

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

Coloured covers/
Couverture de couleur

Coloured pages/
Pages de couleur

Covers damaged/
Couverture endommagée

Pages damaged/
Pages endommagées

Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée

Pages restored and/or laminated/
Pages restaurées et/ou pelliculées

Cover title missing/
Le titre de couverture manque

Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées

Coloured maps/
Cartes géographiques en couleur

Pages detached/
Pages détachées

Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)

Showthrough/
Transparence

Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur

Quality of print varies/
Qualité inégale de l'impression

Bound with other material/
Relié avec d'autres documents

Continuous pagination/
Pagination continue

Tight binding may cause shadows or distortion along interior margin/
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure

Includes index(es)/
Comprend un (des) index

Title on header taken from: /
Le titre de l'en-tête provient:

Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

Title page of issue/
Page de titre de la livraison

Caption of issue/
Titre de départ de la livraison

Masthead/
Générique (périodiques) de la livraison

Additional comments: / **Wrinkled pages may film slightly out of focus.**
Commentaires supplémentaires:

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	12X	14X	16X	18X	20X	22X	24X	26X	28X	30X	32X
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

LOWER CANADA

AGRICULTURIST

MANUFACTURING, COMMERCIAL, AND COLONIZATION INTELLIGNER;

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.*

OCTOBER 1863.



SPARGERE COLLECTA,

OFFICE—BOARD OF AGRICULTURE, 108 CRAIG STREET,
MONTREAL.

SUBSCRIPTION—\$1 PER ANNUM IN ADVANCE.

AGRICULTURAL REVIEW.

OCTOBER.

CONTENTS:—Agricultural Review—Official Department.—Lower Canada Agricultural Association—Board of Agriculture for Lower Canada—Board of Arts and Manufactures—Presidents of Agricultural Societies—Vice-Presidents Agricultural Societies—Delegates from Agricultural Societies—Election of Officers—Place of Holding next Provincial Exhibition—Prizes awarded at the Montreal Provincial Exhibition—Horses, Cattle, Sheep, Swine, Poultry—Agricultural Productions—Grain, Seeds, Roots, and other hoed Crops—Agricultural Implements—Tabular form of the time and place of the County Exhibitions—Department of Crown Lands.—**Editorial Department.**—The Montreal Provincial Exhibition—Guano Deposits on the Coast of Peru—A Large Farm—The road to poor Farming—A Stock Breeding Farm—Our Next Volume—**Farm Operations.**—Top Dressing Grass Lands—How to cure Indian Corn for Fodder—Plowing under Clover—Management of Swamp Muck—Fine Pulverization of Manure—Lime sinks in the Soil—The best time to sow Grass-Seed—Buckthorn for Hedges.—**Breeder's Department.**—Worms in the head of Sheep—Ayrshire and Kerry Cows for the Dairy—Lampas in Horses—Chronic Cough—Its Treatment—Sheltering Cattle—Dairy Farms should not be Overstocked—Birds considered injurious to the Farmer—The feeding qualities of Oil Cakes—Novel mode of Slaughtering—Turning Cheeses.—**Engineering Department.**—A ton of Hay by measure—Durability of Timber—The proper depth of underdraining—Taste in House Painting.—**Horticultural Department.**—Renewing Strawberry beds—New way to raise Asparagus—Renovating Flower beds—Setting Strawberry plants—Blanching Celery.—**Domestic Economy.**—Packing Grapes—Red Pickles—Tomato Pickles—Quick Pickles—Tomato Catsup—Potato Starch—Cure for the Bite of a Mad Dog.

Official Dep't.

LOWER CANADA AGRICULTURAL ASSOCIATION Montreal, 18th Sept., 1863.

The Lower Canada Agricultural Association held its meeting on the ground of the Exhibition, in conformity to the notice inserted in the Lower Canada Agriculturist.

Members present:—W. L. Felton, Esq., President, O Duval, Esq., 1st Vice President, W Boa, 2nd Vice President.

Board of Agriculture for Lower Canada.

T. E. Campbell, Esq., Vice-President; The Hon. the Minister of Agriculture, Hon. P. Chauveau, O. E. Casgrain, Hon. U. Archambault, N. Dostaler, Revd. F. Pilote, Dr. C. Taché.

Board of Arts and Manufactures.

B. Chamberlin, President, H. Bulmer, Vice-President, A. Murray, Secretary. Messrs. W. Rodden, Dar, Brown, Dar Brown, H. Lyman, E. Beckett, G. Weaver. A. A. Stevenson.

Presidents of Agricultural Societies.

N. H. Blais.....Montmagny.
A. C. Fortier.....Bellechasse.
J. H. Schuyler.....Huntingdon.
E. Jones.....Argenteuil.
L. A. Bertrand.....Témiscouata
L. L. Desaulniers.....St. Maurice.
J. Wurtele.....Yamaska.
M. L. Elkins.....Brome.
J. Melrose.....Montcalm.
F. Décoteau.....Nicolet No. 2.
J. Fortin.....Maskinongé.

P. Lagueux.....Lévis.
A. Dionne.....L'Islet.
P. Ouintet.....Laval.
J. Laurin.....Quebec County.
T. Walker.....Lotbinière No. 1.
A. Steven.....Sherbrooke.
G. W. S. Browne.....Drummond No. 2
W. Bea.....Jacques-Cartier.
G. Ferland.....Berthier.
P. Lamothe.....St. Hyacinthe.
L. Levesque.....Joliette.
L. Benoit.....Chambly.
G. Desbarats.....Montreal.
H. Brodie.....Hochelega.
J. W. Blackwood.....Shefford.
O. Duval.....Three Rivers.

Vice-Presidents Agricultural Societies.

N. Lavoie.....L'Islet.
G. Cross.....Chateauguay.
A. Henderson.....Huntingdon.
J. B. Scott.....Beauharnois.
R. Ryers.....Argenteuil.
S. Baker.....Missisquoi.
P. Latraverse.....Richelieu.
W. McGeoh.....Two Mountains.
L. Beaubien.....Nicolet No. 2.
E. Caron.....Maskinongé.
C. Rhéaume.....Quebec (County.)
A. Kay.....Shefford.
H. Beckett.....Sherbrooke.
J. Stockwell.....Richmond.
J. B. Scott.....Beauharnois.
L. Bilodeau.....Quebec (City.)
G. Lanaudière.....Joliette.

- F. Beaudry..... Hochelaga.
- J. Currie..... Soulanges.
- F. X. Marin..... St. Hyacinthe.

Delegates from Agricultural Societies.

- A. Lothrop..... Wolfe.
- Dr. Tetu..... } Kamouraska.
- T. Dionne..... }
- P. Forgues..... Bellechasse.
- A. McEachern..... Chateauguay.
- J. Browning..... Beauharnois.
- A. Bruno..... Richelieu.
- D. Masson..... Two Mountains.
- A. H. de Caussin..... Montcalm.
- F. M. Guay..... Levis.
- J. Dunn..... } Laprairie.
- A. Ste. Marie..... }
- P. N. Watts..... Drummond No 1.
- N. Lecavallier..... Jacques Cartier.
- J. Mairs..... Drummond No 2.
- E. Guilbault..... } Joliette.
- J. B. Renaud..... }
- J. Lefavre..... Brome.
- G. Dumesnil..... Soulanges.
- A. Archambault..... Vercheres No. 1.
- W. Moore..... Quebec (City).
- Jos. Pothier..... Three Rives.
- Lefavre..... Lotbiniere.

Major Campbell, seconded by the Hon. U. Archambault, moved, that O. Duval, Esq., be elected President of the L. C. Agricultural Association for 1863-64. Unanimously carried.

Major Campbell, seconded by Rev. F. Pilote moved, that W. Boa be elected 1st Vice-President. Unanimously carried.

Hon. P. O. Chauveau, seconded by Dr. C. Taché, moved, that Dr. A. C. Fortier from Bellechasse, be elected 2nd Vice-President. Unanimously carried.

Mr. Jos. Laurin, seconded by Dr. Fortier, moved, that the next Provincial Exhibition be held in Quebec.

Mr. Desaulniers, seconded by Mr. Duval, moved, in amendment, that the words "Three Rivers," be substituted for the word "Quebec" in the principal motion.

Mr. Bruneau, seconded by Mr. Wurtele, moved in amendment, that the town of Sorrel be chosen as the place for holding the next Provincial Exhibition.

The motion in amendment to the amendment was lost on the following division. Yeas 35, Nays 54.

Mr. Desaulniers' amendment being put to the vote, was lost on the same division.

Mr. Blackwood, seconded by Mr. Browning, then moved, "That the next Provincial Exhibition be held in the City of Montreal.

This motion put to the vote was carried on the following division. Yeas 54. Nays 35.

The main motion was then lost on same division.

Mr. Wurtele, seconded by Mr. Rodden, moved, "That His Worship the Mayor (for that time) the President of the Board of Agriculture for Lower Canada, and the President of the Board of Arts and Manufactures, form a Local Committee with power to add to their number, and the Council of the Association be pleased to prescribe the duties of the said Committee.

Mr. W. Boa recommended that the next Provincial Exhibition be held in the 2nd or 3rd week of September.

Major Campbell, seconded by Mr. Chamberlin moved, that the President be invited to leave the chair and that the Hon. U. Archambault take his place.

It was then resolved, That the thanks of this meeting be voted to W. L. Felton, Esq., for the able manner with which he conducted the affairs of the Agricultural Association. And the meeting adjourned.

(By order,)

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

PRIZES AWARDED AT THE MONTREAL EXHIBITION.

FIRST SUB-DIVISION—HORSES.

1st Class—Heavy Draft Horses.

1st. Sec.—Stallions, 1,300 lbs and over, David Reid, So Georgetown; Robert Kilgour, Laprairie, Agr. Soc., Beauharnois.

2nd Sec.—3 year old Stallions, Charles Crawford, Petite Cote, Samuel Johnson, Cote St. Louis. 3rd Sec.—2 year old Stallion, Samuel Johnson, Cote St. Louis, N. Grenier, St. George. 4th Sec—Yearling Colts, David Benning, N. Georgetown, J. B. Grenier, St. Louis Digo-naque. 5th

Sec.—Brood Mare and Foal 1,200 lbs Chas. Crawford, Petite Cote; Samuel Johnson, Cote St. Louis; Hugh McDonald, Lower

Lachine. 6th Sec.—3 year old Fillies, Jacques Leonard, Pointe aux Trembles; James Logan, Rockfield Farm; Chas. Crawford, Petite Cote. 7th Sec.—Two

year old Fillies, Chas. Crawford, Petite Cote; James Logan; James Logan. 9th

Sec.—Span of Draught Horses, over 1,300 lbs, Chs. Crawford, Petite Cote; James Logan, Rockfield Farm.

2nd Class—Agricultural Horses.
1st Sec.—Heavy Draught Stallions, 1300 lbs, Oct Truteau, Longue Pointe; P La-

chance, Laprairie; H Bousquet, Longueuil. 2nd Sec.—Three year old Stallion, Michael Scullion, St Foye; A Kimpton, St Therese; G Smith, Lower Lachine. 3rd Sec.—Two year old Stallion, V Dupuis, St Jacques le Mineur; L Verdon, St Laurent; T Cunningham, South Georgetown. 5th Sec.—Brood Mare and Foal, 1200 lbs, J Allan, Pointe aux Trembles; X Lacroix, St Scholastique. 6th Sec.—Three year old Filly, X Lacroix, St Scholastique. 8th Sec.—Yearling Filly X Lacroix, St Scholastique. 9th Sec.—Span of Draught Horses, over 1,300 lbs, Hugh McDonald, Lower Lachine; Ls Brousseau, St Hubert.

3rd Class—Road and Carriage Horses.

