix praying for permission to use part of its funds to purchase plaster and seeds. (Agreed.)

Petition from Agricultural Society of Chambly, praying for permission to use part of its funds for the purchase of seeds. (Agreed.)

Request from Agricultural Society No. 2 of Verchères, exposing the irregularity in the sending of the *Revue Agricole*, their subscription to the *Gazette des Campagnes*, and praying for exemption from the obligation of paying $20, as imposed by the Board, for 20 copies of *La Revue Agricole*.

Petition from Agricultural Society of L'Islet, praying for permission to employ half of the sum withheld by the Board for subscriptions to the *Revue*, to be applied in subscribing to *La Gazette des Campagnes*.

Petition from Agricultural Society of Bagot, praying for the cessation of the obligation to subscribe to the *Revue*, and for the permission to use the same funds to subscribe to the *Gazette de Campagnes*.

Proposed, That the Secretary of this Board be instructed in reply to the Agricultural Societies of Verchères No. 2, L'Islet and Bagot, that in the present circumstances there is no reason to change existing arrangements.

This motion was carried on the following division:

Yeas. Messrs. Archambault, Casgrain, Chauveau, Sicotte & Taché. (5.)

Nays. Revd. F. Pilote and Rev. J. Langevin. (2.)

Petition from the Proprietor and Editor of "La Gazette des Campagnes" praying for pecuniary assistance for the encouragement of the publication of the said Journal.

Resolved, That the sum of $300 be voted to the Proprietor and Editor of "La Gazette des Campagnes" as an encouragement for its publication.

Petition from the Agricultural School of Rimouski, praying for pecuniary help in favor of the said school.

This petition is referred to Mr. Taché, with instructions to report thereon.

Resolved, That the Secretary be authorized to order the making of one gold and twelve silver medals, to be distributed to the proper parties.

The Secretary's report, indicating that the organization of the Agricultural Societies of Lower Canada is completed, is read and accepted by the Board.

The Board adjourns.

(By Order.)

GEORGES LECLERE, Sec. B.A.L.C.

COUNTY OF MISSISQUOI, AGRICULTURAL SOCIETY.

THE annual Exhibition and Fair of the county of Missisquoi shall be held at the village of Bedford, on Thursday, the 15th day of September, 1864, when will be awarded to competitors premiums; 1st, on farms and crops in Stanbrige; 2nd farms and crops in Durham: 3rd, on farms and crops in the Parish of St. Armands, east and west; 4th, on farms and crops in Farnham, Clarenceville, and St. Thomas; 5th, on stock: 6th, on manufactures.

Rules and Regulations.

The Secretary is hereby directed to procure 400 copies of the Rules and Regulations, and cause them to be distributed among the members.

1. Farms and crops will be examined by the Judges on the second Monday in July and following days.

2. Persons intending to compete on Farms and Crops must enter them to the Secretary by the first Monday in July next.

3. Persons intending to compete on Animals or Articles must enter them to the Secretary at or before Ten o'clock a. m., on the day of Exhibition.

4. No person shall be allowed to compete for a premium unless he shall first become a member of the Society, and pay to the Treasurer a subscription of not less than one dollar, and the sum of twenty-five cents for each Animal or Article entered for competition (Farms excepted). It is nevertheless provided that any person subscribing and paying three dollars annually shall be entitled to compete on all Articles.

5. No person shall be allowed more than one premium on the same class of Animals or Articles.

6. The Judges are empowered to withhold any premium if they consider the Animal or Article unworthy.

7. All subscriptions must be paid before the first day of July next.

8. No person shall be allowed to receive a premium on any Animal unless he shall

have been a *bona fide* owner thereof two months previous to the Exhibition, except Stallions and Bulls which may be allowed to compete for premiums if they have been kept for use within the limits of the Society four months previous to the Exhibition, or on any article unless he shall have been the producer or manufacturer thereof, and if objected to shall certify to the same on oath. No person, having taken the 1st Prize on farms last year, shall be allowed to receive a premium on Farms for three years.

9. All Horses and Colts to be moved in presence of the Judges. All Oxen and Steers to be exhibited in yoke, and all Animals to be secured by chain or rope.

10. All manufactured articles to be ticketed and numbered by 9 o'clock on the day of Exhibition.

11. All Animals to be ticketed, numbered, and placed in their allotted stations by 10 o'clock on the day of Exhibition.

12. Matched Horses to be shown in harness, and not eligible to be shown as Single Horses.

13 Single Horses to be shown in harness, and not eligible to be shown as Matched Horses.

14. For the purpose of encouraging Members to introduce thoroughbred animals, the Society will double the first prize awarded to any thorough-bred Stallion or Bull, that has been imported into the County since the last Exhibition.

15. The Gates will be closed at 11 o'clock, after which time no animal or article will be admitted for competition. They will be examined by the Judges at 1 o'clock, p.m., on the day of Exhibition.

16. Each person admitted to the Exhibition shall pay the sum of twenty-five cents (except ladies who will be admitted free), and children under 12 years of age half-price.

17. Each member shall be allowed one free ticket and each competitor exhibiting stock an additional one.

18. The Secretary of the Society is authorized and required to prosecute to collection all subscriptions to the funds of the Society as shall remain unpaid on the first day of July next.

H. O. MEIGS, Sec. Treas.

AGRICULTURAL SOCIETY NO. 2, COUNTY OF GASPE.

A SHOW of standing and green crops will take place on the second week of August next, open to members of the Society subscribing ten dollars or upwards. Also, a show of horses, cattle, sheep, vegetables, and produce of the dairy will be held at Gaspé Basin on the second Tuesday of October next.

JOSEPH EDEN, *Sec.-Treas.*

Gaspé Basin, 6th July, 1864.

COUNTY OF ARGENTEUIL AGRICULTURAL SOCIETY.

THE following premiums were awarded at the spring exhibition of steed horses at Lachute, 12th May last: viz., Robert Addison, St. Eustache, 1st; Edward Jones, Jun., Island, 2nd; Israel Sauvé, St. Andrews, 3rd; D. Millar, 4th. There were 12 entries. The premium of $60 offered with a view to introduce a superior horse—reserved.

The above prize horses serve in county during ensuing season.

E. HOWARD, *Sec.-Treas.*

St. Andrew's, 1st June, 1864.

EDITORIAL DEPARTMENT.

WHAT A GOOD FARMER WILL NOT DO.

A GOOD farmer will never keep more than ten dogs to five sheep.

He will clean out his stables at least once a month.

He will keep five or six sticks of wood cut up ahead, more that what is necessary for immediate use.

He will not go to town and get on a spree oftener than three times a week, at least in harvest time.

He will be very careful not to put up a rail on a line fence unless his neighbor is there to help him.

He will not injure his health by lying in bed after eight o'clock, A. M., but will have his cows milked and breakfast over and his men at work as early as ten o'clock.

AGRICULTURAL EDUCATION.

WHEN the well-to-do and well-meaning farmer looks around upon his healthful and happy family with a view of settling the prospects and advancing the worldly condition of those who are soon to become active participants in the battle of life, it is not unfre-

quently the case that he reasons something after this manner: Joseph, the elder, has a business turn of mind, and will make a successful merchant: for him I will secure a place in some prominent mercantile establishment, where an opportunity will be afforded for acquiring all the training essential to this pursuit. Edward exhibits a taste for learning, and shall have the benefit of college education. James is inventive; he shall be placed at a scientific school. David, the best beloved, whose strong arm and stout heart were intended by nature for a tiller of the soil, he shall remain at home and work upon the farm, as did his father and grandfather before him. Thus their various courses are debated and marked out, and while the others are sent to preparatory training, the prospective farmer is obliged to abandon all thoughts of mind cultivation, for the necessary culture of that concerning which he knows little—the soil. Now as regards this authoritative jurisdiction on the part of the *pater familias* we have no fault to find except in one case—that of David. The idea of an agricultural education, such as is obtained from a study of those sciences which pertain to agriculture—Chemistry, Botany, Geology, etc.,—is one that has been long ignored by a large class of what is termed "practical farmers. It is thought by many that the farmer's education should be more of a physical than mental nature; a process that shall give muscular power to the arm for wielding the implements of labor, rather than enervate it, as some assert, by the useless study of theory which actually disqualifies its supporter for the laboriousness of farm life. Such persons regard all book-knowledge, when applied to anything practical, as utterly utopian, and theorists, who talk of improvements, as idealist, and visionariess not worth listening to.

For our own part we believe the successful farmer to be a man of education—that is, educated in respect to the calling which he follows; other than this, a more thorough intellectual culture may be regarded a luxury rather than requirement. We believe it necessary for him to understand the nature of the soil he cultivates, so as to be able to analyze it and become thoroughly acquainted with its various properties. It is not enough to know that this is sandy, that clayey, and the other alluvial; he should enter into a chemical combination, thereby becoming able to judge correctly of the power of substances on which he is obliged to depend. He should also be a botanist, for a knowledge of the vegetable kingdom is his peculiar prerogative Indeed, the education of the farmer being so broad and comprehensive, it is not to be wondered at that our legislators have for several years past been engaged in debating the most efficient plan for its general diffusion.

The recent action of the State Legislature in regard to the establishment of an agricultural college in Massachusetts, is a step forward in the right direction, as indicative of the good time coming, for the thorough educational training of our farmers. Already have the people of New York begun to appreciate the importance of such an institution, and other States are awaking to a realization of it also. Let the good work ga on, ond we shall have in future, a class of farmers earnest in their efforts to "improve the soil and the mind," for without a proper attention to one, there can be no successful cultivation of the other. —P. IN *Mass. Plowman.*

NOBILITY OF AGRICULTURAL PURSUITS.

THERE is very little absolute evil in the world; in other words, there is very little evil that is wholly unmixed with good; and although the war pending in this country may be looked upon as a great national calamity, yet the nation will be ennobled and elevated by the various influences set in operation through its agency. One of the chief of these is the fresh impetus given to agricultural pursuits. There has been a growing dislike, on the part of our farmers' sons and daughters, to the quiet peaceful pursuits which have surrounded their early years with all the comforts of life, if not its luxuries. Sharing in the fast spirit of the age, they have been unwilling to wait the slow but sure gains which have brought a competency to their ancestors from tilling the soil, and, indulging in dreams of suddenly acquiring fortunes, and ambitious for luxury and display, have hastened to engage in trade, or swell the crowded ranks of the professions in our large towns and cities.

Much has been done by the noble efforts of our rural press to stem this disastrous tide, but yet a still more potent power has been needed, which the war has supplied, by the uncertainty and instability with which it has invested other avocations, and also by

rendering agricultural pursuits vastly more remunerative than before.

Estimates carefully made from close observation go to show that ninety per cent. of those who engage in mercantile business die insolvent, while more than that proportion of farmers die, either free from debt or with property more than sufficient to liquidate them. The majority indeed do not acquire vast fortunes, but seem to occupy the enviable position coveted by Solomon when he said, "Give me neither poverty nor riches," and in that he displayed his great wisdom, as either extreme leaves its possessor a sure prey to disquietude.

If more of our young people were educated with a view to making thinking, practical, and scientific farmers, and fewer to the professions, it would tend greatly to enhance their usefulness and happiness, and the prosperity of our beloved country. Success in different callings depends on so many contingencies that a failure to attain a comfortable living is a thing of common occurrence, while it is rare for a farmer of sobriety and industry to fail of a competency, or at least of a good living.

But weightier inducements than the greater certainty of a good living enjoyed by a farmer exist in the happy state of independence realized by him, not relying on the patronage or good will of his fellows, for prosperity in business he has no occasion for disguise, and can afford to be frank and outspoken in his sentiments and feelings, thus developing a greater manliness and nobility of character. The intelligent tiller of the soil is brought into contact with the phenomena of the three great kingdoms with which we all have to do. He has a fine opportunity to observe and study the secret processes of nature, whereby she produces by subtile forces, in the most perfect obedience to fixed laws, all the results going on to perfection, whether apple-making or corn-producing.

It is true, a farmer may be so dull as to see no beauty in these things, any more than the blind man does in a gallery of fine paintings, and is therefore no more charmed and delighted by what he sees and does, than a deaf man would be in a concert room of the most exquisite performers. But these are the exceptions not the rule, and in the majority of cases an intimacy with nature exerts its legitimate influence in elevating and beautifying the character. The theatre of the farmer's labor is remote from scenes of temptation that might lure him from the paths of virtue. He pursues his daily toil amid all the refining influences of his home, with his wife and little ones near him, perhaps sharing his labors, at least lightening them by their cheering smiles and words of love and sympathy.—His daily walk is removed from the haunts of profanity, licentiousness and bacchanalian evil, where the soul is contaminated by familiarity with the gross and dark side of human nature amid the calm repose, the benign peace and purity of nature, he is drawn into harmony and communion with the great and beneficent Father of all.

Agricultural pursuits also tend to cultivate a feeling of dependence upon an overruling Providence. When the farmer has prepared his soil and sown his seeds, he can do little more. He must wait for a higher power to waken into life the seed-germs. It is not human skill that makes the radicle descend and the plume rise; that causes the sap to flow, the roots to push out their fibres into the soil in search of food; the buds to expand, the branches to extend, and flowers and fruit follow each other in succession. Human power does not bring down the needful rains and dews, neither does it give or temper the light and heat of the sun.

When the stated order of things is interrupted—when the showers and dews are withholden, and the thirsty earth is parched with drouth, or when the rain descends in torrents, or the sun hides his face, and blighting winds and untimely frosts descend—how utterly helpless is man.—And when all circumstances combine to favor the farmer's operations, how can he help seeing the hand of Providence—a hand coworking with and blessing him continually.—*Rural American.*

FARMING ON A LARGE OR SMALL SCALE.

IN my opinion, it does not make any difference whether persons farm on a large or small scale, so long as they be industrious, intelligent, skilful, and economical. No matter whether your farm is large or small, you must have an adequate amount of capital for every acre of land in your possession. The capital that a person should have on entering a farm, is not an easy matter to fix. It has been estimated, in Europe, by Sinclair, that a farmer should have five or six pounds for every acre, and that no man

could securely undertake farming, having a less sum that five pounds for every acre.

By the term capital is meant the savings of labor, whether it be in the form of money, farming implements, or any other articles or objects which constitute stock; and unless the farmer possess a liberal share of this preliminary requisite, he cannot possibly till the soil on the best principles, or place himself above the necessity of selling his produce very often at a great disadvantage. We all know that the prices of grain fluctuate, and the farmer should if possible possess an amount of moneyed capital which will enable him to prepare his produce with the proper degree of deliberation, and to keep it stored in his farm-yard till it suits his convenience and interest to carry it to market.

Whatever be the capital employed, the farmer is to expect from it a fair return, provided he expend it with prudence, and adypt the best mode of culture. It is possible that these *best* methods of operation may not in every instance be the most agreeable or the most popular; but in this as in all other cases, the farmer must adopt that which is strictly the most economical. In one respect he is the administrator of a fund for the public interest, and therefore the more produce he can raise at the smallest cost to himself the more will he be rendering a service to the whole community. It has been plausibly represented sometimes that all the operations on a farm should be performed by human labor; as, for instance, delving with the spade instead of plowing, threshing with the flail instead of employing inanimate mechanism, with the ostensible object of supporting a numerous class of small farmers and peasantry in a state of greater comfort than they could otherwise enjoy. I will here take leave to say, and wish to impress it as a most important truth in economical science, that the plan which promises to produce the greatest quantity of produce at the lowest cost to the community, is invariably the best; and that this plan can be followed only by employing horse-power, as well as inanimate mechanism, instead of the feeble and expensive labor of the human hands. The substitution of human for brute force cannot be tolerated in an advanced state of society, and the argument for its use is altogether fallacious. The whole population of a country are as much interested in the soil as the mere laborers upon it, and hence the necessity for producing the greatest quantity of food at the cheapest cost to the community at large.

With these preliminary observations on what ought to be the general line of policy of the farmer, I will proceed to a few practical advices on the selection of farms.

Attention should, in the first place, be paid to the nature of the climate, and in doing so, the observations given heretofore on this branch of the subject may be kept in view.

The principal object of examination after this, ought to be the quality of the soil. By ascertaining the character of the soil, and, if necessary, remedying its defects, the profits of a farmer may be greatly increased. He must regulate his measures in proportion to the amount of capital he possesses, the rent he has to pay, and the improvements he intends to make. Such is the importance of the soil, and the necessity of adapting his system to its peculiar qualities, that no general rules can be laid down for cultivation, unless the exact nature and situation of the soil and subsoil be known. From want of attention to the nature of soils, labor and capital have been spent in vain attempts to introduce plants not at all suitable to them; and manure has been as improperly applied. This ignorance has also prevented many from improving their land, though the expense was trifling and the means within their reach.

In making a choice of land for farming, let it be a rule to prefer a gently sloping, or level surface, to a hilly and irregular one; the labor of working land of irregular surface is very great, independent of other disadvantages; and if it is taken it should be at a proportionably low rental. If possible, select land that lies with an easy slope to the south; though if well sheltered, the inclination in other directions is of little consequence. If the land require drainage, or be exposed to heavy rains, observe if there be sufficient inclination to carry off the water. If there be no lower point to which the water may conveniently run, then avoid the risk of taking such land, for this defect in its character would prove a frequent source of trouble and loss; but in the case of dry calcareous soils, and in moderately rainy districts, the inclination of the surface and means of drainage are immaterial.

The selection of a farm will call forth all the ability and experience of the farmer. He must attend to all the advantages and disadvantages regarding the farm, so that

he may fully make up his mind as to the amount of rent he considers it worth, taking care neither to be too cautious nor too rash.

There is one common but very erroneous rule which guides the choice of a farm, namely the success of the outgoing tenant. If he has made money in it, or is leaving it for a larger one, numbers will flock after it, and offer a high rent without even looking at what they are bidding for. But if the tenant is unsuccessful, all his misfortunes are attributed to the badness of the land, and few will be found willing to take the farm even at a reduced rent. These notions are very absurd, for the management of various farmers is so essentially different, that success or misfortune may be said in many cases to depend very little on the rent. A rich farmer, with a liberal spirit to spend his capital in a judicious manner in fertilizing and improving the ground, will make money; while another, with less capital, although having the same talents, is unable to do justice to the land, and he may lose both his time and his capital.

In conclusion, I would advise farmers, in reference to selecting and also managing land, not heedlessly to carry prepossessions of what is right in one country to another country in which he may chance to settle. Agriculturists have commonly the reputation of being bigotedly devoted to their early opinions and usages; and this has an unfortunate effect in retarding their success in almost all cases in which they change their locality. Every country, and indeed almost every district of a country, has its own peculiar fashions in agriculture as in everything else, and the meaning of these should always be carefully studied before deciding on their error or inutility.—*Cor. Working Farmer.*

HOW CAN FARMING BE MADE MORE ATTRACTIVE?

THE following are some of the scraps and shreds, dawn at various times from the discussions of the Wapping (Mass.) Farmers' Club:

1. By less hard work, farmers often undertake more than than they can do well, and consequently work too early and too late.

2. By more system. The farmers should have a time to begin and stop labor. They should put more mind and machinery into their work. They should theorize as well as practice, and let both go together. Farming is healthy, moral and respectable; in the long run profitable. The farmers should keep good stock and be out of debt. The farm is the best place to begin and end life, and hence so many in the cities and professional life covet a rural home.

3. By taking care of health. Farmers have a healthy variety of exercise, but too often neglect cleanliness, omit bathing, eat irregularly and hurriedly, sleep in ill-ventilated apartments, and expose themselves to colds. Nine-tenths of the human diseases from cold or intemperance. Frequent bathing is profitable, so are fresh air, deliberation at the dinner table and rest after a meal.

4. By adorning the home. Nothing is lost by a pleasant home. Books, papers, music and reading should all be brought to bear upon the indoor family entertainment; and neatness, order, comfort, shrubbery, flowers and fruit should harmonize all without. Home should be a sanctuary so happy and holy that children will love it, women delight in it, manhood crave it, and old age enjoy it. There would be less desertions of hold homesteads if pains were taken to make them agreeable. Ease, order, health and beauty are compatible with farm life, and were ordained to go with it.

FARMING ON A LARGE SCALE.

BY the following it will be seen that farming can be carried on as extensively as any other business, and at as large a profit. Mr. Sullivan's Farm, "Broadland" on which he resides, contains 22,000 acres, is five miles wide and seven long, with 9,000 acres under cultivation, from that he clears a profit of $80,00; a correspondent of the Chicago Journal says:—

"Michael L. Sullivan, Esq., for many years one of the largest and most devoted farmers of Ohio, whose broad acres stretched along the rich valley of the Scioto, in sight of the dome of the capitol, is now the leading farmer of the northwest. Some years ago he sold his valuable lands in Franklington, and re-invested in the cheap, rich, vast and unsettled prairies of Illinois. Nine miles from Homer, on the great Western railroad, and seventeen miles from Tolena, on the Illinois Central, in Champaign county, ten years ago the magnificent farm Mr. Sullivan now cultivates was a dreary waste, and its vicinity a solution. He entered in 1853, more than 20,000

acres, expended $100,000 in permanent improvements, and now farms rising 9,000 acres. The remainder is under fence, and will in time be farmed. Mr. Sullivan has 40,000 additional acres in the county adjoining Champaign, but unimproved.

A correspondent of the Chicago *Jourual*, who has recently been taking notes of the systematic farming operations of Mr. Sullivan, states that his books show a clear profit last year of $80,000. The writer says: Every expense of labor or improvement is daily and carefully entered, and his books are balanced and kept with an accuracy equal to any bank in the state. For instance, every laborer, horse, mule, or ox is named, and a time book is kept of each. The farm is laid off in sections, and every day's work, together with production and improvement, is entered, and profit and loss, debt credit, are fairly exhibited. This is his system, and is inviolable.

One statement will startle the credulity of most men, even farmers—that 1,800 acres of corn were cultivated last year by 1,500 days manual labor. His books show this fact—and more.—Every day's work of horses, oxen and mules on the farm, and parts of the farm, are accurately and carefully recorded. His blacksmiths, gardeners, dairymen, fruiterers, butchers, &c., each have separate accounts, and he can tell you the cost, to the tenth of a dime, of the raising of corn, or the cost of hay, clover, timothy seed, &c., &c. He expected last year to cut 3,000 tons of hay, but the season was unpropitious, and topping the timothy with machinery, sent to market 2,000 bushels of timothy seed this winter and spring, selling most of it at $2.50 per bushel.—He cut 1,000 tons of timothy hay. This morning I received news of the arrival of 3,000 horses and mules belonging to the government for feeding.—This is but one incident of Mr. Sullivan's great plan, and in five years he will have that number of cattle of his own to feed.

His purpose in raising and feeding stock, and the raising last year of 100 bushels of strawberries, and 1,000 bushels of peaches, were but incidents of his great purpose. Riding over the farm I found 1,000 fat cattle, and the young stock were in every direction."

The largest farm in Illinois is that of Isaac Funk. Mr. Funk resides near Bloomington, McLean county. The total number of acres occupied and owned by him is 39,000—farm of 27,000 acres, said to be worth $80 per acre, and three pasture fields containing respectfully 8,000, 3,000 and 1,000 acres. His great crop is corn, all of which he consumes at home, and is thus able to market about $75,000 worth of cattle per year to New York. His stock on hand, horses, mules, hogs, and fat cattle is said to be worth $1,000,000.—*Michigan Farmer.*

FARM OPERATIONS.

WASTING MANURE.

Some idea of this may be gained by analogy. Let us imagine that a farmer keeps three teams of horses, who consume, say two quarters of oats per week. Let the farmer give one quarter each week to the horses, and dispose of the other quarter as follows:

There may possibly be some ruts in the road leading to and from his farm yard; let him pour as many as possible of the oats into every one of the horseholes and ruts of this road, beginning at the gate of the yard and proceeding to the nearest turnpike-road. There may seem much trouble in all this, but noting valuable can ever be gained or done without trouble, and this experience will probably always be conclusive. Some farm yards are nicely drained, and very frquently the drains run into the horse pond. Let the farmer insist on one of his laborers (who may possibly have some prejudice against it) pouring a good drill of oats into every drain that leads out of the yard till it arrives at the pond, where he may throw in a bushel or so, and if the drain terminates, as drains sometimes do, on a hard road, let him leave a small heap of oats in every black puddle. When he shall have done this, let him cause some of the oats to be scattered in every direction round his stable, and take every possible precaution so that the birds of the air, the mice and rats of the field, the fishes of the ponds, and the creeping things of the earth, may come in for a share of the oats. The farmers' neighbors may call him mad, but let him not mind this. Ulysses was formerly called mad for sowing salt, but now many people sow salt who are considered sensible, and even clever. Let the enterprising improver keep perseveringly with this

practice for—say three weeks. On or about this period, the ribs of each of his three teams, when in single harness, will probably form a very respectable representation of park pailing. At this point it is time to pause, and seriously ask himself the question, whether is it wise for a man actually to facilitate the waste and destruction of produce which it cost him much money to gain, and the economical management of which will produce more money. That which we have imagined it probable for a farmer to do with his horse-food is not a bit more unwise than the practice of some slovenly farmers with respect to their manures. What oats are to his horses, manure, and especially the liquid and gaseous portions of manure, are to his fields. Every atom of earth which comes in contact with the dung, preserves for it some of its fertilizing virtues, yet he keeps it for a year uncovered with mould. Every breath of air that passes over it becomes the vehicle for carrying the volatile grasses, in which the plants delight, from the farmer's dung yard to every body else's field; yet he keeps it for a year uncovered with mould. Every drop of rain which falls from the heavens dissolves some of its most valuable portions, and conveys it away to loss; yet the good man never thinks of sinking a tank, in order to preserve a substance every pound of which, Liebig tells, us will suffice to grow a pound of wheat. Nothing can show more clearly than this national waste, the necessity of men being made acquainted with the laws of nature, which can never be transgressed with impunity; which combine to ruin every man that regards them not;—whilst there is not one law amongst them, which, if understood, may not be made the ready and willing instrument of his will.