1st Sec.—Heavy Draught Stallion, 1,300 lbs, J Main, Melbourne; McLellan, Lacolle; Jas McGivernay, Dunham. 2nd Sec.—Three year old Stallion, J P & T Dawes, Lachine. 5th Sec.—Brood Mare and Foal 1,200 lbs, J P & T A Dawes, Lachine. 6th Sec. 3 year old filly, Hy Mullin, Dunham; J P & T A Dawes, Lachine. 7th Sec.—Two year old filly, J P & T A Dawes, Lachine. 9th Sec.—Span of Draught Horses, over 1300 lbs, J Coote, London; J Coote, do.; G A Massue, St Aimé. 10th Sec.—Single Carriage Horse, J B Audet, St Gervais. 11th Sec.—Saddle Horse, J Penner, River St Pierre; O Teasel, Montreal; J Scott, do.

4th Class—Blood Horses.

1st Sec.—Heavy Draught Stallion, 1300 lbs, H Brodie, Tannery, (west); Wm Bennett, Montreal; S Beaty, Markham. 5th Sec.—Brood Mare and Foal, 1200 lbs, W Bennett, Montreal.

2nd SUB-DIVISION—CATTLE.

1st Class—Earham.

1st Sec.—Bull 4 years old and upwards, A Kimpton, St Therese; D Westover, Dunham; A Barbeau, St Constant. 2nd Sec.—Three year old Bull, A O Kellam, Compton. 3rd Sec.—Two year old Bull, E Longley, Waterloo; Jas Hughes, Cote St Louis. 4th Sec.—One year old Bull, A St Marie, Laprairie; W Crawford, Quebec; J Snell, Edmonston. 5th Sec. Bull Calf, under one year, J Snell, Edmonston; G Millar, Markham; S Baker & Son, Dunham; Wm Vaughan, St John. 6th Sec.—Cow 4 years old and upward, S Baker & Son, Dunham; F E Wadleigh, Hatley; G Miller, Markham; A O Kellam, Compton. 7th Sec.—Three year old Cow, A O Kellam, Compton; S Beaty, Markham. 8th Sec. Two years old heifer, A O Kellam, Compton;

G Miller, Markham; J Hughes, Montreal; J Hughes, do. 9th Sec.—1 year old Heifer Wm Crawford, Quebec; O O Killam, Compton; Mr Vaughan, St John. 10th Sec.—Heifer Calf under one year. S Baker & Son, Dunham; do do; G Millar, Markham.

2nd Class—Herefords.

1st Sec.—Bull, 4 years old and upward, R Kimpton, Rockston; J Sweet, Granby. 4th Sec.—One year Bull, R Kimpton, Roxton. 5th Sec.—Bull Calf under one year, R Kimpton, Roxton. 6th Sec.—Cow, 4 years and upward, R Kimpton, Roxton; do do. 7th Sec.—Three years old Cow, R Kimpton, Roxton; F E Wadleigh, Hatley; P Fallon, Lower Lachine. 8th Sec.—Two years old Heifer, R Kimpton, Roxton; P Fallon, Lower Lachine. 9th Sec.—One year old Heifer, R Kimpton. 10th Sec.—Heifer Calf under one year, R Kimpton.

3rd Class—Devons.

1st Sec.—Bull, 4 years old and upwards, Chas. Courtis, Darlington, Allan, Lothrop, Dudswell, P. Fallon, Lachine. 2nd Sec.—Three years old Bull, Chas. Lothrop, Ascot. 3rd Sec.—Two year old Bull, E. Longley, Waterloo. 4th Sec.—One year old Bull, Chas. Courtis, Darlington. 5th Sec.—Bull Calf under 1 year, E. Longley, Waterloo, C. Curtis, Darlington. 6th Sec. Cow, 4 years old and upward, C. Courtis, Darlington, P. Fallon, Lachine, C. Courtis, Darlington. 7th Sec.—Three years old Cow, C. Courtis, Darlington, E. Longley, Waterloo. 8th Sec.—Two year old Heifer—E. Longley, Waterloo, C. Courtis, Darlington, P. Fallon, Lachine, E. Longley, Waterloo. 9th Sec.—1 year old Heifer, E. Longley, Waterloo, C. Courtis, Darlington. 10th Sec.—Heifer, Calf under 1 year, C. Courtis, Darlington, E Longley, Waterloo.

4th Class—Ayrshira.

1st Sec.—Bull 4 years old and upwards, C A M Globensky, St. Eustache, John Symonds, St Louis de Gonzague, J B & T A Dawes, Lachine. James Hughes, Cote St Louis. 2nd Sec.—3 year old Bull; James Smith, Pointe Claire, James Logan, James Lanouette, Tannery West, A. Somerville, Lachine. 3rd Sec.—2 year old Bull, Ag. Society, Beauharnois, C Crawford, Petite Cote, Wm Morrin, St. Augustine, B Deslauniers, Lachine. 4th Sec.—One year old Bull, C Crawford, Petite Cote Belair, St Rose, J Drummond, Petite Cote Jas Logan, Montreal. 5th Sec.—Bull Calf

under 1 year, Wm Morrin, St Augustin, J P & T A Dawes, Lachine, Cam Globensky, St. Eustache. 6th Sec.—Cow, 4 years old and upwards, Jas Logan, Montreal, J. P. & T A Dawes, Lachine, Chas Crawford, Petite Cote, Jas Logan, Montreal. 7th Sec.—Three years old Cow, Jas Logan, Montreal, J. P. & T A Dawes, Lachine, J. Drummond, Petite Cote. 8th Sec.—Two years old Heifer, Dr Genant, St. Jaques Achigan, Cam Glokensky, St. Eustache, J P & T A Dawes, Lachine, Chas Crawford, Petite Cote. 9th Sec.—1 year old Heifers C A M Globenski, St Eustache, Chs Crawford, Petite Cote, J P & T A Dawes, Lachine. Cam Globenski, St Eustache. 10th Sec.—Heifer Calf under 1 year, J. P. & T A Dawes, Lachine, Cam Globenski, St Eustache, Jas Logan, Montreal, J P & T A Dawes, Lachine.

5th Class—Galloway or Aberdeen Cattle.

1st Sec.—Bull, 4 years old and upwards, John Morris, Ste Therese, James Greenshields, River St Pierre. 4th Sec.—1 year old Bull, John Morris, Ste Therese, John Snell, Edmonston. 5th Sec.—Bull Calf under one year, John Snell, Edmonston, John Morris, Ste Therese. 6th Sec.—Cow 4 years old and upward, J. Greenshields, Riviere St Pierre, John Morris, St Therese, J Snell, Edmonston, John Morris, Ste Therese. 7th Sec.—Three year old Cow, G Miller, Markham, John Morris, St Therese. 8th Sec.—Two year old Heifer, J Greenshields, Riviere St Pierre, John Morris, Ste Therese. 9th Sec.—One year old Heifer, John Snell, Edmonston, G. Miller, Markham, John Morris, Ste Therese. 10th Sec. Heifer Calf under 1 year, George Miller, Markham, J. Greenshields, River St. Pierre, John Morris, Ste Therese.

6th Class—Grade Cattle.

2nd Sec.—3 year old Bull, H. Moss, St Foye, P. McNaughton, Godmanchester, James Rose, Melbourne. 3rd Sec.—Two year old Bull, Hugh Fraser, Lachute. W. Vaughan, St. Johns. 4th Sec.—One year old Bull, F E Wadleigh, Hatley, Jas Snowdon, Cote St Luc. 5th Sec.—Bull Calf, under one year, A St Marie, Laprairie. 6th Sec.—Cow 4 years old and upwards, Jas Snowdon, Cote St. Luc, Jas Rose, Melbourne, J. Drummond, Petite Cote, J. B. Dagnais, Ste Rose. 7th Sec.—Three year old Cow, James Snowdon, Cote St Luc, Jas Shields, Riviere St Pierre, A Kimpton, Ste Therese, James Greenshields, Riviere St Pierre. 8th Sec.—Two year

old Heifer, James Mairs, Durham, A O Kellam, Compton, Wm Vaughan, St Johns, James Rose, Melbourne. 9th Sec.—One year old Heifer. A O Kellam, Compton, John Frothingham, Montreal, M Pregeau, St Cesaire, A M Globenski, St Eustache.

10th Sec.—Heifer Calf under 1 year, A St Marie, Laprairie, Jas Snowdon, Cote St Luc.

7th Class—Fat and working cattle, any breed.

2nd Sec.—Fat Cow and Heifer, G. Miller, Markham, A B Foster, Shefford, E Longley, Waterloo. 3rd Sec.—Yoke 3 year old Steers, A B Foster, Shefford, A O Kellam, Compton. 5th Sec.—Yoke of working Oxen, A B Foster, Shefford, A B Foster, S Baker & Son, Dunham.

THIRD SUB-DIVISION—SHEEP.

1st Class—Leicester.

1st Sec.—Ram 2 years and over, John Snell, Edmonston, J. Snell, Alfred Jeffery, Vaughan. 2nd Sec.—Shearing Ram, John Snell, Edmonston, John Snell, A. Ste Marie, Laprairie. 3rd Sec.—Ram Lamb, A. Jeffery, Vaughan, George Winterbottom, Lacolle, Daniel Morris, Elgin. 4th Sec.—Two ewes, two shears and over, John Snell, Edmonston, A. Ste Marie, Laprairie, A. Jeffery, Vaughan. 5th Sec.—2 Shearling Ewes.—A. Jeffery, Vaughan, O. St. Marie, Laprairie, George Nutter, Markham. 6th Section.—2 Ewe Lambs, A, Jeffery, Vaughan, J. B. Dagenais, St. Rose, A. Roy, Granby.

2nd Class—Coltswoold.

1st Sec.—Ram 2 shears and over, G. Millar, Markham, John Snell, Edmonston, J Snell, Edmonston. 2nd Sec.—Shearling Ram, Geo, Millar, Markham, John Snell, Edmonston, A Jeffery, Vaughan. 3rd Sec. Ram Lamb, George Millar, Markham, Alfred Jeffery, Vaughan, George Winterbottom, Lacolle. 4th Sec.—Two ewes, two shears and over, George Millar, Markham, John Snell, Edmonston, A Jeffery, Vaughan.—5th Sec.—Two shearing Ewes, G Millar, Markham, A Jeffery Vaughan, E Longley, Waterloo. 6th Sec.—Two Ewe Lambs, G Millar, Markham, S Bessette, St. Matthias, Henry Winterbottom, Lacolle.

3rd Class—Other Longwooled Sheep.

1st Sec.—Ram, two shears and over, Simon Beaty, Markham, S Bessette, St. Matthias, J B Dagenais, St. Rose. 2nd Sec.—Shearing Ram, G Millar, Markham, John Snell, Edmonston, A Jeffery, Vaughan. 3rd Sec.—Ram Lamb, J B Dagenais, St. Rose, G Millar, Markham, Louis Bros-

seau, St. Hubert. Two Ewes, two shears and over, G Millar, Markham, John Snell, Edmonston, S Bessette, St. Matthias. 5th Sec.—Two Shearing Ewes, H Winterbottom, Lacolle, B T Dagenais, St. Rose. 6th Sec.—Two Ewe Lambs, G Millar, Markham, S Bessette, St. Matthias, J B Dagenais, St. Rose.

4th Class—South Downs.

1st Sec.—Ram, two shears and over, E Longley, Waterloo, A Jeffery, Vaughan, A Stevens, Ascot. 3rd Sec.—Ram Lamb, F W Wallace, Chambly. 4th Sec.—Two Ewes, in shears and over, A Jeffery, Vaughan, F W Walker, Chambly. 5th Sec.—Two Shearing Ewes, F W Walker, Chambly. 6th Sec.—Two Ewe Lambs, F W Walker, Chambly.