A careful and accurate farmer in Scotland found that while 14 head of cattle would make six loads of solid manure, the liquid would saturate seven loads of loam, rendering it of equal value. He had repeated the experiment for ten years, and found the saturated earth fully equal to the best putrescent manure. How many dollars worth are thus lost annually by farmers of this coutry? —*Colonial Farmer.*

SOIL UNDER BUILDINGS.

Whenever soil is covered for any length of time by buildings or objects which prevent transpiration, nitre or saltpetre is generated, and this is greatly accelerated if the building is occupied by animals, especially by the horse, This soil is of great value in compost, and will well and amply repay the farmer for removing and applying it to his soil. In compost it is highly useful; as a top dressing, few articles are more efficient, and when applied in sufficient quantities to all light soil, and in conjunction with lime or wood ashes, it acts with great vigor, and secures a most healthy and luxuriant growth. The per centage of alimentary matter contained in grass, manured with nitrous earth, has been exhibited to be greater than that supplied by an equal weight of hay grown on land manured with putrescent substance simply. It is also more palatable, much more elastic in the fibre and foliage, and consequently less liable to loss, as well as more easily cared. The soil under tie-ups, lintels, barns, woodhouses and stable-floors, should be removed every three or four years, and replaced by muck or some other substance which will be transformed into manure.

TURNIPS.

It has been remarked, that turnip culture has effected as great and beneficial a revolution in British husbandry, as the introduction of the Steam Engine and Spinning Jenny effected in Britsh manufactures. No Agriculturist ever deserved better of his country, than he who first cultivated Turnips in the field. No plant is better adapted to the climate of our country, no plant prospers better in the coldest part of it, and no plant contributes more to fertility. In a word, there has not been introduced, for two centuries, a more valuable improvement.

Turnips are divided into various classes, in each of which there are several varieties. The Swedish Turnip, or Ruta Baga, belonging to the most valuable class, has a manifest advantage over all other varieties as food for cattle, as the texture of the largest is finer and the specific gravity consequently greater, than in the smaller ones; the reverse being the case in the smaller turnip.

All kinds of turnips require a light, dry soil, and the Ruta Baga in particular requires a rich one; but at the same time there is no soil but will bear turnips when properly prepared. To bring the land into suitable condition for this crop, it should be plowed in the fall so as to give complete access to the frost, and well plowed and harrowed in the following spring. The soil should be drawn up into drills or ridges, about twenty-seven inches apart, into which the manure is spread. The manure being covered by "spliting"

the ridges with the plough, the seed is sown on their crests. This enables the young plants to obtain a ready supply of manure, which promotes a rapid growth. It is advisable to sow turnips thick, as thin sowing is liable to many accidents, which are far from being counterbalanced by the expense that is saved in thinning. Thick sowing can bear the ravages of the fly, and leave a sufficient crop behind. It is a protection against drought, gives the plants an impetus, and establishes them in the ground before it is necessary to thin them. Thinning should be done by the hand, as the use of the hoe is apt to disturb the roots of the plants that are to stand, and to leave them open to drought by removing the earth from them.

The harvesting of this root may be put off until all other crops have been gathered, as they are not liable to be injured by the early frosts, and as they *are* liable to fermentation if kept too long stored. As a cheap and nutritious winter food for cattle, turnips stand unrivalled; and although they may be inferior to other roots in the amount of nutriment they contain, still, as they are easily raised, and their yield is always large, they may be safely recommended as the best root crop that can be cultivated.

HILLING INDIAN CORN.

A correspondent of the Germantown Telegraph, speaking of the practice of hilling corn, says: "Constructing large, conical hills, on land which is light and dry, must inevitably tend to increase the effects of drought, inasmuch as it exposes more surface of the atmosphere and consequently increases ærification at times when all the moisture contained in the soil is required for the support and sustenance of the plants. When rain falls, the conical hills conduct the water from the roots to the centre of space between the rows and hills, very little of the fluid being retained about the plants, or within range of the small roots, by which the *pabulum* is taken up by the growing plants, and without which they would immediately languish and decay. On light soils hilling is always disadvantageous to the crop. Every fresh stratum of earth placed over the roots causes a protrusion of a new set of laterals, to the detriment of those previously formed. This exhausts the energy of the plant, without increasing, in any great degree, its powers of appropriating food from the surrounding soil, as the first formed roots cease to grow as soon as those caused by the deposition of new soil are developed, and in a short time will be found to have lost their vitality and become mere worthless appendages."

THISTLES.

VARIOUS methods have been suggested, and different plans adopted to get rid of this most troublesome plant, yet still they continue to grow and propagate their species, despite all the efforts made to destroy them. Here and there is a farm which was once infested, entirely free of them, but this has only been effected by waging unceasing war against them at an immense expense of time and labor. They are, as all know, a very prolific plant, (as, indeed, all evil weeds are) and increase quite as rapidly as any other *nuisance* in the vocabulary of weeds. There seems to be a possibility of eradicating thistles by the ordinary means mentioned below, but to keep fields from being continually subject to their growth, requires united action on the part of those whose farms adjoin each other. If A. and B., whose farms lie side by side, should both be troubled with this pest, it is evident that so long as A. refuses to take means to exterminate them, B. cannot, however industriously he may labor, keep them out of his land, for no sooner does seeding time arrive than B's field is again filled with seed wafted by the winds from his neighbor's thistle plantation.

When thistles first make their appearance on a farm, they can be rooted up with a little trouble. They should be removed with garden trowel or small spade immediatly, care being taken to extract the whole of the root, for unless this is done, it is but lost labor, as every particle left behind, however small, is sure to have vitality sufficient to produce another plant. When lands are overrun, or have become foul with thistles, it is recommended to let them alone until the seed is about to take wing. The stalks of the larger plants are then hollow, and if cut just before rain, the water will descend to the roots and effectually destroy them. One writer says, that having a field much infested with thistles, he adopted the novel plan of *pulling* them some little time before they bloomed, and just after two or three days' rain, when the ground was soft. For this purpose he hired several women and boys, and having *armed* each of them with a good pair of

leather gloves, set them to work, and by this method he managed to get rid of them. Another plan adopted, and with some success, is to cut them while in full bloom, then sow plentifully fine salt upon them, turn in sheep or any other salt-loving animals, and they will finish the business. A correspondent in the *Canada Farmer* who had a ten acre field covered almost totally with them, says, " My treatment is to plough early in June, six to eight inches deep, turn on all the sheep to keep clean, plough again the first of July, when they will be coming up, and harrow again thoroughly; plough twice in August, and harrow after each ploughing, and when I come to ridge up, the first of September, nothing can be seen but the dead leaves and stalks, which act as fertilizers to the young wheat. In the harvest following, I can rake and bind without gloves or fear of being pricked. This plan I have used with great satisfaction, and recommend it to my brother farmers."

By all means, farmers, try and rid your places of them by some of the means suggested. Keep them out of the barn. Hay full of thistles is about on a par with hay full of "live forever," and that is the most abominable nuisance to be found growing. Horses won't eat it, they would die of starvation first, and no wonder. Let those who think animals suffer no inconvenience from thistles, consider for a moment the inconvenience and misery of even handling such hay without a fork, and perhaps after their hands have been well punctured, they will conclude that chewing thistles is not so pleasant an operation after all for dumb animals.

CORN FODDER.

Every dairyman ought to sow an acre or two of ground with corn. This is an important crop for milch cows, and will increase the flow of milk when the pastures begin to dry up in summer. At the present enhanced prices of milk, cheese and butter, it behooves the farmer to produce as much of these as he possibly can, and there is no surer or cheaper way of obtaining satisfactory results from his dairy than by feeding well with green fodder like tender corn stalks, cabbages, etc. Some sow in drills, by furrowing out the land strewing the seed in furrows and covering with a harrow. From two to three bushels of seed are required to the acre, to produce a heavy crop.

THE DIFFERENCE BETWEEN THE SOIL AND THE SUBSOIL.

Beneath the surface soil, in which we place our seed, and which is moved by the passage of the plow, we find what is commonly styled the subsoil, which though most similar to is often very different in composition from the surface soil. Though it does not contain the decayed vegetation which exists in the surface soil, it often contains much fertile matter which if brought to the surface would do much to enrich the surface soil. This is particularly the case when a hard, retentive subsoil underlays a rich, loose one; the lime, iron, magnesia, and saline constituents of the surface soil, having a greater specific gravity than the soil on which they lay or to which they are applied, naturally sink until they find a soil of their own gravity, which if the subsoil is hard and retentive is usually in the upper strata or layer thereof. This is of great and vital importance in subsoiling, for it is evident that in a subsoil of this kind, it would be very bad policy to bring to the surface six or seven inches of the subsoil.

Nor are the saline constituents of the soil all that are found enriching the subsoil for anything valuable in the upper soil is soluble, and however hard and compact the subsoil may appear to be it is more or less penetrated by water, which takes with it and deposits the fertility of the surface soil. It often happens that the farmer who practices subsoiling will on this account receive more benefit from the first brought to the surface than from any subsequent operation.

The following analysis of the surface soil with its adjoining subsoil from the banks of the Ohio, made by Johnson, will probably best show the difference between the two. They were found to contain of—

	SOIL	SUBSOIL
Silica	87,143	94,261
Alumina	5,666	1,376
Oxide of iron	2,220	2,236
" manganese	360	1,200
Lime	564	243
Magnesia	312	310
Potash	120	110
Soda	25	130
Phosphoric acid	60	trace.
Sulpharic "	27	34
Carbonic "	80	trace.
Chlorine	36	trace.
Humic acid	1,304	trace.
Organic substance	1,011	trace.
Insoluble humus	1,072	trace.

From the above observations we can readily see that the effect of subsoil plowing and trenching will vary with the character of the subsoil; if the latter is hard and compact it will probably arrest the downward passage of the water containing the valuable portions of the surface soil, which upon being again brought to the surface will of course enrich the surface soil; but if on the other hand the subsoil is light and loose, and of a texture not calculated to retain the saline constituents brought from above, they will pass through it, and when it is turned up it may not only not enrich the ground above, but may for a time decrease the crops, for the only benefit gained seems to be that of deepening the surface soil, which even of itself is an important one. This may in a great measure account for the varied success which always attends subsoil plowing, and a more careful attention to the difference may be the means of preventing much disappointment, as has been the case with your new correspondent, but old reader.—*Germantown Telegraph.*

ADVANTAGE OF DRAINING.

THOROUGH draining with "deep plowing and good tillage is manure." How does drainage deepen the soil? Every one who has grown deep-rooted vegetables upon half-drained or wet land has observed that they would not extend downward their usual length. Parsnips and carrots on such land often grow large at the top, but divide into numerous small roots below the surface, and spread in different directions. No roots except water plants will grow in stagnant water. If it is of any advantage to have a deep rather than a shallow soil, it is necessary to lower the line of standing water at least to the extent to which the roots of our cultivated crops descend. A deep soil is better than a shallow one, because it furnishes more food and nourishment to plants, which they search out and find in the subsoil (where it has been washed by the rains) as well as at the surface, if no obstacle opposes. By striking deep roots, the plants stand more firmly and are not so easily drawn out or shaken by the winds. Again, a wet soil cannot be pulverized. Plowing clayey or loamy soils tend to press it together and render it less pervious to rain and water.

The first effect of underdraining is to dry the surface soil, to draw out all the water that will run out of it, so that in early spring or autumn it may be worked with the plow as advantageously as undrained lands in midsummer.

Most land which is not in grass is liable to surface washing in spring and fall if not drained; being already filled with water that rain cannot pass directly downward, but runs away on the surface, carrying with it much of the soil, and washing out the valuable elements of fertility. If the land is properly drained the rain water is absorbed and passes downwards, saturating the soil as it goes, and carrying soluble substances with it to the roots, and the surplus, if any, percolates through the drains below. The absorbent power of drained land is great at times after a dronght, that all the water of a heavy shower will be held or drank up by the soil, so that none will find its way into the drains for a day or two, nor run upon the surface. Again it allows the farmer to start his team in the spring so much earlier, to prepare for oats, corn and potatoes, &c., to say nothing of the garden and early vegetable growers, where the season is often lengthened two weeks at each end, as a farmer once said to his neighbor who planted his corn on a well-drained field the day after a rain storm of two days, "to have planted mine at the same time, I should have to do it from a raft." Many farmers have the same privileges of rafting, where it would be profitable to spend some time in ditching before the spring rains set in and fill the springs to overflowing.

G. Yeomans, of New York, says, in a published statement, that on his drained lands "the ground becomes almost as dry in two or three days after the frost comes out in spring, or after a heavy rain, as it would do in as many weeks without draining." The additional time gained for vegetation is important. One or two weeks ten secures the corn crops against frost; a few days is often sufficient for the grain to pass from the milky to the glazed state, before which a single frosty night may injure if not ruin it. When the grain reaches this latter stage it is safe from cold, and twice the time alluded to is added by this removal of the surplus water.

Thorough drainage of our wheat and grass fields prevents that difficulty of freezing out which most of us, who have wet or stiff loam or clayey land, know. J. Johnstone of

Seneca county, N. Y., who had been experimenting with tiles from 1835 to 1851, and had laid 16 miles of them on a few acres of his clayey land, raised the largest crop of Indian corn produced in that county, being 83 bushels of shelled corn per acre; he says, on this clayey soil, when laid down to grass, not one squre foot of the clover froze out. But before, many acres of wheat were lost on the upland by freezing out, and none would grow on the lowlands. Now there is no loss from that cause.

It is on account of this winter-killing or freezing out, that farmers have such great difficulty in getting and keeping their fields in grass, particularly clover and some other grasses of similar growth, the soil being pulverized only a few inches in depth, unless we have ploughed deep, and then only to the depth of the plough. Below this there is a stratum of clay or tight loam nearly impervious to water. The fall rains saturate the surface soil, which holds it like a sponge if it has been well pulverized before seeding. The ground is suddenly frozen and crystalizes into ice, the soil being thrown up with it, often appearing a little like a honeycomb. A few such operations are sufficient to draw them out root and branch, and to our sorrow we see them laying dead on the surface of the field in the spring. Thorough draining followed, by subsoiling, or deep plowing, lets down the water through the soil, leaving the roots so free from an excess of it that the ground is not "heaved up" at all; the plants retain their position, and when the warmth of the genial sun reaches them, are ready to strike root downward and spring upward with renewed vigor, refreshed by their winter's repose.

DRAINING OFF SWAMP LANDS.

We extract the following correspondence from the "Journal of the N. Y. State Agricultural Society," as the experience of a Long Island farmer in draining swamp lands:

As but few experiments have been made in this favored section in draining swamp lands—deemed by many almost worthless and as what may have been accomplished has seldom met the eye of the farming interest, it will be my endeavor, in a brief way, to show that few investments will realize better, and that no lands can be rendered more highly productive. The careful farmer, though of a reflective turn of mind, is not usually inclined to experimenting, except on a limited scale; yet in general, if I mistake not, it is only necessary to exhibit a fair probability of profit, to enlist his prompt acquiescence in new enterprises; and it will be a source of great satisfaction if the following statements shall serve in any measure to awaken new interest in this important branch of agricultural operations.

The land of which I now propose to speak is situated in a valley declining to the west, consisting of about twenty acres, one third of which was black muck, or peat, of various depths, the greatest being about seven feet; the remainder, a heavy slate-colored loam, bordering on clay. The substratum was hard-pan, occasionally met with in this region, of sufficient closeness to hold water. The tract sloped gently upward right and left from the centre, facilitating drainage. I commenced by opening a main canal from west to east from the lowest point of depression. As the adjacent land afforded but a slight fall, this opening was at first only about one foot deep by three feet wide at the top, increasing gradually to the highest point, where it reached the depth of four feet; this became necessary, as it took the water from the more elevated fields. This principal channel remains open from necessity, a portion of it which had been closed being forced open by pressure. It was ascertainad that the water, which at times entirely submerged the swamp was derived in part from springs, which were discovered while running the cross drains. These drains were generally at distances of about two rods apart, being from two and a half to four feet deep by six inches wide at the bottom and eighteen inches at the surfaee. For one third of the space I brought into use draining tile of the "horseshoe" pattern; for a part of the remainder I used small stones, and for the balance brush, to which I was obliged to resort in the absence of a firm bottom; and much to my surprise, after a test of five years, this latter work remains sound and even more reliable than any others, discharging copiously, and as yet requiring no repairs. The result so far is highly encouraging, and with a few additional drains the whole plot will be reclaimed.

Those who were familiar with the swamp in bygone years would now scarcely recognize the spot. A more forbidding spectacle could scarcely be imagined, the whole being densely covered with sumach, alders,

and the usual vegetation incident to such localities, while the higher surfaces contiguous were thickly overrun with briars of like noxious growths. In fact, such was its condition, that portions of it were untrodden by the foot of man; in confirmation of which, it may be here stated, that while excavating the main channel, the remains of two farm cattle were discovered in such positions as to indicate that they had been entangled and mired, without any effort having been made for their recovery. The enterprise was attended at times with discouragements, and it was only by virtue of perseverance, as in all difficult undertakings, that success was eventually attained.

Now, the question may be asked, "why expend so much to recover waste lands, where, for an equal outlay, improved lands could be obtained?" I have a ready answer, and first the land itself is of the highest value. This is no longer a problem. I have produced corn of the best quality and largest quantity. One-half the area was sown wheat last year, which was of rank growth and good yield, producing, so far as thrashed, twenty bushels to the acre; and had it not been for the weevil, the result must have been nearly double. It grows celery four to five feet high; cabbages have been taken from it weighing twenty pounds to the head; mangel wurtzel and turnips from limited experience have resulted well. Of potatoes I cannot speak so favorably, the exuberant growth of the vine reducing the size of the bulb. But as grass growing land I cannot say too much of it. It is true that hardly sufficient time had transpired to give full results; I can only conjecture what might be attained when I state that, after removing the wheat crop, I drew late in the fall from four acres ten large loads of grass and weeds, which were removed to guard the growing plant from injury. It will thus be seen from the figures that the investment has proved beyond all peradventure a profitable one, placing the real value of this land far above the estimate affixed to the accompanying statements; and secondly, apart from the question of dollars and cents, other essential objects have been attained. The whole landscape, heretofore marred and unsightly, has been rendered pleasing to the eye, and an object of pleasurable contemplation to the admirers of the beautiful. The surrounding neighborhood has been benefitted by additional guarantees to health in the renovation of a fountain of miasma and disease; and lastly, it has furnished employment and support to men and families during the usually inactive season of winter—all the labor having been accomplished during that period and early spring.

I submit the following statistics. The cost may appear large, but it must be borne in mind that the entire tract had to be grubbed. The ashes were the product of roots, bushes, etc., gathered and burned upon the ground. I might add much more in detail, but I fear I have already transcended my proper limit. I may hereafter take occasion to give further practical results.

The valuation of the land in its primitive state is placed at $25 per acre		$ 500 00
Total expense (without fence) during five seasons		1,533 16
		$2,033 16
To the credit of which place 2000 bushels of ashes at 10 cts.	$200 00	
926 cart loads of muck at 25 cents	$231 50	
Less expense of hauling	115 50	
	126 00	
25 loads of wood at $4	100 00	
20 acres of land, estimated value $200	4,000 00	
		4,436 00
Shewing a gain of		$2,392 84

SUGGESTIONS FOR MIDSUMMER.

The Hay Crop.

TO the farmer this is one of the most important months of the twelve, as it is a season in which one of the principal crops is to be taken care of.

July is the time to secure the hay crop. The weather generally proves hot during this month; and as it is likely to be interspersed with showers, it behoves all to watch the indications of changes in the weather, and see that more grass is not cut than can be properly cured and housed before a searching storm sets in. Sun and warm weather is what is needed during the haying season; for it is the hot sun that dries and sweetens the hay, and renders it so palatable to the beast of burden. Grass should be cut as early as it is fit for the scythe. If cut early, the chances of getting it well taken care of and out of the way of rain, are much better than if delayed till the latter part of the month.

Stir the Soil.

Corn and potatoes should receive attention this month. The ground should be kept light by frequent hoeing. Stirring the ground often in dry weather, will frequently prevent the destruction of crops during a drouth. Frequent hoeing changes the soil about the roots of plants, and gives it an opportunity to extract a large amount of nourishment for the plants from the early morning dew.

Strawberries.

In the early part of the season the strawberry vines gave promise of an abundant crop; but as the old adage has it, "All signs fail in dry times," we find it verified in this instance. The excessive hot weather of the past few weeks has dried up the vines to such an extent as to render this delicious fruit a great scarcity in the market, and the prices correspondingly exorbitant. To those who are so fortunate as to find some remaining vitality in their vines, we would recommend frequent irrigation and thorough weeding, by which, perhaps, a portion of this crop may be preserved.

Machinery.

The farmer may well be thankful for the inventive genius that has been instrumental in producing so many improvements in the implements of husbandry.

Instead of being compelled, as in times of yore, to depend entirely upon hand labor to cut and prepare the hay crop, it may now be done in a great measure by machinery. The mowing machine, the tedder and horse-rake have become almost indispensable adjuncts to the farmer.—*Plowman.*

TOBACCO CULTURE.

IN answer to numerous inquiries from those who are beginners in the culture of tobacco, we submit the following brief suggestions embracing the general principles of the management of this now important crop, leaving many details to be suggested by the practical good sense of the cultivator:

The Seed.

Among the various names we give the preference to the Blue Pryor. It does not produce as long, leafy staple as many other varieties, but all things being equal, it yields a finer fiber and richer texture than most varieties, and is alike adapted to manufacturing and shipping.

The Plant Bed.

In open weather in January, February or March select a rich spot of virgin soil; clear the surface of all leaves, burn thoroughly, so as to destroy all wild seeds, then dig three or four inches deep, thoroughly pulverizing the soil, incorporating the ashes with the burnt earth; rake smooth, removing all litter, and sow at the rate of one tablespoonful of seed to one hundred square yards of surface. Mix the seed in dry leached ashes, say one quart of ashes to the spoonful of seed. It is best to sow the bed both ways—now rake again, then tramp with the feet and cover with green brush, without leaves. Remove the brush after the frost is out of the ground and the plants begin to cover the bed.

The Preparation of the Soil.

This crop requires the best soil that you have. "New ground" or virgin soil yields the finest manufacturing leaf; but old well-manured land will give a larger yield and a richer, heavier article, which will be sought by the exporters. The soil should be thoroughly cultivated before the crop is planted. The ground having been well plowed and cross-plowed and harrowed, you will lay it off three and a half feet each way, and raise a small hill in the check. You are now ready for

Planting the Crop.

This you will do the first "season," after your plants are large enough—when the first leaves are three or four inches long, just as you plant cabbages, replanting, of course, until you get a stand. You will find many impediments in your way of getting a stand.

Field cultivation will bring into requisition the plow and hoe. The ground should be stirred at least once a week, and not a weed or sprig of grass be permitted to show itself. The last step in this process, or the "laying by of the crop," consists in drawing up the earth carefully around the plant with the hoe. At this stage your first planting will begin to "come into top," or has attained sufficient size to be topped.

Topping is simply arresting the growth of the plant by taking out the bud, and is best done when the terminal bud alone has to be removed; if it goes beyond this point much of the strength of the plant has been expended in the formation of leaves that are lost. "Prime" off the under leaves up to the first good leaf, which is usually a

hand's breadth from the top of the hill, then top, leaving ten leaves at first topping and reduce as the season advances.

Succoring and Worming.

So soon as the growth of the plant is arrested by topping, it will throw out "succors" just above the foot stalk of the leaves and around the main stalk. These, with the horn worm, will demand your vigilant attention. Never let them get a start on you. Once a week will ordinarily suffice to keep them under. In the midst of this struggle with these two formidable enemies you will find the first planting thicken and changing its color, loosing some of its clear deep green. The leaf, if folded between the thumb and finger, will break readily. These are some of the evidences that it is ripe and ready for the knife.

The cutting process is very simple. Split the main stalk down to within two inches of the bottom leaf, then with one down stroke cut the plant off just below the bottom leaf, and in raising place it on the ground, resting on the top leaves; so soon as it "falls," or wilts sufficiently gather up and lay eight or ten plants together with the hands to the sun. The best cultivators do not scaffold in the field, but "hang" on sticks, one end in the ground, and remove directly to the barn.

The curing of the crop is one of the most important steps in its whole treatment, and most difficult to describe in the space of a circular. If house room is plenty it may be cured with but little firing, but if house room is an object, heavy firing is necessary; it is always necessary when a dark rich color is desired. Do not begin with large fires. Keep constant, gentle fires until you attain the desired color, then press your fires day and night until the entire leaf is thoroughly cured. It now hangs until you are ready for the next step, and until it comes in "case" for

Stripping.

Whenever the leaf is soft enough not to break or crumble in handling, "strike down" and bulk; removing the plants from the sticks, you lay it in bulk, the tails slightly lapping over to preserve the "order." Now, put your best judge of the article to sorting; he will take off all ground leaves, lugs or cullings, and the strippers will separate the different grades, putting the bright in one lot, separating the long from the short of the same class, the dark heavy shipping leaf to itself, the fine dark manufacturing to itself, &c. Tie in hands of from five to seven leaves, wrap smoothly with a slip or short leaf, make the tie not over one inch and a half long. Hang on sticks and "hoist" in barn. When it has thoroughly dried and again comes in case or "prizing order," that is when the leaf is soft and the main stem is sufficiently dry to break readily for one third its length, from the larger end, bulk down as follows: Raise a platform on your barn floor, cover with boards, over them a layer of dry straw and lay one or two hands at a time, heads out, a course the length desired for the bulk; then a similar course so as to have the tails about meet: then a third course with heads about midway the first, and the fourth with heads midmay the second, and repeat this process until the bulk is completed, Cover with boards and straw and put all the weights on practicable. You are now ready for

PRIZING.—Procure good strong casks of all well seasoned timber, the drawn staves are the best; avoid poplar and all soft, brittle wood for staves. The prizing process is an important one, and we recommend the following mode: Get a piece of board cut to fit the inside of the cask, say six or eight inches at the broadest point, lay this in the cask, and pack the first course with the heads against the straight edge of your board, the tobacco of course laid at right angles with it. This course being completed, place the board on the opposite side, and pack as before; next place the board at right angles with its first position, and pack as before—then opposite this last position, and repeat the process, and so continue until the work is completed. You will always find straight samples drawn from hogsheads thus packed.