5th Class—Cheviots.

1st Sec.—Ram, 2 shears and over, Geo. Millar, Markham, Michel Dubec Mathias, E Longley, Waterloo. 3rd Sec.—Ram Lamb, George Millar, Markham, Michael Dubec, St. Matthias, George Millar, Markham. 4th Sec.—Two Ewes, 2 shears and over, Geo. Millar, Markham, E Longley, Waterloo. 5th Sec.—Two Shearing Lamb, George Millar, Markham. 6th Sec.—Two Ewe Lambs, Geo. Millar, Markham.

6th Class—Other Medium Woolled Sheep.

1st Sec.—Ram, 2 shears and over, Geo. Millar, Markham, Frs. Cookman, Lacolle, D Martin, St. Esprit. 2nd Sec.—Shearing Ram, Geo. Millar, Markham. 3rd Sec.—Ram Lamb, Frs. Cookman, Lacolle, Geo. Millar, Markham. 4th Sec.—Two Ewes, 2 shears and over, Michel Dubuc, St. Matthias, F E Wadleigh, Hatley, Geo. Miller, Markham. 5th Sec.—Two Shearing Ewes, Geo Miller, Markham. 6th Sec.—Two Ewe Lambs, Geo Miller, Markham, Michel Dubuc, St. Matthias, E Longley, Waterloo.

7th Class—Merinos and Saxons.

1st Sec.—Ram, 2 shears and over, S Baker & Son, Markham, E Longley, Waterloo. 3rd Sec.—Ram Lamb, E Longley, Waterloo. 4th Sec.—Two Ewes, 2 shears and over, E. Longley, Waterloo. 5th Sec.—Two Yearling ewes, E Longley, Waterloo. 6th Sec.—Two Ewe Lambs, E Longley,

8th Class—Other Fine Woolled Sheep.

1st Sec.—Ram, two shears and over, E Longley, Waterloo, D Martin, St. Esprit. 3rd Sec.—Ram Lamb, E Longley, Waterloo. 4th Sec.—two ewes, 2 shears and over, E Longley, Waterloo; S Besset, St. Matthias. 5th Sec.—Two shearing ewes, E

Longley, Waterloo. 6th Sec.—Two Ewes Lamb, E Longley, Waterloo.

6th Class—Fat Sheep.

1st Sec.—Two fat wethers, John Scott, Montreal, Thos Walker, St. Sylvester. 2nd Sec.—Two fat ewes, A Jeffery, Vaughan, D Benning, N Georgetown, T Walker, St. Sylvester.

4th SUB-DIVISION—SWINE.

1st Class—Yorkshires, Large Breed.

1st Sec.—Boar 1 year and over, Dr. Genant, St. Jacques l'Achigan. 2nd Sec.—Boar under 1 year, Jas Logan, Montreal. 3rd Sec.—Breeding Sow, 1 year and over, James Logan, Montreal, Dr. Genant, St. Jacques l'Achigan, James Logan, Montreal. 4th Sec.—Sow under 1 year old, James Logan, Montreal, Wm Vaughan, St. Johns.

2nd Class—Berkshires, Large Breed.

3rd Sec.—Breeding Sow, 1 year and over, James Park, Ste. Marthe.

3rd Class—All other Large Breeds.

1st Sec.—Boar 1 year and over, C A M Globenski, St. Eustache, John Jackson, Cote St. Paul. 2nd Sec.—Boar under 1 year, C A M Globenski, St. Eustache, H Moss, St. Foye. 3rd Sec.—Breeding Sow, 1 year and over, C A M Globenski, St. Eustache. 4th Sec.—Sow under 1 year, C A M Globenski, St. Eustache, H Moss, Ste. Foye.

4th Class—Suffolks, Small Breed.

1st Sec.—Boar 1 year and over, J P & T A Dawes, Lachine, Smith, Lower Lachine, Brown, Longue Pointe. 2nd Sec.—Boar under 1 year, James Drummond, Petite Cote, James Snowdon, Cote St Luc, M Glokenski, St Eustache. 3rd Sec.—Breeding Sow, 1 year and over, James Buchanan, St Michel; James Logan, Montreal; Drummond, Petite Cote. 4th Sec.—Sow under 1 year old, C A M Globenski, St Eustache, C A M Globenski, St Eustache, James Snowdon, Cote St Luc.

5th Class—Improved Berkshires.

1st Sec.—Boar 1 year and over, Alph Kimpton, St Therese, Jas Drummond, Petite Cote. 2nd Sec.—Boar under 1 year, L Verdon, St. Laurent, James Parke, Ste Marthe. 3rd Sec.—Breeding Sow 1 year old, L Terdon. 4th Sec.—Sow under 1 year, G B Chapel, Ascot, B Chapel.

6th Class—All other Small Breed.

1st Sec.—Boar 1 year and over, C A M Globenski, St Eustache, F G Marchand, St Jean. 2nd Sec.—Boar under 1 year.

C A M Globenski, St Eustache, C A M Globenski, St Eustache, Adph Wilscome, Tannery West. 3rd Sec.—Breeding Sow, 1 year and over, C A M Globenski, St Eustache, F. G. Marchand, St Joan, O Fisher, Ascot. 4th Sec.—Sow under 1 year, C A Globenski, St Eustache. C A M Globenski, St Eustache, F G Marchand, St Jean.

5th Sub-division—Poultry.

1st Sec.—Pair of White Dorkings, J Greenshields, River St Pierre. 2nd Sec.—Pair Spangled Dorkings, J P & T A Dawes, Lachine, Jno Morris, St Therese. 5th Sec. Pair Golden Polands, Jas McGrath, Point St Charles. 6th Sec.—Pair Silver Polands, Jas McGrath, Point St Charles, Hugh Brodie, Tannery West. 7th Sec.—Pair Game Fowl, T Watson, Montreal. 9th Sec.—Pair Cochon China, Shanghai, Canton, or Pramah Pootra Fowl, James Logan, Montreal, Wm Farris, Sorel. 10th Sec.—Pair Black Spanish Fowl, Jas Logan, Montreal. 11th Sec.—Pair Black Java Fowl, J Logan, Montreal. 15th Sec.—Pair Feather Legged Bantams, Jas McGrath, Point St Charles, Hugh Brodie, Tannery West. 16th Sec.—Pair Smooth Legged Bantams, G E Molson, Lennoxville. 20th Sec.—Pair Large Geese, Jacques Leonard, Pointe aux Trembles J. Greenshields, River St Pierre. 21st Sec.—Pair Bremen Geese, Hugh Brodie, Tannery West. 22nd Sec.—Pair. Chinese Geese, Jos Ouimet, St Athanase, Joseph Christin, Montreal. 24th Sec.—Pair Common Duck, J P & T A Dawes, Lachine, R Evans, Rougemont. 25th Sec.—Pair Aylesbury Ducks, Hugh Mc Donald, Montreal, Jas Logan. 30th Sec.—Collection Pigeons, Jas McGrath, Point St Charles.

2nd DIVISION—AGRICULTURAL PRODUCTIONS.

1st Class—Grains, Seeds, &c.

1st Sec.—White winter wheat, James Logan, Montreal, A Kimpton, St Therese, P Fallon, Lachine. 2nd Sec.—Red winter wheat, James Smith, Point Claire, F Perisault, L'Assomption. E Caron, River du Loup. 3rd Sec.—White spring wheat, R Brodie, Cote St Pierre, John Currie, River Beaudette, James Allan, Pointe aux Trembles. 4th Sec.—Red spring wheat Jas Logan, Montreal, Wm Vaughan, St John's, J A McNaughton, Huntingdon. 5th Sec. Barley (2 rowed)—Jas Logan, Montreal, A Rocheleau, St Bruno, D Graham, Ormstown, M Hamel St Foye. 8th Sec.—Oats white, James Logan, Montreal, Wm

Farris, Sorel, Jam's Drummond, Petite Cote. 10th Sec.—Field Peas, T Robinoux, St Phillippe, Wm Vaughan, St Johns, J A Huntingdon. 11th Sec.—Marrowfat Peas, Dan Batchelder, Rougemont. 12th Sec.—Tares, T Robidoux, St Phillippe, James Shields, Lachine, James Logan, Montreal. 13th Sec.—Whitefield Beans, Wm Vaughan, St Johns, Dan Batchelder, Rougemont, Wm Farris, Sorel. 14th Sec.—Indian Corn in the ear, white, Pierre Martin, St Laurent, Wm Vaughan, St Johns, R Lecavalier, St Laurent. 15th Sec.—Indian Corn in the ear, yellow, Dan Batchelder, Rougemont, Jas Parke, St Marthe, Wm Boa, St Laurent. 16th Sec.—Timothy Seed, J B Laberge, No Georgetown, John Currie, River Beaudette, F E Wadleigh, Hatley. 17th Sec.—Clover Seed, Wm Evans, Montreal. 18th Sec.—Alsike Clover Seed, Wm Evans, Montreal, D Martin, St Esprit. 19th Sec.—Hemp Seed, Wm Boa, St Laurent, F M Ossaye, St Michel. 25th Sec.—Flax Seed, Paul Dagenais, Ste Rose, J B Laberge, No Georgetown, Dr Genant, St Jacques. 21st Sec.—Mustard Seed, Wm Evans, Montreal, P A Lefavre, St Remi. 23rd Sec.—14 lbs white Belgian Field Carrot Seed, Wm Evans, Montreal. 24th Sec.—12lbs long Mangel Wurzel Seed, Wm Evans, Montreal. 26th Sec.—Bale Hops, 112 lbs, B Smith, Barnston, J P & T A Dawes, Lachine, Geo Pomeroy, Stanstead. 27th Sec.—Horse beans, James Logan, Montreal, Jas Shields, Lachine, Mr Boa, St Laurent.

2nd Class—Roots and other Hoed Crops.

1st Sec.—Pink-eyed Potatoes, Mr Scullion, St. Foy; R T Raynes, Montreal. 2nd Sec.—Cup Potatoes, M Scullion, St Foye; Hy Moss, Michael Hamel. 3rd Sec.—Garnet Chillis, R T Raynes, Montreal; M Scullion, St Foye; W B Davidson, Tannery West. 4th Sec.—White Potatoes, J Snowden, Cote St Luc; A St Marie, Laprarie, Charles Crawford, Petite Cote. 5th Sec.—Red Potatoes, J Snowden, Cote St Luc; R T Raynes, Montreal; Hy Moss, St Foye. 6th Sec.—Blue Potatoes, Hugh Campbell, Cote St Michel; M Scullion, St Foye; Jas Snowden, Cote St Luc. 7th Sec.—Any other sort, M Scullion, St Foye; Jas Snowden, Cote St Luc; Wm Boa, St Laurent. 8th Sec.—Collection of Field Potatoes, J Snowden, Cote St Luc; Thos Walker, St Sylvester; Jas Logan, Montreal. 9th Sec.—Swede Turnips, P E Wadbigle, Hatley; J Snowden, Cote St

Luc; James Kiernan, Petite Cote. 10th Sec.—White Globe Turnips, J B Capel, Ascot; M Scullion, St Foye; Geo Kidd, Petite Cote. 11th Sec.—Aberdeen Yellow Turnips, H Moss, St Foye; M Scullion, St Foye; W B Davidson, Tannery West. 12th Sec.—20 Roots Red Carrots, R T Raynes, Montreal; Jas Logan, Montreal; J Snowden, Cote St Luke. 13th Sec.—20 Roots White Carrots, J Logan, Montreal; Laurent Verdon, St Laurent; L Laporte, Pointe aux Trembles. 14th Sec.—Mangel Wurzel, long red (12), A St Marie, Laprairie; P Fallon, Lachine; L Laporte, Pointe aux Trembles.—15th Sec.—Red Globe Mangel Wurzel (12), A St Marie, Laprairie; J Logan, Montreal; Robert Brodie, Cote St Pierre. 16th Sec.—Yellow Globe Mangel Wurzel, R T Raynes, Montreal; James Logan, Montreal; James Kernan, Petite Cote. 17th Sec.—Long Yellow Mangel Wurzel, J Drummond, Petite Cote; James Logan, Montreal; Dr. Genant, L'Archigan. 18th Sec.—Khol Rabi (12), James Logan, Montreal; R T Raynes, Montreal. 19th Sec.—Sugar Beet (12), Geo Kidd, Petite Cote; J Logan, Montreal; R T Raynes, Montreal. 20th Sec.—Parsnips (20), W B Davidson, Tannery West; Jas Kennan, Petite Cote, Jas Logan, Montreal. 21st Sec.—Large Squashes for Cattle (2), Edward Caron, River du Loup; R T Raynes, Montreal; W B Davidson, Tannery West. 22nd Sec.—Mammoth Field Pumpkins (2) T Montpellier, St Laurent; James Logan, Montreal; W B Davidson, Tannery West, 23rd Sec.—Tobacco Leaf, Dr Genant, St Jacques. 25th Sec.—Flax Scutched (112 lbs.) M Scullion, St Foye; J Logan, Montreal; M B Southwick, St Hilaire. 26th Sec.—Hemp (112 lbs.), Wm Boa, St Laurent; F M Ossaye, St Michel; R Lecavelier, St Laurent.