Never put into the hogshead more than one hand at a time, and let that be carefully straightened and pressed in the hands of the attendants of the packer before it reaches him.

If your tobacco is ripe, rich, and of fine fiber, 1,200 to 1,500 pounds is enough to put into a hogshead. If very fine or bright, 1,000 pounds is heavy enough. In "turning out" your hogsheads, leave space enough to secure well the top head; see that it is well fitted and securely "lined;" then nail all the hoops, and mark your name plainly on both heads and across the staves, putting on it your private number.

Note in your memorandum book the quality and order of each hogshead, and furnish your commission merchant with a copy of it.

There are many matters connected with tobacco culture which we could not introduce into a paper like this; but we have aimed to give outlines to beginners, and will, with pleasure give any futher information desired when in our power.

AFTERMATH.

THE value of aftermath, or, as it is commonly denominated, second crop, as a feed for cattle, is a question upon which there is no small discrepancy opinion among practical men. So far as my own experience extends, I am inclined to regard it as possessing no inconsiderable degree of value, although I am far from considering it equal to the first cutting. The correctness of this conclusion might, I think, be easily and conclusively proved, but it is not my object at present to discuss the relative worth of the two, but simply to indicate a few points necessary to be served in curing and preparing it for domestic use. All aftermath—no matter at what stage of maturity it may be cut—possesses a degree of succulence which renders the curing process always one of greater or less difficulty. This difficulty is also somewhat augumented by the unfavorable state of the atmosphere, which renders frequent turnings indispensable, and the diminished warmth of the sun, which begins to be sensibly felt about the time on which aftermath is fit to mow. These difficulties combined oppose a serious obstacle, and are often the cause of serious losses, especially to such as are unacquainted with the business, or who prefer the old system to the new.

I will here detail the process I have usually pursued, and give the result. When the grass is thick set, I select a bright day, and commence cutting. The grass cut on the first day, is permitted to remain in the swarth till the following day, when as soon as the dew is fairly off, it is carefully turned with the fork, but not spread. If the weather is sufficiently warm the first day, the turning is performed in the afternoon before the dew falls, and the swaths are formed into cocks in the afternoon of the second. This is done mostly witn the fork, the rake being used only to gather up the scatterings, and give to the cocks a compactness and symmetry to secure their stability and protect them from rain. A quart of salt is allowed to each cock, the mineral being sprinkled on by hand as the grass is thrown up by forkfulls, and in this condition the crop is permitted to remain till cured. With a clear atmosphere and a warm sun, three or four days will be sufficient to complete the process without opening, and the hay will be as perfectly made as hay is ordinarily in the best and most favorable summer weather. On removing it to the barn, I usually apply one peck of salt to the ton—sometimes in its natural state, and sometimes in solution. This prevents its heating, and gives to it a bright green color, and a most delightful odor, besides correcting any unpleasant flavor which the grass may have acquired in consequence of its closeness of growth and consequent selusion from the sun.

Young animals are particularly fond of this feed; they devour it with avidity at all times, and it is highly favorable to the development of both flesh and muscle.—*Gor. Ger. Tel.*

BREEDERS' DEPARTMENT.

FRACTURED BONES.

FRacture of bones, occurring among neat stock, is generally considered as a justifiable cause for their destruction. But I object to this summary mode of disposing of unfortunate yet valuable animals; for the truth is, many are killed that might be saved.

The trouble of managing, and the expense of treating, cases of fracture, often deter husbandmen from performing a duty incumbent on them in view of protecting their property, and acting the part of "good Samaritan;" but the facts are, the trouble and expense are mere trifles when the usefulness of a valuable animal is involved.

The remedy in case of a simple fracture of bones, under the improved system of practice, is neither tedious nor expensive. The bones unite very readily, if kept in contact, and the unity is secured by means of starched bandages. Where there is any laceration of the soft parts, and the bone is broken into several pieces, the better way is to put an end to the sufferings of the creature, for recovery is impossible.

The following case will give some idea of the method of treating simple fractures. An

animal under treatment for fracture may be placed in the trevis, if necessary; but I prefer to let the patient have its liberty in a box stall.

The limb opposite to the factured one, will have to sustain more weight than usual; therefore, I try to prevent swelling and stiffness be occasionally hand-rubbing, or by bathing it once or twice daily, with a portion of the following:—Oil wormwood, 1 ounce; alcohol, 2 ounces; new rum, 2 quarts. Mix.

KEEPING CATTLE, HORSES, AND SHEEP TOGETHER.

THE economy of keeping horses, cattle and sheep in a pasture together, or at the same barn, is perhaps not generally considered by many farmers. There are at times some disadvantages in keeping different kinds of stock together, but so far as the economy of feed is concerned, there is evidently a saving by so doing.

From experiments and investigations made on this subject, it has been ascertained that domestic animals eat and reject plants in the following proportions:

The Cow	eats 276	plants, and rejects		218
Goat	do. 449	do.	do.	126
Sheep	do. 387	do.	do.	141
Horse	do. 262	do.	do.	212
Hog	do. 72	do.	do.	271

Every farmer has noticed that many plants that are eaten by one kind of stock, are rejected by others; that cattle or sheep are averse to eat the grass that grows in those places where they lay nights, or in the shade of trees where they get together, in consequence of the unpleasant flavor given to it by their droppings—yet the horse will eat it readily. The horse will eat many coarse grasses and weeds which cattle and sheep will refuse. For this reason will be seen the economy of keeping horses, cattle and sheep in the same pasture in suitable numbers and proportions.

I have heard some farmers say that they did not think that it cost anything to keep a horse or colt in a pasture with cattle, as they would get their living on that which cattle would not eat. For my part, I do not think the saving is as much in the Summer, when they can select their own feed, as in the Winter, when they get only such as is given them.

It is generally thought that sheep and colts do well when kept together; Colts will eat the coarser portions of fodder which sheep leave, and do well on it. This fact was forcibly brought to my mind, while visiting the barns of a noted sheep-breeder, the Spring of 1862. There were about fifty sheep, which were about equally divided and kept in two separate pens. The hay with which they had been fed was a mixture of red clover and timothy, and the sheep were literally up to their knees in the coarser portions of the hay which they had pulled from their racks on the floor and rejected. This might not be entirely wasted, as it goes into the land with the manure, but if this waste had been consumed by colts, it would have been made into good manure, and the gain or growth on the colts saved. It was the opinion of both myself and the gentleman who was with me at the time, that a two-year old colt might have been well kept, in each of the pens, on the hay which the sheep wasted.

During the later part of last Winter, while feeding my coarse hay, the oats which my cattle and sheep left were given to my horse. They were eaten up clean by the horse, who appeared to do as well as when fed on fresh hay, and many days but very little other hay was fed to the horse. A friend of mine who had a horse that was troubled with the heaves, kept him a part of the winter entirely on the hay that his other stock left. The horse did much better during the time than when fed on fresh hay—the cattle picked it over, removed the dust and lighter portions of it, which had the same effect as wetting it before feeding it to the horse. In cold and dry weather in the winter, when my barn-yard is covered with snow, I frequently take what is left by the cattle and sheep after feeding in the stable, and scatter it in the yard. The cattle will always clean up that which the sheep have left, and the sheep will eat a part of that left by the cattle, and the colts will pick up what is left by both cattle and sheep, so that between them all but very little fodder of any kind is wasted, but much is saved during the Winter that would be wasted if only cattle or sheep were kept exclusively by themselves.—C. T. ALVORD, in *C. Gentleman.*

The number of horses exported from England in the first four months of this year was 1,172, against 1,880 in the corresponding period of 1863, and 1,007 in the corresponding period of 1862.

THE SHEPHERD DOG.

I will give a short account of what I used to do with my dog COLONEL, which I fear those who have never seen a well broke dog work, will be apt to class among *dog stories*.

When Colonel was six months old, I drove with him a flock of sheep from Ohio to Illinois, spending forty-seven days on the road. He had never been behind a flock of sheep until the day I started. In four weeks' time I could send him into a hundred acre pasture, and he would make he circuit of it and bring the flock out without leaving a sheep, and without hurrying them out of a walk. By the way, it is very important to break a dog to go slow—the most of dogs are too eager and hurry sheep too much. I ferried the Wabash river at Attica. The boat ran up on a low lever bar where were no yards or fences to assist in getting the sheep aboard. With two hands and the dog I loaded the boat without having to catch one of them, and the flock made five boat loads. I got up on the bank where the dog could see me well, and then by motions made him jam the flock down tight to the boat, and when well jammed up, mount on their backs and by barking and *nipping*—not severe enough to say biting—shovel them right in. Not ten men without a dog could have loaded them so soon, if at all.

When I had occasion to drive, not more than 1000 sheep, a few miles, I wanted no other help but the dog's. I have driven that many sheep along the road six or eight miles, where it was unfenced, sometimes on one and sometimes both sides,myself being ahead of the flock, the dog behind, the sheep so strung through the timber that perhaps I did not see the dog for an hour at a time.

When the flock got to spreading out fan-shaped, as a flock will where there is a chance to pick, Colonel would go out and turn in the corners, passing up just far enough to effect that purpose and no farther. He used apparently as much judgment in passing up the side of a flock just so far, as would a man. When he was in doubt other words she was cured, and in *two lessons* —only one-third the time which certain advertising pretenders offer to teach the French language. Before the operation, this cow was a terror to the milker—her legs were strongly strapped togther, a man stood at her head and the milker worked with a constant fear of some warlike demonstration. Now, she became mild and gentle, never stirred a foot and with half-closed eyes continued to chew her cud as long as the milking was going on—and she seemed herself entirely satisfied with the change that had come about an order, he would stop and look back until the motion was repeated. I have many a day driven all over the prairie, and taken a flock in every direction by walking before, leaving him to bring the sheep after me, without looking at him or speaking to him. I could send him two miles out into the prairie after a thousand sheep which were strung for a half a mile, and he would collect and drive them all up to me. I have owned other dogs which would do the same, but none but him that did not rush the sheep too hard.—I could send Colonel over a fence and on ahead a quarter of a mile to stand in a cross-lane to prevent the flock from turning out of the road. I have herded a thousand sheep with him for weeks on pieces of grass surrounded by other crops. When herding on a piece of grass bounded on two or more sides by other crops, I watched one side and let him guard the remaining sides. His manner was to steal quietly along in the edge of the corn wherever he saw the sheep approaching too near, and show himself merely sufficient to make them turn their heads in another direction, yet not enough to frighten them over to the other side of the field. With him I could feed off a piece of grass bounded on all sides by corn clear to to the edge without allowing the sheep to destroy a dozen ears. I herded one fall on a farm of about seven hundred acres which had not a single division fence. There were about a dozen shoats which were frequently getting under the gate into the farm, making it necessary for the owner of the farm to mount his horse and ride through two hundred acres of corn to get them out. As I came up with my flock for dinner one day, I met him at the gate as he was about to ride out into the corn. Hailing me he said, "Those (emphatic) shoats are out again in the corn : don't you think Colonel would bring them out? I told him I thought he would; so I showed the dog the pig tracks, and said, "Hunt them out, Colonel."—We sat down at the gate while Colonel struck out into the corn. In the course of twenty minutes he came with five or six of them, keeping far enough behind to not have them turn at bay, and guiding them always towards the gate. He made three or four trips until all were out. He acted as if he knew that it would not do to worry a hog if you wished to drive him. Now your cur dog

would have pitched into the first hog he came to, grabbed him by the ear and had him so well chawed up and sulky that you would have had to haul him out of the field. Right here allow me to say that even if one has no sheep, a Scotch shepherd is the best farm dog he can have. They are not severe enough or strong enough to hold a hog, but for driving all sorts of stock are quite a help, which is more than can be said of the mongrels which most men keep. In looking at some of our nondescript curs, I have frequently wondered whether, if their pedigree could be traced, they would not be found to have some of the blood of the thirty-nine of the forty pure breeds into which the dog race is divided. Would not some future dog Heraldry Office have a good time in making out a family-tree for some plebeian cur that wished to be up as a patrician on the strength of having made a shoddy contract? You will hear almost every man who owns a "yaller dog (could I put it any better?) say that he would not take twenty, fifty or one hundred dollars for "that thar dog thar." I notice that men price dogs in very even sums—and the meaner the dog the higher the figure at which some lucky man might become his owner. Among dogs I do not believe there are more than three or four *breeds* which pay in dollars and cents for their keep, and among these few breeds not one in ten of the *individual* dogs composing them is anything but a nuisance. The shepherd dog, not only as a breed, is of great value, but nine-tenths of individual shepherd dogs are worth to their owners in cash from five to fifty dollars per year.—*Prairie Farmer.*

COUGHING HORSES.