3rd Class—Dairy Products.

1st Sec.—Kegs Butter (56 lbs.) James Drummond, Petite Cote; John McGregor, St Andrews; D Batchelder, Rougement; A Burwash, St Andrews. 2nd Sec.—Firkins Butter (28 lbs.) J McGregor, St Andrews; Wm Boa, St Laurent; Mrs Trenholm, Kingsby; J Greenshields, River St Pierre. 3rd Sec.—Cheese (30 lbs.) Alex Vallence, Huntingdon; James Drummond, Petite Cote; R Brodie, Cote St Pierre; J Logan, Montreal. 4th Sec.—Two Stilton Cheeses (14 lbs.) Allan Lothrop, Dudswell. 5th Sec.—Honey in Comb, (10 lbs.) Robt Akin, Cote St Paul; Wm

Paris, Sorel; James Logan, Montreal. 6th Sec.—Jar of Clear Honey, Robt Akin, Cote St Paul; Jas Logan, Montreal. 7th Sec.—Maple Sugar, (30 lbs.) Dr Genaud, St Jacques; Charles Fisher, Ascot. 8th Sec.—Ham, cured, James Buchanan, St Michel.

3rd DIVISION—AGRICULTURAL IMPLEMENTS.

1st Class—Implements for the pulverization of the Soil.

1st Sec.—Iron Plough, J Jeffery, Petite Cote; Jas Patterson, Montreal; Jas Patterson, Montreal. 2nd Sec.—Wooden Plough, Wm Evans, Montreal; M Henry, Waterville; J Jeffery, Petite Cote. 3rd Sec.—French Plough, Wm Evans, Montreal. 4th Sec.—Subsoil Plough, M Henry, Waterville; Wm Evans, Montreal. 5th Sec.—Heavy Harrows, J Jeffery, Petite Cote; J Patterson, W Evans, Montreal. 6th Sec.—Light Harrows, J Jeffery, Petite Cote; J Patterson, Montreal. 7th Sec.—Drill Harrows, W Evans, Montreal; J Patterson, Montreal. 8th Sec.—Iron Roller J Jeffery, Petite Cote. 9th Sec.—Wooden Roller, J McCartney, South Georgetown. 10th Sec.—Collection of Hand Implements, Wm Evans, Montreal.

2nd Class—Implements for Cleaning the Soil.

1st Sec.—Scarifiers or Cultivators, Wm Evans, Montreal; J Patterson, do; Mat Moody, Terrebonne. 2nd Sec.—Double mould board plough, J Jeffery, Petite Cote; J Patterson, Montreal; W Evans, Montreal. 3rd Sec.—Horse hoes, Wm Evans, Montreal; J Patterson. 4th Sec.—Collection of hand implements, W Evans Montreal.

3rd Class—Implements for Harvesting.

1st Sec.—Grain Sowing machine, Jas Jeffery, Petite Cote; J Logan, Montreal; W Evans Montreal. 5th Sec.—Mowers, J Moody, Terrebonne. 6th Sec.—Reapers, J Smith, Montreal. 7th Sec.—Mowing and Reaping combined, Frost & Wood, Smith's Falls; J Smith, Montreal; J Moody, Terrebonne. 10th Sec.—Horse Rakes, C F Painchaud, Varennes; J St Germain, St Hyacinthe. 11th Sec.—Potatoe Diggers, W Evans, Montreal. 12th Sec.—Waggon Mat Moody, Terrebonne; J McCartney, South Georgetown. 13th Sec.—Scotch Cart, J Jeffery, Petite Cote. 14th Sec.—Carts, J Jeffery, Petite Cote.

4th Class—Implements for the preparation of Agricultural Products.

1st Sec.—One-horse thrashing machine, J Smith, Montreal; M Moody, Terrebonne. 2nd Sec.—Two-horse thrashing machine,

M Moody, Terrebonne; J Smith Montreal, 3rd Sec.—Clover thrashing machine, Mat Moody, Terrebonne. 4th Sec.—Corn Hulling machine, W Evans, Montreal. 5th Sec.—Flax Scutching machine, F M Ossay, St Michel. 6th Sec.—Hemp Scutching machine, W Boa, St Laurent. 7th Sec.—Seperator, W Evans, Montreal; J E Laviolette, St Cyprien. 8th Sec.—Fanning Mills, Thos Lyons, L'Acadie Station; W Evans, Montreal. 10th Sec.—Cooking apparatus, W Evans, Montreal. 11th Sec.—Soot Cutter, Wm Evans, Montreal. 12th Sec.—Straw cutter, Wm Evans, Montreal; J Smith, Montreal. 14th Sec.—Churns, William Evans, Montreal; J Curry, River Beaudett. 15 Sec.—Cheese Press, William Evans, Montreal; Geo Pomeroy, Stanstead.

5th Class—Other Implements not mentioned above.

2nd Sec.—Gates, Robert Lewis, Melbourne. 3rd Sec.—Bee Hives, Robert Aiken, Cote St Paul; J Curry, River Beaudett.

AGRICULTURAL EXHIBITIONS IN OCTOBER.

Bagog.....	Ste. Rosalie,	October	1
Montcalm.....	St. Jacques,	"	1
Ottawa.....	Aylmer,	"	6
Soulanges.....	Soulanges,	"	7
L'Assomption.....	L'Assomption,	"	6
St. Maurice.....	Yamachiche,	"	7
Bonaventure, No. 2.....	Maria,	"	7
Megantic, No. 2.....	Leeds,	"	7
Champlain.....	S Genevieve de Batiscan,	"	8
Bonaventure, No. 2.....	Carleton,	"	10
Temiscounta.....	St. Arsené	"	13
Bonaventure, No. 2.....	Munn,	"	14
Ottawa, No. 2.....	Thurso,	"	15
Dorchester.....	St Auselme,	"	15
Kimousk.....	Ste. Luc,	"	15
Bonaventure, No. 2.....	Cross Point,	February	17

DEPARTMENT OF CROWN LANDS.

Quebec, 10th August, 1863.

Notice is hereby given that about 250,000 acres of the public lands situate in the townships of Ham, South Ham, Wolfstown, Wollen, and St. Camille, in the County of Wolfe, C. E., will be offered for sale by Public Auction, at the Village of St. Hyppolite in the township of Wotton, on Friday the sixth day of November next, at the hour of noon. Terms, the purchase money to be paid in full at the time of sale.

For further particulars apply to the local agent, J. T. Bell, Esq., at Wotton, C. E.
ANDREW RUSSELL, Ass. Com.

EDITORIAL DEPARTMENT.

THE MONTREAL PROVINCIAL EXHIBITION.

THE Exhibition of the Lower Canada Agricultural Society was held on the 15th, 16th, 17th, and 18th ult., in an enclosure on the left of Peel Street. On two sides of this enclosure, substantial wooden sheds had been erected, containing two hundred stalls. Along the fence bounding on Sherbrooke Street, a large open shed had been constructed, also divided into stalls. A few hundred feet distance from the same fence, three open sheds had been put up. These sheds measure together 800 feet. Very large hay sheds were also provided. On the upper portion of the enclosure, a building, 20 x 50 feet, was erected, for a refreshment room, near which a band stand was also erected. There were, likewise, buildings for the Agricultural Association, the Local Committee, police station, and ticket offices. The site of the Prince of Wales Ball Room was levelled, and enclosed with ropes, for showing and exercising the horses. Horned cattle were entered from Sherbrooke Street, while horses were admitted from Stanley Street, thus preventing accidents which might arise from collision. The heavy agricultural implements, such

as threshing and mowing machines, were in the enclosure, while the lighter ones were allotted a space in the Crystal Palace.

The Exhibition opened under favorable circumstances; the weather was all that could be desired, and everything indicated that the show would be highly successful. There is always some backwardness on the part of exhibitors in making the entries. This was noticeable in all the departments, articles being crowded in at the last moment. Nevertheless many entered into the contest with great spirit, showing that they fully appreciated the advantages afforded by these meetings.

The judges, who, it is to be regretted, were not all practical men, had a very onerous duty to perform. They met and organized at ten o'clock in the morning, and were then furnished with the committee books containing the numbers of entries in each class. In addition to the premiums offered for articles enumerated in the list, they had power to award discretionary premiums for such articles, not enumerated, as they might consider worthy; and though no one doubted their desire to do justice, still their awards were very much questioned.

The tickets attached to the various ar-

ticles to which prizes have been awarded increased the interest in the exposition in the industrial department, the pressure of business on the judges and committee precluding the possibility of effecting this on the first day. The delay in this particular was ascribable to the tardiness of exhibitors in sending in their contributions, and not to any lack of industry on the part of the Secretary and the committee, who had been engaged late and early in making the arrangements.

In the first class of heavy horses, Mr. Read, of Chateauguay, showed a beautiful 6 year old black horse, and the County of Beauharnois Agricultural Society a Clydesdale Stallion, imported for the society. Mr. Crawford, of Petite Côte, showed a splendid 7 year old imported stallion from Clyde; Mr. Laurent Collet, of Longueuil, a dark grey horse, weighing 1271 lbs—wrongly classed, the minimum being 1300 lbs; as was also the horse belonging to Mr. Tous-saint Prefontaine, of Longueuil, which only weighed 1265 lbs. "Rob Roy"—the property of Mr. J. Fagan—was a great favorite. Mr. Robert Kilgour, of Laprairie, showed a black stud weighing 1500 lbs. Of Blood Horses, Mr. Beatty, of Toronto, Mr. Lyons of Shipton, Eastern Townships, and Mr. Lucien, of Longueuil, showed splendid specimens. In the second class, comprising Agricultural Horses, we noticed especially those of Mr. Lefebvre, of St. Remi, Mr. Ouimet, of St. Athanase, Mr. Bruce, of Huntingdon, Mr. Lantree, of the same place, Mr. Lacroix, of St. Scholastique, Mr. Lachance, of Laprairie, Mr. Kidd, of Petite Côte, and Mr. Duford, of St. Alexandre. Of mares in foal, Mr. Crawford, of Petite Côte, Mr. Johnson, of the same place, and Mr. Logan, showed some beautiful animals. In road or carriage horses, Mr. Drummond's Billy Baton, by Niagara, three years old, was the observed of all observers. Horses shown as single carriage horses, as saddle horses, or as spans of team or carriage horses, were not stallions.

With regard to the second subdivision—"Cattle"—we must express our great delight at the show. A certificate of Herd Book Pedigree, or a sufficient reference to the herd-book in which they were registered was required of all animals of the Durham breed; and the pedigree of others were required to be as full and correct as possible. Of the Bulls, we noticed some splendid specimens of Herefords, Devons, Ayrshires,

and Galloways. The entries, indeed, were 320, subdivided into 65 Durham, 12 Hereford, 30 Devon, 76 Ayrshire, 27 Galloway, 72 Grade, and 41 fat and working oxen. There was a Durham Bull, not competing for a prize, on account, we heard, of its coming too late for entry, exhibited by Mr. Snell, of Brampton, said to be only two years old, imported. If only two years old, it is the largest one we ever saw. It excited a great deal of remark. Mr. Snell is a breeder of Durham and Galloway cattle, and Leicester, Coltswood, and Lincolnshire sheep, living 20 miles west of Toronto, and, as will be seen, contributed largely to the success of the exhibition. Mr. Globenski, of St. Eustache, and Mr. Dawes, of Lachine, showed each an aged bull. Mr. Morris, of Ste. Therèse, showed an Aberdeen bull; and in the Grade Cattle, Mr. Moss, of Quebec, showed a beautiful animal imported by Mr. John Gilmour, 3 years old. The judges had to ascertain, in deciding on bull calves in the classes we have designated, whether the animal had been suckled or raised by pail, and made allowances accordingly. The exact age of young animals was taken into consideration by the judges in making their awards, and with a view of encouraging largely the importation of improved stock, the exhibitor of any male animal imported into the Province from Europe since the last Exhibition, which might take the first prize, was paid three times the amount of the premium offered in the list; the exhibitor of any female animal imported from Europe within the same time, taking the first prize, was paid double the amount offered; the exhibitor of any male animal imported into the Province from any part of America within the same time, taking the first prize, was paid double the amount of the prize offered; and of any female animal imported within the same time, and taking the first, one half, in addition to the amount of prize offered in the list. Such animal was to be the *bona fide* property of persons residing in Lower Canada. Satisfactory evidence of this to be given.

The Pure Ayrshire Bull imported last year for the Beauharnois Agricultural Society two years old—was much admired. Mr. Morrin, of Petit Brulé, also showed an animal which took the fancy of every agriculturist on the ground. Of Galloway Bulls, Mr. Snell, of Toronto, had some splendid specimens. The Hon. Mr. Foster, of Shefford, put in, in the "Fat and Working Cattle" division, two splendid oxen, weigh-

ing 65 cwt. the pair. Two Devon Bulls, 4 years old, the property of Mr. Cartie, Durham, C. W., attracted great notice. Mr. Morris, of Ste. Therese, showed a fine Galloway bull, 5 years old, raised in this country; Mr. Greenshields, of the Glen, another imported by the late Sir George Simpson. Mr. McCallum, of Compton, a Durham bull, brought down by the Agricultural Society; Mr. Smith, of Point Claire, a 3 year old Ayrshire bull; Mr. James Logan, an Ayrshire which took the second prize. A Durham, said to be one year old, the property of Mr. Adolphe St. Marie, of La Prairie, created considerable notice from its size and appearance.

The exhibition of agricultural implements was not what it ought to have been, although of a very fair character. Among the most interesting articles, we observed two Howard ploughs, of Bedford, England, exhibited by Mr. William Evans. Mr. J. Perrault, of the Agricultural Depot, Mr. Jeffreys, of Petite Côte, and Mr. Patterson, of Montreal, exhibited a very handsome and highly-finished collection of ploughs. Messrs. Evans, Jeffreys, and Patterson, exhibited good specimens of double mould board ploughs. Mr. Laviolette, of Napierville, had a good potato-covering, hoeing, and drilling machine on exhibition. Harrows and horse-hoes were exhibited by Mr. Patterson. Mr. John Curry, of Rivière Beaudette, exhibited an excellent grass seed sower. In horse rakes there were but few varieties. A collection of fanning mills straw cutters, cheese presses, churns, &c., were displayed by Mr. Evans and others. A very fine set of draining implements were also exhibited by Mr. Evans. The dairy products were meagre, but the articles shown were of first quality.

The total number of entries of horses was 121. Of these, 49 were heavy, 40 middle, 28 light, and 4 blood. Many of these were splendid animals, and won the admiration of all who saw them. Of horned cattle the entries were 320, subdivided into 65 Durham, 19 Hereford, 30 Devon, 76 Ayrshire, 27 Galloway, 72 Grade, 41 fat and working oxen. Of sheep there were 320 entries, subdivided into 90 Leicesters, 31 Cotswolds, 41 Longwools, 18 South Downs, 10 Cheviots, 15 Shortwools, 6 Merinoes and Saxons, 7 Finewools, and 12 fat sheep. Of pigs there were 68 entries, subdivided into 13 Yorkshire, 1 Berkshire, 7 large breeds, 17 Suffolk, 7 small Berkshire, and 23 small breeds. The show of

fowls was not large. The number of entries was 44. Of Agricultural Implements the number was 100.

We must conclude our remarks by saying that the Exhibition altogether was a complete success, and deserves our warmest praise.

GUANO DEPOSITS ON THE COAST OF PERU.

An important survey has lately been concluded of guano deposits on the coast of Peru. The engineers commenced at the Lobos Islands, where, in their opinion, were the more valuable deposits. The guano on these islands extends on a large part of the surface to the depth of ten or twelve feet; but on some parts there are deposits of as much as forty feet deep. On both islands the first-class guano may be calculated about three millions of tons, and the one of the second-class, about one million of tons. For the first-class guano, Peru can easily obtain a net produce of \$30 a ton. Of the second-class, the net produce will not be less than \$20 a ton. After these islands were explored, the Peruvian engineers sailed for the Macabi group, near Malabrigo; but on board they had such a poor opinion of these deposits, that nobody thought of staying there any longer than two days. When they landed, however, they were surprised to find a respectable stock—the whole guano of the first-class, and not inferior at all to that of the Chincha islands. In the exploration of these islands, which are two, a large and a small one, the labours of the engineers were interrupted, because the borer they used for their examinations broke, after having penetrated, with great effort, to the depth of 130 feet, without touching the foundation rock. On these islands all the guano is of first quality, and the said stock is not less than 1,500,000 tons. The work having been suspended after this accident, the vessel sailed for the Guanape group, opposite the point of St. Helena. All the guano on these islands was found to be of the first-class; and the stock, judging by the height and the extension of the deposits, which commence at the very sea, will not be less than 2,000,000 tons. The minimum of these deposits may be represented at 8,000,000 tons.

A half blood Alderney heifer, belonging to Mr. Knight of East Hartford, Conn., gave birth to a calf when only one year and twenty-four days old.

A LARGE FARM.

C. D. BRAGDON, Corresponding Editor of the Rural New-Yorker, gives a detailed account of his visit to the celebrated farm of M. L. Sullivan, Champaign Co., Ill., which he is bringing into cultivation, having personally occupied it two years. This farm is seven miles long and five and a half wide; it contains twenty-two thousand acres. In May last, eleven thousand acres of this farm had been inclosed, and subdivided into fields of a section or two, more or less, each. He had a large force building fence, and a month later he expected to have twenty thousand acres inclosed with board fence. He depends mainly on raising corn and feeding cattle for profit; and has at the present time over five thousand head of cattle. Of the eleven thousand acres above mentioned, eighteen hundred were devoted to corn, three hundred to winter wheat, forty to oats, and fifteen hundred to meadow. The rest are in pasture. Twenty-two thousand bushels of corn were sold at forty-two cents per bushel this spring, amounting to over nine thousand dollars; and five hundred tons of timothy hay brought five thousand dollars. There are also four thousand worn-down Government horses pasturing and recruiting on this farm. Seventy-five span of horses, seventy-five yoke of oxen, and some mules, are used for working it.

Each department of this great farm is under the charge of an able farmer. A blacksmith shop repairs all the iron parts of the implements, machines, and tools; a carpenter shop is constantly occupied with the wood-work; a cook feeds the army of hands, and the great dining-hall is under perfect systematic management; the gardener raises tons of vegetables for the men; the forty ploughs are under the charge of a man constantly in the saddle, to see that each plowman has his allotted work, and every thing is in running order; and the whole is under the charge of a general superintendent, who reports daily to the proprietor. Accounts are kept of every thing, and at the end of the year it is known with perfect accuracy, what every bushel of corn has cost, how much labor every animal has done, and in what direction the greatest profits are made.

THE ROAD TO POOR FARMING.

1. Invest all your capital in land, and run in debt for more.
2. Hire money to stock your farm.

3. Have no faith in your own business, and be always ready to sell out.

4. Buy mean cows, spavined horses, poor oxen, and cheap tools.

5. Feed poor hay and mouldy cornstalks exclusively, in order to keep your stock tame; fiery cattle are terribly hard on old rickety wagons and plows.

6. Use the oil of hickory freely whenever your oxen need strength: it is cheaper than hay or meal, keeps the hair lively, and pounds out all the grubs.

7. Select such calves for stock as the butchers shun—beauties of runts, thin in the hams, and pot-bellied: but be sure and keep their blood thin by scanty herbage; animals are safest to breed from that haven't strength to herd.

8. Be cautious about manufacturing manure: it makes the fields look black and mournful about planting time; besides it is a deal of work to haul it.

9. Never waste time by setting out fruit and shade trees; fruit and leaves rotting around a place make it unhealthy.

A STOCK BREEDING FARM.

Twelve miles from the centre of Chicago, on the Chicago and St. Louis railroad, is the "Summit Farm," comprising 2,500 acres, owned by Hon. J. Wentworth. It has acquired considerable notoriety on several accounts, but especially from being a stock-breeding farm, for which it has several advantages. It is the manifest destiny of Chicago to be the great central part of the Northwest. Farmers who send their produce here, will continue to find it, as they now do, a convenient point from which to obtain whatever they wish to take home. If they want improved stock of any kind, they will take the opportunity to make their examinations and purchases when business leads them to the city—thirty minutes only being required to enable them to go from here to the Summit Station, which is within 80 rods of the farm. The canal, also, which connects Chicago with steamboat navigation on the Illinois river, approaches the farm at this point within about the same distance as the railroad. Stock can therefore be sent from the farm either by the railroad or canal. In addition to these advantages, the tract comprises the first land in this direction from Chicago, which rises above the dead flat, extending for several miles around the city. The summit, although not very high, is sufficiently elevated to form a pleasant

slope, affording facilities for drainage. The canal is now several feet higher than the city. By deepening it—an improvement which it is thought will be taken at no remote period—the drainage of the city—hitherto quite imperfect, will, it is said, be readily effected through this channel, giving at the same time an outlet for all the drainage water of the adjoining land.

The highest part of the farm is covered with a natural forest, embracing about 50 acres. In this the farm house and the various shelters for stock are situated. The trees break the force of the winds from every direction, and give comfortable winter quarters to the stock. Along the base of the ridge on which the trees stand, good water in abundance comes near to the surface of the ground at all times, and by only a little digging an adequate supply for all purposes can be obtained. A well, in which is a pump worked by wind, raises water enough for all the stock.

Mr. Wentworth bought this land in 1854, it being then wholly uncultivated. It has been enclosed with a good broad fence, and subdivided into fields of various sizes. About 600 acres have been plowed, 400 of which are in cultivated grass—part being pastured and part mowed. He will probably cut 300 tons of "tame" hay this season, and 100 tons or more of prairie hay, or that from wild grasses. Besides the cultivated grasses which have been sown on the plowed land, a considerable tract of prairie pasture has "come in" to blue-grass and white clover, and affords good feed.