IT is well known that feeding horses on clover hay often makes them cough, but the why and wherefore may not be so generally known. From observation I have become fully satisfied that the manner of feeding hay to horses is the cause. The usual custom is to let them draw it through a rack, thus stripping off the fine dust which adheres to the stalk, which, being drawn into the lungs in respiration produces the cough. The cure consists in removing the cause—that is, the racks— and allowing the animals to take their food in the natural way. I have removed all of mine, and now feed my horses on the barn floor, having a breastwork sufficiently high for them to eat over. In this way they can be fed hay without raising a dust, they get none under their feet and the labor of cleaning out manure is saved. Whatever is left is easily pushed out with a rake into the yard for the cattle. The dust on the hay will do the horses no harm if taken into the stomach. Since makeing the improvement above mentioned in my feeding apparatus, I am not troubled with coughing horses. There is no patent on my invention; my brethren can use it freely. —*Gor. Country Gentleman.*

BREAKING KICKING COWS.

There is noting easier than for an animal to be impressed with the idea of cause and effect. The farmer who calls his pigs to dinner, associates in their minds that call and a fine meal. The shepherd teaches his whole flock to come at his word for the salt or meal which he gives them, and so in a hundred other instances. If cause and effect may be thus pleasingly connected together, it may be also in the way of penalty. This brings me to my mode of treating kicking cows. I first place them in a little yard, and make myself familiar to them, if they are at all wild, by stroking them or feeding them small morsels. This may be continued for some time if necessary. I then commence milking, placing a switch or rawhide under my left arm, and the pail in the left hand, so as to evade any kick. My great leading principle is, never to strike but once at a time, no matter what the provocation may be, and always to keep perfectly cool. A single stroke always produces terror but not excitement, and is, therefore, infinitely more dreaded than a storm of blows, which induce a reaction.

When I commence milking, if the animal kicks or attempts to kick, the whip is quickly withdrawn from under the left arm by the right or milking-hand, and a single cut is applied to the back of the animal, If she starts to run, another single cut across the face brings her to a standstill. I am especially careful never to strike but once, and the whip is immediately returned to the left arm. The animal is stroked or soothed in a firm pleasant voice, and the milking re-commenced. Every repetition of the offence, or repetition of the offence, is treated in precisely the same way. It is surprising to one who has not tried this mode, what a short time is required for the animal to understand what is meant. The kick is always sure to be followed by the single dreaded blow, and the animal soon comes to understand that it is undesirable to repeat it. I once met with a cow remark-

able for a large quantity of rich excellent milk which she gave, that was a furious kicker. Very few persons could endure her bad habits, and she had been sold from owner to owner at successively diminished prices. I told her last owner that I could easily cure her; the remark, of course, was received with perfect incredulity. The treatment I have described was given—at the first milking there was some pretty sharp blows from her hoof, which were dexterously evaded, and the single stroke of the whip given invariably in every instance. Before milking was completed, they had become much less frequent. At the second milking, the animal kicked only twice—and the third none at all—in over her.

I never found but one cow that I could not entirely break off kicking—and this was an animal of extraordinary shrewdness, who seeing my firm and prepared manner, would never kick while I had her in hand, although treating every other person with warlike demonstrations.

If men who manage domestic animals, would exercise a moment's reflection, they would see that their irregular, random and passionate treatment could do nothing else than make them worse. They must adopt a kind, firm, self-controlled manner, and a complete system faithfully, carried out, to produce the desired results.—*Country Gentleman.*

BREEDING SOWS.—PHYSIOLOGICAL CONSIDERATIONS.

IT is well known to physiologists that whenever the sexual organs of the sow are in an excessive state of activity, producing two or three litters per annum, the effect is to weaken and debilitate the parent, and produce a lot of flat-sided consumptive and scrofulous pigmies, many of which are not worth the trouble of feeding and rearing.

Fat and plethoric sows make very poor breeders, from the well known fact that when the nutritive functions are very active in supplying the wastes of the system and depositing fatty matter, throughout the various tissues of the body, then the reproductive functions are comparatively dormant, and are not generally aroused to maternity untill a diminution of fat takes place; hence we observe in the arrangement a sort of equilibrium existing between the functions of nutriment and reproduction.

The inference, therefore, is that it is a difficult matter to effect the impregnation of fat anamils or to fatten a prolific breeder. So that animals moderately fed and in fair condition make the best breeders.

It is wisely ordered, therefore, that the undue exercise of the sexual organs shall either unfit them for use, or that the multiplication of species shall be restricted; for, as in the case of the sow; she being endowed with extraordinary prolific powers; if some sort of a limit was not established there would be danger of some parts of the country being overrun with porkers, sometimes termed "Dublin canaries."

Mons. Vauban has made some curious and interesting calculations which would seem to confirm the above idea. He considers that the sow is naturally a long-lived animal, living to the age of twenty years or more, that she is capable of being impregnated before she is twelve months old, and of giving birth to two litters a year. He calculates twelve at a litter, and excludes the males, which are as numerous as the other sex. The result is, that in the course of eleven years, which is equivalent to ten generations, there would be six millions of pigs.

With powers of production great as the animal possesses, it will appear that let the consumption be ever so great, the largest means will exist for supplying it.

The celebrated Professor Cline, of London, contends that "the proper method of improving the form of animals consists in selecting a well formed female, proportionately larger than the male. The improvement depends on this principle, viz: that the power of the female to supply her offspring with nourishment is in proportion to her size (not fatness), and to the power of nourishing herself, from the excellence of her own constitution."

AGE OF SHEEP.

THE age of sheep may be known by examining the front teeth. They are eight in number, and appear during the first year of a small size. In the second year the two middle ones fall out, and their place is supplied by two new teeth, which are easily distinguished by being of a larger size. In the third year two other small teeth, one from each side, drop out, and are replaced by two larger ones; so that there are four large teeth in the middle, and two pointed ones at each side. In the fourth year the large teeth are six in number, and only

two small ones remain, one at each end of the range. In the fifth year, the remaining small teeth are lost, and the whole front teeth are larger. In the sixth year, the whole begin to be worn; and in the seventh, sometimes sooner, some fall out or are broken.—*M. Shepherd's Manual.*

LAMBS FOR THE BUTCHER.

The New York *Tribune* says, that if a South Down ram is crossed upon selected ewes of the common stock of the country, lambs may be obtained of an average value to the butcher of 25 per cent. higher than lambs of the same age, from the same stock, from the native breed. Where South Downs cannot be obtained, the Leicesters will do nearly or quite as well.

Damage to Sheep.

In the report of the State Board of Agriculture for Ohio it is stated that the number of sheep killed by dogs, in 1862, was thirty-six thousand seven hundred and seventy-eight, and during the same period, twenty-four thousand nine hundred and seventy-two were injured—the total value of the canine destruction being $136,347.

PRIDE IN FOWLS.

Fowls have plenty of vanity and pride. They are very sensible to admiration from man, and miss accustomed notice. A prize bird knows itself. The queen of the poultry-yard must eat first, and stand by the king at feeding-time. She resists any invasion upon her rights, and will have a precedence in all things. Indeed, precedence in the court-yard seems as valued as at earthly courts. Age and priority of residence in the yard, not less than size and strength, constitute right to precedence. No dowager ever treated young chits of girls more contemptuously than the senior hen treats her juniors. One has heard of a Swiss cow which died of vexation when her bell was taken from her. So did a hen of mine, long mistress of the poultry-pard, die of smothered pride, when a new queen-hen, partner to a new king (a pair I bought at a poultry show), came into my enclosure. The rival queens eyed each other for a moment steadfastly, then rushed to the combat. The new comer, though the old hen fought bravely, was the stronger. Mrs. Mercury, as we called the old hen, from the wing-like feathering on her legs, never attempted to try her chance again, succumbed in a melancholy manner, and after a few days' moping gave up the ghost.—*All The Year Round.*

CAKED BAG IN COWS.

Dr. Geo. H. Dadd, says in the *Prairie Farmer*, that he has known a case of caked udder of long standing to be cured in the following manner: Rub the udder for about a quarter of an hour every night with a portion of cod liver oil, and give the animal twenty-five grains of iodide of potassium, in half a pint of water, every morning before feeding.

BE KIND TO THE BRUTE.

MANY farmers too little realize that the beast is susceptible of pain, that they suffer keenly from neglect, and that they fondly enjoy a kind act from the hands of their protector. No farmer should become so engrossed in his pursuits, and so eagerly grasping for profits, that he should neglect to care for his dumb animals. Beasts cannot tell their sufferings, and advantage is too often taken of this; there is money to be made by their service, and it makes no odds to many how hard they are worked, or how grossly they are neglected after the day's toil is ended. A man, after following the plow all day, enjoys a good meal and a soft bed; but does he remember the animal that has so faithfully served him? Does the beast stand at a rack, scantly filled with musty hay, and nothing but the hard, wet floor to rest upon? This is too often the case. If the brutes could but talk, how many sad stories of hardships and privations would we hear? Thankful are we that there are some men human, who, from a noble principle of humanity, deal kindly with their dumb animals. Cattle belonging to such men are never seen packed into a fence corner on a blustering winter day for want of shelter; nor are the working beasts left uncared for after the day's toil is ended. Brutes enjoy little kindnesses and attention from their protectors, as sensibly and as keenly as they suffer from neglect. It is a real pleasure to a man of human feelings, when he sees his cattle comfortably sheltered and enjoying their food, for they really enjoy good feeding, and appreciate good treatment, and become attached to their owners thereby. Kindness to our domestic animals is no pecuniary loss to us, but of great profit, for they will thrive in consequence and daily become more valuable; besides there is a satisfaction in knowing that we have acted humanly, even to a brute.

SHOEING HORSES.

MR. JONES, a veterinary surgeon of London, gives the following simple rule for shoeing horses:—

"1st. After having taken off the old shoe, shorten the toe, and remove all the dead and loose parts of the hoof. Do not cut the sole or pare the frog, except when the foot has received an injury from a nail, or otherwise, when it must be cut out.

"2nd. Let the shoe be of equal thickness, or rather thinner at the heel. The ground and foot surface should be perfectly level. The shoe should be light on the heel. Too many nails are objectionable, and these should be kept as far as possible from the heels.

"3rd. For the hind feet there is no objection to culkins, though they are of doubtful benefit. Horses travel better without them. The hind shoes are made thicker at the toes than at the quarters, the nails also can be put closer to the heels without causing inconvenience.

"4th. Side clips should be avoided, they destroy the hoof; the same is the case when the nails are too close together. The feet should never be rasped, as it destroys the enamel of the hoofs, renders them brittle, and causes sandcrack, and consequently lameness.

"5th. Expansion is a fatal error which has led to many abuses in shoeing, such as paring off the sole and frog, rasping off the hoof, etc. The elasticity of the foot, which is, however, very limited, exists only in the upper part of the hoof, principally round the cornet. On the lower part and the toe it is *nil*."

TO KEEP FLIES FROM WORKING CATTLE.

TAKE a piece of scantling 3 x 4 inches, and a few inches longer than the yoke. Through this bore four holes to correspond with the bow holes in the yoke. Have bows long enough to extend five inches above the yoke. After the oxen are yoked, put this piece on the top of the yoke, letting the bows come through the holes. Bore several small holes in the sides of the above piece, and fasten in a brush long enough to reach the oxen's hips. The brush should be of some tough wood with the leaves on. When it is worn out put in more. Some use blankets for their cattle while working, but it makes them unnecessarily warm, and costs something at present prices. The motion of the oxen while walking will keep the brush waving about enough to keep the flies away.

ENGINEERING DEPARTMENT.

COST OF FENCES.

MR. CORNELL says:—"To fence a farm into square fields of two and a half acres each, crediting half the fence to the adjoining field, requires forty rods of fence, or sixteen rods per acre, which at $15 per thousand for rails, and $10 per thousand for stakes, will cost at least thirty cents per rod, or $4 80 per acre, and entail an annual expense in the interest of money, natural decay of material, and labour for repairs, of nearly or quite $1 per acre. Fields of five acres each require eleven and a half rods per acre, costing $3 45 per acre. Ten-acre fields require eight rods of fence per acre, costing $2 and 40 per acre. Twenty-acre fields reduce the fence to five and a half rods per acre. Forty acres in a field require but four rods to an acre; and one hundred acres may be enclosed in one field with two and a half rods per acre, costing 75 cents per acre.

CARE OF HARNESS.

HARNESS should be kept hung up on wooden pegs in a clean dry room with a plank floor, so that it may be free from dampness. When soiled, it should be washed with Castile soap suds. Harness that is in constant use needs oiling four times a year; if only occasionally brought out, as carriage harness, &c., twice a year will be sufficient, if the washing be not neglected.

To oil harness, separate all the pieces, and lay them in water until thoroughly wet through. Then wash them clean and allow them to dry sufficiently. To know when they are in good condition for oiling, bend a strap, and if the water does not ooze out it is dry enough. Train oil (whale oil) is sometimes used, but neatsfoot oil is much better. Mix with a little lamp-black, and with a brush apply it to both sides of the straps. About six hours after oiling, wash the whole with Castile soap and warm wa-

ter, let them dry, rub well with a woollen cloth and buckle them together.—*Colonial Farmer.*

THE STEAM PLOW ABROAD.