Cattle—Mr. Wentworth keeps 250 head of cattle. They are Short-Horns and Devons, and crosses of these breeds with the common stock. The Short-Horn bull which is now serving in his herd is Railway (Am. Short-Horn Herd Book 4289.) He was bred by Jas. N. Brown of Sangamon Co., Ill. His sire, King Alfred, was bred by the late Jonas Webb of Babraham, England. His dam was imported Western Lady, by Grand Turk (English Short-Horn Herd Book, 12969) He is a prime bull, uniting size with fine bone and good quality of flesh. He will be four years old on the 10th of September next, and measures at the chine 7 feet and 9 inches.

Among the cows I particularly noticed Constance, bred in England, by Edward Bowley, near Cirencester. She was by Snowstorm (12119;) dam Felicity, by Sol (8608.) She is a cow of substance and

constitution, with much symmetry, being especially good in the fore quarters. Coquette, bred also by Mr. Bowley, was by Economist (11425;) dam Caprice, by Harold (10299.) She is a strong, useful-looking cow. Jubilee of Chicago Duke is a fine red heifer, bred by Mr. Wentworth, in 1861. She was by Chicago Duke; dam, Jubilee of Albion, by Albion, &c. Chicago Duke was bred by R. A. Alexander of Kentucky; was by Duke of Airdrie (12730;) dam Grisi, by Grand Duke (11284.) There are other fine cows in the herd, but I cannot further particularize. It should be stated that Mr. Wentworth bought Chicago Duke (which he still owns) and Jubilee of Albion, of Mr. Alexander, and that he only exchanges bulls with Mr. Brown for one or two seasons.

Mr. Wentworth's full-blood Devons number 25 head, derived from the well-known herds of Messrs. Patterson, Morris, Wainwright, Van Rennselaer and Linsley. The herd embraces the progeny of the celebrated bulls Mayboy (72,) Megunticook (251,) and Comet (162.) The fine animals—Fairy 2d, Model, Fantine, Gazelle, and the young bull Putnam—purchased at Mr. Linsley's sale last fall, have all done well. Putnam is one of the best Devon bulls of his age (15 months) that I have seen. He is large and thrifty, fine and symmetrical. From present appearances, he will be an important acquisition to the Devon herds of the Northwest.

Mr. W. readily disposes of all the Short-Horns and Devons that he can spare, at satisfactory prices, mostly before they are a year old.

Sheep.—After experimenting with several breeds, Mr. Wentworth has decided to keep none but the South-Down, of which he has about 200, of which 180 are ewes that had lambs last spring—they have reared 120 fine lambs. Within a few years Mr. W. has purchased sheep of Mr. Thorne of New-York, and Mr. Taylor of New-Jersey. Eleven yearling ewes and a ram bought at Mr. T.'s sale last year are very fine. The rams used for two years past are two—Newcastle and Renfrew—presented to him by the Prince of Wales. They are good ones—not large, but well shaped. In general characters they much resemble the Duke of Richmond's sheep. Mr. W. sells nearly all his ram lambs at prices varying from \$25 to \$50 each. They are dropped in February, and are sold from October to December. The flock make a fine appear-

ance at this time—the ewes being in good order, and the younger animals large and generally well shaped.

Swine.—The breeding stock consists of eighteen sows and three boars, representing the leading importations of the Suffolk breed. They are of good size, have good forms, and good constitutions. Mr. W. usually sells fifty pair a year, at about three months old, at \$25 per pair. They go into all the Western States and Territories, and some have been taken eastward as far as Connecticut. Besides the breeding stock, Mr. W. has a large number which are raised for slaughter. The simple fact that the stock is so constantly sought after, is evidence of the high estimation in which it is held by farmers.

Horses.—Of these, Mr. Wentworth has, of all ages, 60. He has not given so much attention to the breeding of horses as to other stock. He has some good brood mares, and some good-looking young stock. He is trying the blood of the Kentucky racer, and that of a horse of the Patchen stock.

Poultry.—In this department there are the Bremen Toulouse, white and gray Chinese, and the Canadian wild geese. The Cayuga Black ducks, so called, obtained several years since of J. R. Page of Sennett, N. Y., have done remarkably well here, and are decidedly preferred to any other breed. They are prolific, grow to a large size, and their flesh is of the best quality. Mr. Wentworth let Mr. Gage have some of the breed, and when at his place (of which I have given some account,) I noticed a young flock numbering two hundred. Mr. G. said they were the best bred for the table he ever saw.

In fruits, Mr. Wentworth has not yet much to show. He has set out an apple orchard, which now, in its seventh year, bears a fair quantity of fruit. The trees have grown well. Pear trees, set in sheltered situations, are doing well. Plum trees are loaded with fruit, notwithstanding the great ravages of the curculio. Cherry trees, of the finer varieties, have not succeeded; but I notice that the Morello, and a kind resembling the Kentish, here called the Early Richmond, bear abundantly on this farm, and at other places in the State.

Bees are a kind of live stock of no trifling importance here. Forty hives stand among the trees around the garden. The hives are of a pattern called E. W. Phelps's Combination. The bees thrive well in these

hives, throwing out numerous swarms, and affording a large surplus of honey annually—precisely how much cannot be told, as no account has been kept of it.

Mr. Wentworth does not reside on his farm; his residence is in Chicago. He has not erected any costly building on the farm. The animals are comfortably sheltered in winter in rather slight structures made of joists and boards. The hay is laid up in large ricks, somewhat after the English fashion. The farm is rapidly increasing in value, as might be inferred from its location. Indeed the city limits have been extended to within six miles of the Summit station.

OUR NEW VOLUME.

With this number, we commence the third volume of the "Lower Canada Agriculturist," depending more than ever on the support of our agricultural societies. In the 32 pages which we now publish, our subscribers will find more matter, as well as more ample information on the theory and practice of agriculture, than formerly.

We regret to have to say that we cannot continue to send the "Agriculturist" to those of our subscribers who have not strictly paid in advance the small amount of their yearly subscriptions. Each County Agricultural Society now receives a certain number of copies of our journal, where all wishing to become subscribers are earnestly solicited to leave their names with the respective secretaries. In another point of view, we offer to each secretary who may send us the names of 50 subscribers, not only the free insertion of the prize-list of his local exhibition, but also the printing gratis of 100 copies extra for distribution among the members of the society.

The foregoing advantages, we trust, will be taken into consideration, and further prove that our greatest desire is to respond to the wants of our agricultural societies, whose interests are ours.

The London *Agricultural Gazette*, in a notice of some small prizes awarded to fine animals, contrasts these awards with the vastly greater prizes of commercial success; and to show the latter, gives the results of the sale of Mr. Jonas Webb's cattle and sheep, which made a total of \$125,000 worth of stock on a farm of 800 acres.

FARM OPERATIONS.

TOP-DRESSING GRASS LANDS.

Now is the time, says the New England Farmer, to commence the preparation of materials for this important work. Some persons doubt whether the application of manure to the surface of grass land is the best mode of using it. This depends upon two or three circumstances, viz.—1. Upon the nature of the soil. 2. Upon the time of application. 3. Upon the condition of the dressing.

Top dressing will continue to bring a crop longer on a moist soil than on a dry one, 1st, because such land is the best adapted to grass; and, 2dly, because the manure by being kept moist is brought into a state of decomposition, and becomes prepared as food for the plants instead of drying up. Top dressing, therefore, for high lands, should be applied in the spring, as early as April or the first part of May, so as to receive the early rains and get thoroughly leached, and the coarser particles washed down among the roots of the grass before the hot dry weather comes on. Or, it may be applied—and perhaps with better effect—late in November, when it will receive the later rains and be leached by them, or be covered with snow to be melted upon the dressing, and thus carry its fertilizing properties gradually to the grass roots during the winter and spring.

It is unpopular—we are fully aware—to recommend top dressing for high and dry grass lands; still we believe it to be a profitable way of fertilizing, when it is done judiciously. The error consists in cropping the land for many years, without manuring until not only the fertilizing agents are exhausted, but the roots of the grass themselves have either died for want of food, or have been driven out by plants more hardy and persistent than themselves. When a field is in this condition it is folly to top dress it. There is no basis upon which to act. The dressing was deferred too long—there is no recuperative power left. The remedy for such land is through the plow, manure, cultivation, and plenty of seed, or all of these, excepting the cultivation, which may be omitted by turning over the sod and laying down in August, or early in September.

In a wet season something may be done on high land by spreading fine compost manure liberally, scattering on grass seed

and harrowing. Clover, sown early in April in this way, will sometimes succeed well. If the farmer would be watchful, manure his fields in season, occasionally scattering a little seed over them, while producing liberal crops, he might save considerable expense in plowing and re-seeding. All this, however, should not prevent a judicious rotation of crops, and, in turn, bringing the grass fields into cultivated ones, which is undoubtedly the course that will secure the most certain profits.

The time when top dressing should be applied, is a question upon which our best farmers do not agree. What is needed, is a copious rain immediately after the dressing is spread, but as we cannot command this, we must exercise a sound judgment in the matter, and be content with the result. If the compost cart should follow that which carries away the hay, and a liberal shower follow, perhaps there would be no better time to apply the dressing; and in a moderately moist season, this course will succeed well. April and early in May are good seasons, but then the objection exists of cutting up the fields by the feet of the team, and the wheels. In the autumn there is little danger of this, unless the season be very wet: the more pressing work of the warm season is out of the way, and, upon the whole, perhaps this is the best time for this operation. The third point requiring care is the condition of the dressing when it is used. It should be rich, that is, made of good materials, and fermentation not carried so far as to set free its gaseous properties; and then it should be fine—if as fine as sand, so much the better. This will allow of its being spread evenly, and present such a surface to the rain and dews as to have every part quickly penetrated and its fertilizing properties carried to the roots below.

HOW TO CURE INDIAN CORN FOR FODDER.

Having received several letters making inquiries in regard to my method of curing corn for fodder, I thought, as the inquiries came from the readers of your valuable paper, I would give you my method for publication.

In order to have the fodder good, the corn should be cut up while it is yet green—this is, before the leaves and stalks begin to dry up. Any time after the corn be-

comes hard (or glazed), the corn may be cut without injury to the grain.

I make a stanchion for the shock by tying the tops of four hills together, thus ~~X~~—then the fodder should be set up in the angles as nearly perpendicular as possible. After setting up six or eight hills, the tops should be tied together with a wisp of grass or stalk; this makes a firm beginning for a shock. The shock should contain at least 144 hills, as the larger it is less proportionally it will be exposed to the weather. Bear in mind that the stalks should be set up as nearly perpendicular as possible. Lastly the shock should be well tied at the top with a band of rye straw.

Corn put up in this manner will not fall down before husking time. I usually husk my corn in from four to six weeks after cutting it up. When the corn is husked, the fodder should be tied with straw in convenient sized bundles for pitching, and it is better to put the stalks from two shocks into one, and tie the tops as before; then, if the weather is dry, it may be hauled at any time and put in *stacks* convenient to barn. There is no safety in putting it in the mow, however dry it may appear, for the pith in the but of the stalk is a great absorbent, and as long as the stalks stand on the ground it will retain moisture enough to spoil the stalks if put into a mow; but when they are stacked up so that the butts come to the sun and air, the stalks will not spoil.

I make my stacks in the following manner, so that we can always haul in an entire stack at a time:—Take a pole, from 4 to 6 inches thick and from 15 to 18 feet long, and set it firmly in the ground; then build the stack around it, laying the tops in against the pole and the butts out, keeping the middle full as in other stacks. At the top I make a cap of a bundle of stalks.

Corn that is sown for fodder should be treated as nearly in the same manner as possible, and you will have good sweet food for your cattle, which they will need no coaxing to eat.

Your motto, in preparing corn fodder for stock, from first to last, must be—"whatever is worth doing at all, is worth doing well." It is no wonder that cattle should refuse to eat stalks, that have stood where they grew till the winds and frosts of autumn have bleached and dried out every particle of nutriment—then cut and thrown in heaps, (they do not deserve the name of stacks,) where they are completely soaked

by the rain; and after being husked, thrown into mows or large stacks, where they heat and mould, and only come before the cattle when half are rotten, and the other half tinted with the fumes of that which is fit only for the manure yard.

There is a very great waste for want of care, in the curing of this crop. This year, especially, owing to the drouth and consequent short crop of hay, cornstalks should be secured with great care, and fed in the most economical way. IRA M. ALLEN.

PLOWING UNDER CLOVER.

We commend the following from the *Maine Farmer* to the attention of our Western farmers. We believe the practice of plowing under clover could be followed with decided advantage especially to be followed by wheat. A good coating of slacked lime or plaster sowed on the clover before plowing under would doubtless be found of advantage.

"The principal crop used in this country for green manuring, or for plowing under, is red clover. This kind of manuring is not practiced to any considerable extent. We are not habituated to waiting long enough for results—we want to see the effect almost directly following the cause; and again we are apt to think, or at least to act as if we thought it was a loss, not to harvest and preserve every crop the soil will yield. So when we have a fine field of clover, redolent with blossoms and fragrance, the temptation to cut it is too strong to be resisted, although we may still be aware that the soil needs the substance derived from plowing it under.

The plants principally used in Europe for plowing under as green manure, are the spurrey and the white lupine. These are leguminous plants of quick growth, and drawing their substance largely from the air. Of the former, as many as three crops are sometimes turned under in the same season. It thrives best in a damp climate, hence England is well adapted to its growth, and it is used for the purpose of plowing under to assist in restoring and to invigorate sandy lands, and old worn out fields.

We believe that these plants have been cultivated for this purpose with good effect in this country, but probably nothing will answer the purpose so well as clover. The principal reason why the plowing under of clover is so beneficial to the soil, is because of the large per centage of its substance which is taken from the air. It is evident

that if a plant was plowed in which drew all, or nearly all its nourishment from the soil, there would be nothing or but little gained, for it would be simply returning the substance to whence it was drawn.

Clover contains, when growing, only about five per cent. of matter taken from the soil, the other ninety-five per cent. having been drawn from the air, and it is said, that what it takes from the soil is drawn up from the subsoil, by its long roots, from which common plants could not obtain it; therefore, when it is plowed under, it returns to the soil not only the five per cent. which it draws from it, but the ninety-five per cent. also, which it has drawn in from the atmosphere through its broad leaves, and which is an actual gain or addition to the soil, and it is also by the decomposition of the clover plant made fit and nourishing food for other plants, as it is rendered capable of being immediately assimilated by the growing plants."

• MANAGEMENT OF SWAMP MUCK.

From the questions we often hear people ask, and from observation, it is easily seen that the right management of muck is but imperfectly understood. Most people that condemn it, I find on inquiry the only trial they have made has been to plow it in as fresh dug and drawn from the swamp. I have seen people the past season dig and draw it two miles, when dripping with water. Does any one ask, does this pay? I answer, no sir! A cord of peat or muck is allowed to contain from 80 to 90 per cent of water, and shrinks from two-thirds to three-fourths its bulk when dry. It will be easily seen there is no economy in moving it any great distance until it has parted with a large share of its moisture. My own plan has been to dig in dry weather in the fall. I dig a ditch, say six feet wide, throwing the muck in a high pile on one side. I let it remain over the first winter, until the second. The frost of the first winter having acted on it and pulverized the outside it will not now freeze very deep and the outer crust can be easily broken with a pick. When the ground is frozen sufficient to bear a team, I draw off about 100 loads on to high and dry ground, and as I have two miles to draw it, I let it remain until fall. The 100 loads will not now make over 50 or 60 of equal bulk of the former. It is now ready for composting, or it may be spread on the ground where wanted, and plowed in the coming

spring. It should be never plowed in until it has been weathered at least two years, and become pulverized and lost its adhesiveness; otherwise you may do your land great damage.

I have met with the most success in composting with horse manure, horn shavings, fish, and such manures as contain much ammonia, as they heat the pile and reduce the mass to plant food. Composting should never be undertaken until the muck has been weathered and pulverized by the frost. In composting I use about one-quarter animal manure.

In regard to the value of this compost as a fertilizer or amendment, I consider it far superior to clear animal manure; its lasting qualities are far greater, and of a greater value. I have abundant evidence to show that the muck or peat I have used is entirely a vegetable substance, and will burn well when dry.

FINE PULVERIZATION OF MANURE.

There is no part of the management of manure more important than its fine pulverization, in connection with its fine intermixture with the soil, and no part is more imperfectly appreciated and more neglected. It is a common practice to spread manure in lumps, or in unbroken masses of fibrous material, and in this condition to plow it into the soil. It requires but a moment's reflection to perceive that such a coarse conglomerate of large lumps of manure and of large clods of earth, are quit unfit for the fine, delicate, thread-like fibers constituting the rootlets of plants, to extend through in search of nourishment. But let these crude materials be both ground together to a fine powder and properly moistened, and they will at once promote luxuriant growth. The pile of large clods can do nothing towards retaining moisture; but finely pulverised, they become at once as a sponge. Practical farmers have often remarked that the application of manure has served to increase the dryness of the soil in times of drouth, and sometimes even to lessen the amount of the crop. This would not be the case if thorough intermixture had been attended to; but the manure on the contrary, would increase the growth of the crop, both by the additional nourishment afforded, and by the increased retention and supply of moisture.

The importance therefore of finely breaking all the manure applied to the soil, and intermixing it well by repeated harrowings,

cannot be too strongly impressed on the mind of every cultivator. Various means may be adopted to reduce manure to a fine condition. If coarse or composed largely of straw it must be rotted, by placing it in large heaps to remain several months, cutting down the outsides with a hay-knife after the lapse of a few weeks, and throwing the trimmings on the top. If there is not enough straw to retain the volatile portions, then thin layers of loam, turf, muck, or peat, must be placed with the manure—thus forming an excellent compost heap,—the amount of loam or other absorbent to be regulated by the quantity of straw which the manure may already contain. If the fresh manure is nearly clear dung, it should have one-half of its own bulk to retain the volatile parts; but this again must vary with the amount of clays it contains—a heaving loam being a better retainer than a light one. A dry material, as loam or peat, is also a much better absorbent than a wet one. All these different things are to be taken into account, and the judgment properly exercised in determining how much of absorbing material is to be placed in mixture with the manure.

Where straw is largely used, it would obviously require much less rotting down if the straw could be run through a straw-cutter and chopped short before used as litter. Cornstalks are especially troublesome when mixed with manure; the straw-cutter therefore becomes particularly useful in chopping them up before spreading them over the yard.

We know a very successful commercial gardener who keeps one of his many hands constantly employed, year in and year out, in mixing and working down fine composts; and the eminent success in all parts of the establishment proves the wisdom of the practice. Farmers cannot, however, especially at these times, mix and break down their compost heap by hand; they should therefore make them in the form of long and low parallelograms, on which a yoke of oxen may be used for several days in plowing, harrowing, and commingling all the parts until they are nearly as fine as flour. After the manure is spread upon the soil, and before plowing in, great benefit is derived by thorough harrowing with the top soil, thus breaking finely both the manure and the soil, and mixing them well together. Another way for the perfect diffusion of the manure among the particles of earth, is to spread the manure in autumn

so that all the rains of this season may dissolve the soluble portions and carry them down among the particles, where they are absorbed and retained for the growing crop.

In experiments which we have witnessed where the manure for the corn was thus applied in autumn, it has afforded a yield of about seventy bushels per acre, when the same amount applied in spring gave only fifty bushels. A thin coating of manure applied to winter wheat at the time of manure applied to winter wheat at the time of sowing, and well harrowed in, has increased the crop from seven to ten bushels per acre—and in addition to this, by the stronger growth it has caused, as well as by the protection it has afforded to the surface, it has not unfrequently saved the crop from partial or total winter-killing.

In cases when it is necessary to apply coarse manure at once, much may be done, in lessening the evils of coarseness by artificially grinding it into the soil. The instrument called the drag-roller,—which is like a common roller set stiff, so as not to revolve,—has been used to great advantage for this purpose, by passing it over the surface in connection with the harrow. We have known this treatment to effect a thorough intermixture, and to more than double the crop obtained by common management with coarse manure.

LIME SINKS IN THE SOIL.

A correspondent of the *Germantown Telegraph* says: "Lime acts upon the soil in two ways: one mechanical, and the other chemical. Its specific gravity being greater than that of common salt, it has a tendency to sink until it finds a soil of its own specific gravity. This generally takes place when it reaches the subsoil; hence the benefit sometimes derived from increasing the depth of the surface soil—the lime which during the previous cultivation had sunk to what was then the subsoil is again brought up and mixed with the surface soil. This mechanical action may be more readily explained than the chemical action; the lime by sinking loosens the soil, and admits of a more free passage of air and moisture."

THE BEST TIME TO SOW GRASS-SEED.

I have an impression that experimental knowledge is the most valuable for the farmer. For more than half a century I have been experimenting to find the best time to sow grass seed. For more than 30 of the first years of my farming, I did as

my neighbors did; we supposed that the spring months were the only proper ones for that purpose. But later in life, by reading agricultural papers, I discovered that some enterprising farmers were successful in sowing their grass-seed in August or September. I tried the experiment with complete success: that being the season it would naturally fall, it appeared evident to my mind that it was the right one. But still later I have not been particular, and have sowed grass-seed at any season when my ground was prepared to receive it, and if the seed was good it has uniformly vegetated and done well.

Last fall we (my son and myself) after harvesting our potatoes from the low, wet soil, which will not admit of seeding down in early spring, sowed herds-grass and red-top seed on the 14th and 15th of October upon said potato field, doubting, but still hoping for the best; and now, the 8th of July, it bids fair to give us the best crop of hay produced on any of my farm lots. This grass probably will require two weeks longer time to grow than that which has been seeded down longer. I think I never saw seed vegetate any better at any season. Grass-seed will vegetate a longer time after being sowed. In the spring of 1862, I seeded down a lot of good ground, but rather dry, with red-top seed; the months of June and July were uncommonly dry, and at the middle of August there was no appearance of grass sprout on the piece. On the 10th of August, the same year, it began to rain profusely, and continued raining for several weeks till the ground was saturated. In September, more than four months after the seed was sown, every seed seemed to vegetate, and the ground appeared like a beautiful lawn. And on the whole, I have concluded that any time when our land is in a good state of preparation to receive the seed, is the best time to sow it. SILAS BROWN.

BUCKTHORN FOR HEDGES.

This thorn is used to a considerable extent in Clinton, and vicinity, for hedges. It grows to a sufficient height and thickness in five or six years, and if clipped annually it makes as beautiful and efficient an hedge as one can desire. In the severe climate of Central New York it never winter-kills, not even the tips of the branches.

A writer of the *Prairie Farmer*, (Chicago) makes some remarks of this shrub, which are mainly correct. He says:

As briefly as possible let me enumerate

some of which I understand to be its points of merit:

1. With proper care it will make a thorough defense against all kinds of stock in six years from the seed.

2. It is perfectly hardy in the highest latitudes, growing wild in Siberia.

3. It is a *shrub* (not a tree) and naturally attains a height of but 12 or 15 feet.

4. It is propagated from seed which germinates as readily as peas, and may be transplanted from the seed-bed at the age of one or two years, with as little per cent. of loss as any other woody plant.