THE steam plow is meeting with more success in England and France than as yet in this country. Several patents are successfully at work in England, though we believe all of them are worked by stationary engines. In this country the attention of our inventors has been specially turned to the production of a traction engine, and thus far, we are forced to acknowledge, without any premanent success. Our foreign exchanges contain accounts of recent trials in France, between French and English plows. At two of the principal exhibitions, the Bedford, (Eng.) plow of Messrs. Howard, has been the successful machine. On the subject, the Bedford Times says:

"We announced a few days since, that a gold medal and a first prize of £100 had been awarded to Messrs. Howard, at the international steam-plowing match at Roanne, in France. The public trials were continued for several days after the award. The interest manifested by all the visitors was great, and on the concluding day a large and distinguished party, among whom were the Count de Persigny and many of the nobility and landed proprietors, attended to inspect the apparatus.

As soon as the trials at Roanne were concluded, the apparatus and staff were sent off to another great match, at Melun—a town about thirty miles south of Paris—a district in which agriculture has made much greater progress. Here some additional French competitors entered the field, and as the circumstances were not so favorable as those at Roanne the competition was more sever From the first, however, it was evident which way the victory would lie, and on Thursday last the award was again made in favor of Messrs. Howard—the first prize being £60 and a large gold medal.

FARM BUILDINGS—MORE SYSTEM WANTED.

PERMIT me to say that I am surprised that so little attention is paid to saving labor in the planning of most of the barns of the country. It is a subject I have paid much attention to, and have planned many. But no two men agree as to what they want in, or of a barn, and therefore in planning a barn a man must determine what he wants and then the plan can be made to suit. Three-fourths of all the barns can be made to suit the purse of the owner, and he makes shelter to suit the dollars he can spare without much regard to plan.

Now I contend that all our houses, barns, out-buildings, house yards, garden, stable lots, and fields, should be planned first, and if your head will not convey the plan, put it down on paper, and then work up to it as your purse will permit, and when you are done you will be satisfied, and much money, time and labor will have been saved.

The house or barn site should be the first thing to settle or select, in opening a new farm, and every other part of your plan made to suit. Then you should settle how large a barn your purse will stand, (or how large you intend to work up to,) which should aim to suit, first, the size of your farm; second, the kind or kinds of stock you intend to handle, or the kind of farming you intend to carry on. This every man must settle for himself. Then the first use of a barn is shelter, and the first idea should be to suit your plan to your particular kind of farming, bearing in mind all the time the saving of labor, both in filling and emptying, and in using the barn and stables, and then plan your stable lots in the same way in order to save labor in handling your stock, and bear in mind to keep each kind of stock by itself, so far as possible.—*Prairie Farmer.*

BENTLEY'S HAY LOADER.

THIS machine was patented in 1863, by the inventor, Mr. W. H. Bentley, of Westford, Otsego Co., N. Y. It supplies a most important link in the chain of haymaking by machinery. The "Hay-Loader" takes the hay from the windrow, puts it on the wagon, and rakes after. It is attached to the hay rack in a simple manner, which enables it to be drawn by the same team as the wagon, and it is set in operation by the act of drawing it along. By the united labors of the mowing machine, the hay-tedder, the horse-rake, the horse-unloading hay fork, and this new and admirable contrivance for loading hay in the field, everything connected with hay-making from cutting the standing grass to the stowing away of the hay in the barn, may now be done by horse-power.—*Working Farmer.*

HORTICULTURAL DEPARTMENT.

CEMENT FOR WOUNDED TREES.

Take of air-slacked lime, three parts; linseed oil, three parts; common cow dung, three parts: black pitch, two parts. Mix the first three ingredients thoroughly together with a spatula, and add the pitch after it has been fluidified and heated over a good fire. If the cement is too thick to be applied with a brush, it may be thinned to the requisite consistency by adding more pitch, or a sufficiency of linseed oil and spirits of turpentine, in equal portions. When large limbs are removed a coating of this applied to the stumps, will prevent rot and promote the healing of the wound. Decay in the trunks of apple and other trees, may be speedily and effectually arrested, by cutting away the diseased parts, and filling in the cavity with this cement, properly thickened for the purpose, with an additional quantity of the first four ingredients in their proper relative proportions.—*Germantown Telegraph.*

TREE AND SHRUB PLANTING

A WRITER in the *Rural Intelligencer* says:

The diversity of opinion that has existed as regards planting trees with a view to ornament and beautify the landscape, whether on large estates or surrounding suburban villas, is one that has engaged the attention of man for ages, and given rise to numberless discussions, and many works have been written on the subject without exhausting it; and, as the master-mind has not yet made its appearance to lay down rules, and establish a standard of taste that will meet with universal acceptance, the subject is still open for discussion and improvement.

Few men think alike; what appears perfect and beautiful to some, will be offensive to the eyes of others, therefore, every man about to plant should have a well-digested plan of what he is going to do, and a pretty accurate idea of its appearance when finished.

Some men will commence planting without any preconvinced plan, by placing a tree here and another there, never pausing to ask themselves whether it is in unison with good taste, or the nature of the grounds they are endeavoring to ornament, yet often produce pleasing effects. Such planting is better than none, for nothing presents a more cheerless aspect in the landscape than a house, whether cottage or mansion, standing alone, without provision for shade in summer, or shelter in winter, both of which are necessary for comfort, and may be enjoyed by all both rich and poor; for those who cannot afford to purchase can wend their way to the woods, where they will find many trees and shrubs, which if carefully taken up, and judiciously arranged in planting, will prove both useful and ornamental, and well repay the trouble of collecting.

Most writers on ornamental planting and landscape gardening advise taking nature as a pattern, and imitating her as nearly as possible, but they are not satisfied with nature themselves; neither do they practice the advice they give to others, but set to work to alter and improve it; therefore the effect produced cannot be called natural but artificial, or a combination of both, and, in good or bad taste, according to the capricious nature of man's judgment.

Utility, as well as beauty should be considered in planting trees, and, as shade is one of the chief requisites, trees of spreading heads should de planted nearest the house, but not near enough to touch the building when they have attained their full growth.

It is generally allowed by those possessed of what is called good taste, that trees should not be dotted about at equal distances, near the house, nor, in fact, anywhere else, particularly on a small place, for the house in a few years will bear the appearance of standing in a clump, with every view of the surrounding landscape from the windows completely shut out.

The enclosures should be carefully concealed by belts of trees, not continuous, but broken and at intervals, according to the nature of the ground, brought forward so as to appear like a clump, and again receding as near as possible to the fence. Such belts should be formed of trees of different habits of growth, intermixed with evergreens, and at points where it is desirable to have a view of any distant objects of the surrounding country, the belt may be discontinued, and the fence concealed with low-growing evergreens and shrubs. Such planting not only affords shelter, but

privacy, and causes the place to appear larger than it actually is.

The offices attached to the house, as well as stables and barns at a distance, should be hid by planting trees so arranged that the taller growing kinds stand at the back, with evergreens and shrubs in front which will have a very pretty appearance in the spring, and may be continued through the summer, by a few dahlias, hollyhocks, and a judicious selection of herbaceous plants.

On the lawns, the groups and clumps should bear the appearance of continuous glades, diverging in different directions from the house, and along the walks and drives single specimens of handsome growth may be occasionally introduced with good effect. Such an arrangement presents an ever-changing scene of open lawn and masses of foliage as the observer moves about the grounds

Along the main walks and near the house, dwarf evergreens and flowering shrubs should be grouped, with occasional beds of roses, and the flower garden, if any, should be in front of the parlor windows, and may be divided from the lawn and shrubbery with a low evergreen hedge. Farther from the house, at points where the principal walks intersect each other, irregular masses of dwarf evergreens and flowering shrubs intermixed with roses, annuals and bedding plants, will make a very pretty and picturesque appearance during the season from spring to autumn.

In the selection and arrangement of trees and shrubs, a knowledge of the *size they attain*, their *habits of growth*, *diversity of foliage*, *and the many-colored tints they assume in autumn must all be studied*, and selections made according to the size and nature of the grounds to be planted. The giants of the forests may be introduced on large places, and the reverse on smaller ones. In city lots, nothing but evergreens and shrubs should be used, and the planter must keep before his mind's eye what his work will look like twenty years hence, or in all probability it will prove a failure.

THE VALUE OF FRUIT.

WE do not now refer to the money value as a farm crop, but to the home value for domestic consumption. We all know, that a few acres of orchard will often yield more profit than all the rest of the farm, that one hundred dollars per acre is no uncommon return for good cultivation, but we call attention now to the comfort, healthfulness, and economy of having a full and constant supply of fresh and delicious fruit. The fruit consumed in a family is by no means so much extra consumption, but it serves to lessen the drain upon the meat and flour barrel, while the cost of the production is considerably less. We can well afford to spend the time and labor necessary to enable us to have strawberries and cherries in the early summer, to be followed with raspberries, currants, pears plums, grapes, and apples through the year until the strawberries come again. Could we estimate the saving in other articles of food, could we express in dollars and cents the gratification in having such nice and delicious fruit continually upon our tables, and could we ascertain the extra saving by reason of improved healthfulness of young and old in the family, we are fully persuaded that the sum would more than balance by a great deal all that these fruits cost us. In many families living upon their own farms, the apple is about the only fruit that is used, unless such berries as the children may find growing wild, for the reason that it is thought to be too much trouble to grow anything else. Parties often express their astonishment at strawberries the size of a Wilson, at such raspberries as the Fastolff, and such delicious pears as the Bartlett, or Flemish Beauty, while we have only wondered that they could have been contented to live so long without them. If they could once have them we are sure they would never dispense with them on account of the trouble and cost.

JUSTICE HALIBURTON'S GARDENS.

A correspondent of the London Cottage Gardener, describing the residence of Mr. Justice Haliburton, the "Sam Slick" of literary notoriety, says:

I paid a visit to these gardens about a year since, on the occasion of a fancy fair given for some charitable purpose, and never do I remember to have seen bedding done so well, or so choice a collection of plants brought together in a place of so limited an extent. I was given to understand by a florist of celebrity who was present, that the arrangement of the beds and the selection of plants were in the hands of the lady occupier herself. Their taste for the harmonizing of colors I consider natural in all women of refined education, only unfortunately many of them display their taste in decorating themselves

more than ornamenting their gardens. But if ladies were to follow gardening more usually than they are apt to do how much oftener we should see the cheek resemble the rose in place of the lily; and how soon also we should perceive the lighter tints made use of in decorating the inside of the bonnets. They would soon be aware that glaring coloring was not suited to their complexions so well as the more subdued shades. Moreover, God has given us health that we may enjoy the blessings He sends; and depend upon it that where a lady gardener resides, there the physician's carriage seldom stops.

DOMESTIC ECONOMY.

TO PRESERVE FRUIT WITHOUT SELF-SEALING CANS.

PREPARE a cement of one ounce rosin, one ounce gum shellac, and a cubic inch of beeswax; put them in a tin cup and melt slowly—too high or too quick heat may cause it to scorch.

Place the jars where they will become warm, while the fruit is cooking. If they are gradually heated, there is no danger of breaking.

As soon as the fruit is thoroughly heated, and while boiling hot, fill the jars full, let the juice cover the fruit entirely. Have ready some circular pieces of stout, thick cotton or linen cloth, and spread over with cement a space sufficient to cover the mouth and rim of the jars. Wipe the rim perfectly dry, and apply the cloth while warm, putting the cement side-down, bring the cover over the rim and secure it firmly with a string: then spread a coating of cement over the upper surface. As the contents of the jars cool, the pressure of the air will depress the cover, and give most positive proof that all is safe.

Many think that sugar is essential to enable the fruit to keep. This is not so. "Berries and peaches" are better put up without it. Sugar strewn over them an hour before eating, gives them more the flavour of fresh fruit. Cook only sufficient to fill two jars at once, to avoid crushing tender berries. Pears and quinces are best cooked in water till tender, putting in as many as will cover the top of the water at one time; when clear and tender, add to the water sugar to the taste; as soon as boiling hot put in the fruit, and when it is penetrated with syrup, put it in jars, and fill it up with syrup boiling hot. Seal as directed. Apples the same way, or cooked in water only and secured. Let them be in quarters; for, if mashed, the pulp will hold so many air-bubbles, it will not keep. —*Godey's Ladies' Book.*

Grapes. Pulp and cook till the pulps are melted; strain out the seeds; put in the skins, and when well cooked, add sugar to taste. When the syrup is sufficiently thick, seal.

Cherries and Plums are put in with or without pits, as one chooses.

Tomatoes are cooked till all the lumps are dissolved, and the mass quite thick.

Sweetmeats of any kind secured in this way, will keep for years. If required for transportation, perhaps it would be well to use close-fitting corks, cut off even with the top of the jar, and then covered with the cemented cloth, otherwise corks are not necessary.

HOW PHILADELPHIA BUTTER IS MADE.

THE PROCESS.—After the milk is drawn from the cows it should be strained into pans properly arranged on a bench for the purpose, with a small quantity of fresh sour milk in each one, to hasten the raising of the cream, which should on all occasions be taken off from thirty to thirty-six hours after being milked, it being found that by standing longer in a large dairy, more is lost by deteriorating the quality of the butter than is gained in quantity. When the cream is skimmed off the milk into a large cream-pot it should be put in the batter-hole in the spring, and let stand one day, and then skimmed off, so as to remove any sour milk that may have settled from it to the bottom of the pot, and should be subsequently stirred every day until churned, to prevent rancidity from taking place on the top of the cream by too long standing, which is the main cause of all the strong butter that is made. The cream should be churned twice in the week during the summer months, and all the year where there is a sufficient quantity to warrant it. The temperature of the cream and churn should be about sixty-two degrees, so as to ensure the butter to come

right, and in the proper length of time, which should be about 30 minutes. There is as much danger in having the butter come soft by over-churning as by the atmosphere being too hot. In order to regulate the temperature of the cream in the fall, winter, and spring, it should be set in a tub of hot water until it comes to the temperature above designated—the butter broken in the churn to the size of peas and chestnuts. The buttermilk should be drawn off through a fine hair sieve from the vent of the churn, which should be about an inch hole. A sufficient quantity of spring water should then be put in, and a few revolutions of the churn, when it should be drawn off, and then another quantity of spring water put in, and tumbled in the churn until gathered into a mass. The water should all then be drawn off, and the butter cut into cracks, as it lies in the churn, to receive the salt, which should be a pint for fifty pounds, regulating below that, or above that, according to the quantity churned. The butter should then be tumbled in the churn until the salt is mixed with it, and it will then do to take out in 10 or 15 pounds, and lump into pounds, ready for sponging, which should be done by having a sponge of proper size enclosed in a linen cloth and passed over the lump, by pressure, to absorb the brine and moisture it contains, which should then be weighed and printed if intended for the market. The sponge should be frequently squeezed out of cold water as dry as possible, during the sponging and weighing of fifty or one hundred pounds.

REMARKS.—The butter-maker will see the advantage of this mode of salting and working butter over any other mode, and particularly of the lever or worker, as it is called, from the fact that less of it is exposed to a warm atmosphere at a time, as it must necessarily be where fifty or one hundred pounds are operated upon on a broad surface, making the butter soft and oily, which is detrimental to its quality, however carefully attended to, from the time the milk is taken from the cows. The above plan was perfected by experiment by me, and carried out for a succession of years, as thou knowest, with a success as to quality and sale of my butter not surpassed by any one at the time I was operating. H. EACHUS, *in Rural Advertiser.*

Dampness will cause honey to become thin and watery.

WHEY IN MAKING CHEESE.

THE rennet must have acid to aid coagulation. If the milk does not contain the acid (and new milk does not), then it must be added. Whey will answer for this purpose. It is used in early spring when the temperature is low, so that the milk changes but little from the purely sweet state. A little whey kept on hand; kept till somewhat more acid than fresh whey; mixed, say one quart of whey to a hundred or a hundred and twenty of milk. This will make the cheese solid as in summer. Pure, sweet milk, without acid, will make it soft, and just the thing that we find in early spring. The great majority of our cheese-makers are not aware what is the difficulty. A little whey added will avoid all this.

BLEACHING AND COLORING STRAW BONNETS.

Bleaching.

FIRST, wash the bonnets in warm soap and water. Second, take two tablespoonfuls of sal soda and two quarts of soft warm water; dissolve the soda, then put in the bonnets and let them soak three to five minutes; then put them into the bleach box—put in about a table spoonful of brimstone, and bleach over night; then take them out; then take two quarts of warm water, and one good tablespoonful of oxalic acid; dissolve the acid, soak the bonnets about five minutes in the same, then rinse them in clean warm water and hang them out to sun. Sun them until about half dry. then put them in the bleach, if you have time; if not, dry and size them, and they are ready to press.

Coloring Brown or Drab.

To twelve quarts of water add one teacupful of black tea; heat the water and tea until they boil; then add one teaspoonful of copperas; stir the same one minute or so; then take it off and let it stand about five or ten minutes; then put in the bonnets to be colored drab; such as Neapolitan, chip, rice, straw, or fine Dunstable, that are clear and white, and they will color very quick. All other braids had better be colored brown, and let them remain in the dye some six hours, but look to them, and if they don't take a good color, let them be in until they do. You can color and shade off brown, by giving longer or shorter time in the dye.

Coloring Black.

Take logwood, or the extract, which is

better, half a pound of chips or a small quantity of the extract to twelve quarts of water; heat it to boiling; then add one teaspoonful of copperas; put in the bonnets and boil until black. It generally takes six hours—and if the dye is not strong, it will take longer. Take them out, wash them dry, and brush them.

TO PRESERVE THE COLOR OF STUFFS IN WASHING.

NOTICING your repeated invitations to the lady readers of your paper, to contribute towards the Housekeepers' column, I herewith send you an excellent method for washing dresses of printed muslins, lawns etc., so as to preserve the colors, whether the pattern be printed in black or variegated hues. The dress should be washed in lather, and not by applying the soap in the usual way direct upon the muslin. Make a lather by boiling some soap and water together; let it stand until it is sufficiently cool for use, and previously to putting the dress into it, throw in a handful of salt; rinse the dress without wringing it, in clear, cold water, into which a little salt has been thrown; remove it and rinse it in a fresh supply of clear water and salt. Then wring the dress in a cloth and hang it to dry immediately, spreading as open as possible, so as to prevent one part lying over another. Should there be any white in the pattern, mix a little blue in the water.

NEW METHOD OF MAKING BREAD.

INSTEAD of protracted agony of twelve or eight hours, it will be a pleasant exercise of a few minutes in making it—just two hours for raising—and baked in fifty minutes, and than out comes the loaves, so round and light, so tender and sweet, the whole household will be delighted. The first thing, and last in fact, is proper temperature, both while making it and in process of raising. Without heat internal as well as external, fermentation cannot be rapid enough. Then heat two bricks to 100° or more, and place the pan you make the bread in on them, and so knead and work in the heat with the materials. And now, though the great army of bread-makers stand up in flour-y array against me, and even shake their doughy fingers at me, I shall not wince or 'abate one jot. Success is the test of merit,' as the world goes, and this past delusive notion that after bread is light once it must forsooth be molded over into loaves and set to work again, is all nonsense. It often induces sourness, certainly multiplies labor, and takes time. Well, then, have two tins well greased (butter is hopeless in these days) and divide the dough equally. I use two quart tins which, of course, requires two quarts of flour and over for a loaf) and set them to rise by the stove on the hot bricks to moderate the heat, and then well cover with warm woollens. In two hours it will be rising like Aladdin's palace, and when fairly brimming full, place it in your oven, and you will soon have as delicious bread to eat as one ought to expect out of Paradise. I claim this as original, and only ask you to follow these directions and give us the result. Thus bread making ceases to be the tax on time and patience it usually is, and the harassing doubts and fears one usually goes through with while following the old method, are quite done away with. I could say much on the philosophy of baking bread, in adjusting the 'golden mean,' which after all, is half. A peep into some of the closed ovens would, I fear, call out the exclamation of the dogs in Landseer's picture of 'too hot, too hot.'"—*Cor. Agriculturist.*

SYSTEM AND ECONOMY IN FAMILIES.

I HAVE have cousiderable experience in the routine duties of housekeeping, and with your permission will say a word or two on this important subject to every family.

There is far more depending on a well ordered household, than a vast majority of married women would seem to believe. In looking around we see on every side how much system and economy would accomplish if properly observed. I began married life early; my husband had no other income to rely upon than the labor of his own hands. We lived in a small house, having attached to it a small garden. Providence blessed us with health. My duties multiplied by increase of years; but they were carefully laid down and punctually performed. We rose early, breakfasted, dined and supped at exact hours, as most families do. Every hour in the day had its allotted duty or arrangement, and everything was done in accordance with it. By this means a perfect system was maintained, reducing the labor of a family nearly one-half; and in this way I had ample time for reading, receiving and returning visits, out-door exercise, &c. Expenditures in

every department were made carefully, and thus while we wanted for nothing which persons in moderate circumstances needed, there was an exact account kept of the amount of income and outlay, and we made it a point always to keep safely on the right side. By degrees our pecuniary means increased; capital was supplied for a more extended business on the part of my husband, and profits augmented until we have a full and I may say abundant share of this world's goods. My husband and I unite, however, in the conviction that this fortunate result of circumstances is mainly owing to the system and economy established in our young married career, and the smiles of Providence upon our industry and our efforts to perform our duty in every re-tion of life.

The great error committed by young housekeepers, is the thoughtless and unnecessary expenditure of money which they cannot afford, perhaps in imitation of extravagant neighbors. And in young husbands wasting their time in visiting play-houses, billiard-rooms, club-roooms, worthless exhibitions, parades and other places of resort, instead of remaining at home with their wives aud families, enjoying domestic comforts, which will in the and be found to be more enduring and satisfying than all the rest combined. Young wives, also, should find their highest happiness in their homes—in meeting and welcoming their husbands to the spot which ought to be their mutual paradise; and, I am clear their safest road to prosperity is in estab' lishing and observing system and economy.

COMMERCIAL REVIEW.

Shrinkage of Hay.

The loss upon hay weighed July 20th, when cured enough to be put in the barn, and again February 20th, has been ascertained to be 27½ per cent. So that hay at $15 a ton in the field is equal to $20 and upward when weighed from the mow in winter.

THE CROPS.

THE N. Y. Commercial Adv., after collecting the reports from various quarters as to the crops, arrives at the following conclosions, which are far more encouraging than had been anticipated by many:—

Some have predicted an almost total destruction of cereals from drought and other causes, and that we of the Northern States should be compelled to import from other countries in order to prevent starvation. It is true at an earlier period in the season there was, owing to severe drought a poor prospect for our cereals, but the copious showers which have since fallen change the aspect materially. Winter wheat, taking the country through, will average fully ⅔ of a crop. In some sections it was injured by the cold weather during February, while the almost total absence of rain during the latter part of April and May retarded its growth in all the States except Md. and Kansas. In Wis., O., and Ind., farmers were becoming somewhat discouraged, when the rain came. Heavy showers have since improved the prospects. This is likewise true of spring wheat. Grass has yielded a heavy crop in N. Y., N. J. and Pa. In the New England States less than usual will be cut, but though the Western and Border States above the average amount. The weather has likewise been very propitious for harvesting it, and the farmers generally have secured the crop in fine condition. In Pa., Del., Md., Ky., and some parts of Ill. and Ind. some trouble has been experience from the scarcity of field hands.

There was more corn than usual planted in N. Y. and probably Pa., and less in New England and Western States. Though the lateness of the spring was unfavorable to this cereal, the warm days and recent rains have brhught it rapidly forward, so that it will be nearly, or quite, an average crop, Oats present a very poor appearance in this State, but, according to the latest report from the Department of Agriculture, it is, generally speaking, the" the largest and most profitable crop of the kind ever sown in the country." From this sowing, therefore, it appears that the this year will meet with the wants of the army and the people, and fill to a certain extent any foregin demand that may be made. Owing to the increased amount of foreign labor and capital turned into agricultural channels, and the large harvests realized, our exports of grain since the 1st of Sept. have been much less than that of previous years. Only 147,109 bushels of corn, for instance, have been shipped against 5,013,875 for last year. But if we are to believe our European agricultural

journals, fresh demands will be made upon us this year for breadstuffs. A long drought and severe changes in the weather have impaired the cereals in England, while prices have risen in France from fears of the wheat crop. The Mark Lane Express says:—"The reëstablishment of the Baltic ports by the Danes, if it takes place, will not be without its effect upon the wheat trade. As the issue of the deliberations of the Conference becomes more dubious) since adjourned *sine die*) and European markets seem closing upon us by higher values, we may soon be left to our own resources, and what America can do for us then."

CROP PROSPECTS ABROAD

THE condense the following statements from the Mark Lane Express: In Great Britain "at present there is a fair prospect on the ground, although no one expects more than an average crop of wheat. The season has been favorable throughout, and nothing can be more so than the present most critical period of the growth of that plant—the blooming time. So far, therefore, as our own prospect is concerned, we hve reason to be satisfied. Still, under the most favorable conditons of our own crop, experience renders it impossible to avoid the conviction that we cannot get along without a foreign supply to an extent proportioned to that of our own growth. * * In France the prospect is fair, but nothing equal to what it was last year. In the south and southeast especially the drouth during the spring destroyed the plant in many of the fields on which the land was light. It is therefore probable that France will want a considerable foreign supply next season, as she, like England, does not grow sufficient on an average for the consumption of the country.

MONTCALM AGRICULTURAL SOCIETY.

THE annual exhibition of the Agricultural Society of the county of Montcalm, will be held at the parish of St. Esprit in the county of Montcalm on the property of Gédéon Poirier, Esquire, the 29th of September next, at 10 o'clock, A.M. (By Order,)

A. H. DE CAUSSIN, *Sec.-Treas.*

Ste. Julienne, July 2nd, 1864.

COUNTY OF ST. JOHNS AGRICULTURAL SOC'Y.

The annual exhibition of the county of St. Johns Agricultural Society will be held in the town of St. Johns on the 22nd of September next. EUG. ARCHAMBAULT,

Secretary-Treasurer of the County of St. Johns Agricultural Society.