5. No insect feeds upon it or attacks it, and it therefore harbors none.

6. The sap is acrid, bitter, and extremely unpleasant to the taste. Stock are rarely tempted to browse it.

7. It bears severe pruning at any time, and may be trimmed as often as desired during the growing season without danger of starting a feeble growth to be killed the following winter.—As a consequence of this the tender shoots may be cut, and the hedge preserved in proper shape by the use of the common Dutch grass-hook alone—one man thoroughly pruning half a mile per day with ease; while the portions cut off may be left where they fall without injury, inconvenience or unsightliness, or may be raked up and handled *without gloves*.

8. The hedge may and should be confined to a base not exceeding five feet in width, and after maturity without extra labor be kept at a uniform height of six feet; or, if shelter is desired, it may be allowed to attain a greater height, say ten feet, without danger to its efficiency as a fence, or increase of width at the base.

9. It does not "sprout from the root," and there need be no apprehension, when setting it near cultivated grounds, of having a forest where you desired only a fence.

10. It is beautiful both in foliage and fruit, which latter (small berries with four seeds in each) it begins to bear at the age of four years.

Why is it not already in general use?—I know no reason except the one as stated by Mr. Downing in 1847;—"Its thorns stand at the point of each shoot of the old wood. Hence it is that a buckthorn hedge does not appear, and is not, really, well armed with thorns till it has attained its full shape and has had a couple of seasons' shearing. "After that," he adds, "the hedge being well furnished with the ends of the shoots, it presents thorns on every face."

We think that every other kind of hedge should be discarded, and the buckthorn used wholly. The seed may be obtained of New York seed dealers. It is worth from 18 to \$1.50 per pound.

The Osage Orange, which was used extensively at the West as a hedge, some years ago, is now going out of use, on account of

its tenderness; it is worthless in this climate.

Privet will do where the hedge is not desired to be proof against depredations by man or beast. The barberry is spoken now in some quarters, as being suitable for a hedge. Can some of our subscribers speak from experience on that point?

BREEDERS' DEPARTMENT.

WORMS IN THE HEAD OF SHEEP.

As this is a common disease in flocks we will give a brief diagnosis of it:—

Cause.—The worm is the maggot of the sheep-fly, which deposits its eggs in the nostrils of the sheep during the month of August, where they usually remain until the warm weather of spring, when they are loosened, and ejected through the nostrils by the action of sneezing. As soon as they fall they crawl into the straw or manure and pass their chrysalis state, until they become a fly, when they are ready to propagate a new progeny.

Symptoms.—Frequent sneezing and running at the nose, with an appearance of stupidity. After sneezing, the sheep will frequently turn the nose on one side, then on the other, with the head inclined downward.

Treatment.—Prevention is better than cure. Remedies for the former are: tar applied to the nose when at pasture; plowing furrows in the pasture for them to protect their nostrils from the invasion of the fly by placing them in the fresh earth. Remedies for the latter: fumigating the animal with brimstone, and applying spirits of turpentine to the nose and nostrils. Young sheep are rarely troubled with them.

AYRSHIRE AND KERRY COWS FOR THE DAIRY.

In the spring of 1859, I saw the herd of Ayrshire cows belonging to Wm. Birnie, Esq., of Springfield, Mass. In this herd at this time, was a young cow that was giving a very large quantity of milk. Mr. Birnie stated that all the food given to the cow was weighed accurately each day, and also the amount of milk which she gave, and that she gave several pounds more of milk each day than she consumed of food. I do not recollect the precise amount which she gave, but think it was between 40 and 50 pounds per day. Dr. Geo. B. Loring of Salem, Mass., who keeps 90 cows on his

farm for the purpose of selling milk, says that since the introduction of Ayrshire cows on his farm, the annual average yield of his entire herd has been one quart of milk per day—365 quarts per year—more than it was previous to that time, with the same keeping.

S. L. Goodale, in his "Principles of Breeding," in referring to what Aiton wrote about forty years since in regard to the origin of this breed, says, "The dairy breed of cows in the county of Ayr, now so much and so deservedly esteemed, is not in their present form, an ancient or indigenuous race, but a breed formed during the memory of living inhabitants, and which have been gradually improving for more than fifty years past, till now they are brought to a degree of perfection that has never been surpassed as dairy stock in any part of Britain, or probably in the world. They have increased to double their former size, and they yield about four, and some of them five times as much milk as formerly. By greater attention to breeding and feeding, they have been changed from an ill-shaped, puny, mongrel race of cattle, to a fixed and specific breed of excellent color and quality. The chief qualities of a dairy cow are, that she gives a copious draught of milk, that she fattens readily, and turns out well in the shambles. In all these respects combined, the Ayrshire breed excels all others in Scotland, and is probably superior to any in Britain. They certainly yield more milk than any other breed in Europe. They are tame, quiet, and feed at ease—without roaming, breaking over fences, or goring each other. They are very hardy and active. "Since Mr. Aiton wrote," says Mr. Goodale, "even greater care and attention has been paid to this breed than before, and it is now well entitled to rank as the first dairy breed in the world; quantity and quality of yield, and amount of food required, being all considered. Experience of their qualities

in this country, shows that if they do not here fully sustain their reputation in Scotland, they come as near to it as the difference in our drier climate allows, giving more good milk upon a given amount of feed than any other breed. Upon ordinarily fertile pastures they yield largely, and prove very hardy and docile."

The Kerry cow is considered by Aiton as the cow best adapted to the wants of Ireland. He says, "The Kerry cow is a valuable animal to the hill farmer in Ireland; for she is hardy, easily kept, and gives a large quantity of milk of a rich quality, when compared with the food consumed. These properties, which are characteristic of the Kerry cow even under very inauspicious circumstances, are greatly enhanced when she is removed to richer pasture and better climate. Under these circumstances, she will compete in profit to the dairyman with other and larger breeds; and when out of milk, she is easily fattened. Mr. Crosby of Ardfert Abbey, near Traley, has a large dairy of cows of the Kerry breed, and as a correct account of the produce is kept from year to year, we are enabled to present our readers with a statement of the annual quantity of milk yielded during the seven years which ended in 1851:

Years,	No of cows.	Gross amount in gallons	Gallons to each cow.
1845....	28	13,410	479
1846....	25	13,552	542
1847....	30	14,277	475
1848....	34	18,219	535
1849....	47	21,980	467
1850....	59	30,090	510
1851....	80	32,921	411½

The average quantity annually per cow, during the whole seven years, is 488 gallons; which, although small for large cows on fine land, is yet large for small Kerry cows fed on land of so poor a quality as to be quite unfit for sustaining the larger breeds of dairy cows. Again, the milk of the small Kerry cows is extremely rich in butter—every two gallons of milk yielding one pound of butter, according to Mr. Grant's statement; but to do this, the cows must be kept in good condition, and milked only twice a day. Some Kerry farmers feed their cows in winter when dry, with hay and sheaf-oats, and when they calve, they are put out to good grass in May? and with this treatment, these farmers will sell four firkins of butter (70lbs. each,) annually, making the entire produce 280 lbs. per annum. In Mr. Grant's

dairy, averaging from 28 to 80 cows during the seven years over which his statement extends, the average quantity of milk yielded by each cow is 488 gallons, which gives 244 lbs. of butter. The cows at Ardfert Abbey are milked twice a day, both in summer and winter. They feed in the fields, and are not housed even at night, from the 1st of May to the first of December. They are milked until about ten weeks before calving time. One cow in Mr. Crosby's dairy has given 681 gallons of milk in a year. This cow when fat, will weigh four cwt. in the shambles. Of course this is an extreme case, but it shows the great desirableness of procuring good animals for the dairy; for when such are obtained, the profit is sure and abundant, whereas in the case of bad milkers, they will eat their heads off every year."

Youatt, in his treatise on cattle, speaks of this Irish breed of cattle as follows: "They are found on the mountains and rude parts of the country in almost every district. They are small, light, active, and wild. The head is small, although there are exceptions to this in various parts; the horns are short compared with the other breed, all of them fine, some of them rather upright, and frequently after projecting forward, then turning backward. Although somewhat deficient in the hind-quarters, they are high-boned and wide over the hips, yet the bone is generally not heavy. The hair is coarse and long; in some places they are black, in others brindled, and in others black or brindled, with white faces. They are exceedingly hardy; they live through the winter, and sometimes fatten on their native mountains and moors, and when removed to a better climate and soil, they fatten with all the rapidity of the aboriginal cattle of the Highlands and Wales. They are generally very good milkers, and many of them are excellent in this respect. The cow of Kerry is truly a poor man's cow, living every where, hardy, yielding for her size abundance of milk of a good quality, and fattening rapidly when required."

In the London Farmer's Journal for 1844, is reported a speech of Rev. Henry Colman of Mass., who was then travelling in England, who says of the Kerry cows, "He found in Ireland a dairy consisting of five dairy cows, from which the owner had sent to Liverpool 25 firkins of butter, averaging 64 lbs. a firkin, and that was 320 lbs. of butter to each cow for the season.

He conceived a stock of dairy cows worthy of as much attention as a stock of fat cows. He believed from observation, and observation not confined to a few years, that in many localities the farmer's best property would be a good stock of dairy cows." About the same time there was published in the *Journal of the Royal Ag. Society* the trial made between Ayrshires, three Galloways, and three Kerry cows. The Ayrshires gave rather the most milk, but the Kerries exceeded them all in butter. As yet, comparatively few of this breed of cows are found in this country. At the fair of the Norfolk (Mass.) County Ag. Society, in Sept., 1862, some Kerry cows were shown by A. W. Austin of West Roxbury. It was stated that one of the cows had given sixteen quarts of milk a day the present season, and that others in the herd had given nearly as much.

C. T. ALVORD.

"LAMPAS" IN HORSES.

"The horizontal bar," says, Dr. DADD, "in the roof of the horse's mouth, is undoubtedly intended to aid the animal to retain food in the mouth while it is being masticated. They are abundantly furnished with blood vessels and nerves, and are therefore very sensitive. When colts are teething, the disturbance of the adjacent parts sometimes cause these parts to be inflamed and swollen. Then the animal cannot eat without pain, and uninformed persons have ascribed the apparent falling off of appetite under such circumstances, to a disease called "lampas." To remedy the supposal ailment, it has been recommended, and is still practiced in some localities, to burn out the swollen bars with a red-hot iron made for the purpose. The operation is an unnecessary and injurious cruelty. The portion of the mouth thus destroyed can never be replaced, and thus the power of perfect mastication is impaired. The only surgical operation allowable in cases needing assistance, is to lance the inflamed parts, the same as a physician would treat the gums of a child in case of difficult teething. This can easily be done with a sharp penknife. After lancing, it is recommended to wash the mouth with two ounces of tincture of myrrh to a pint of water, or a strong solution of alum in water. Feed the colt on bran-mashes and grass—withholding all grain until he eats without difficulty."

CHRONIC COUGH—ITS TREATMENT, &c.

Chronic Cough is often the result of indiscretion in the treatment of influenza, distemper, and disease of the respiratory apparatus. It usually depends on a morbid and irritable condition of the membrane, found on the interior of the respiratory passages; the cough is generally aggravated by over-exertion, especially when the roads are dusty; food of an inferior quality, and that of a musty character, has the same effect.

It is generally supposed by those persons who have not had the benefit of a medical education, that the presence of acute, or chronic cough, indicates diseased *lungs*, or disease in some parts of the organs of *respiration*; but this is not always the case, for, whenever the *liver* becomes diseased, the subject is very apt to be tormented with a harassing cough, which lasts as long as that organ shall be the seat of the disease; however, there are several symptoms to be observed in cases of functional or organic disease of the liver, which are not present in lung disease: hence there is no difficulty in the way of making a correct diagnosis; and for the benefit of the non-professional, I would inform them that, in all cases of liver disease, a marked yellow tinge will be observed on the visible surface within the mouth; the tongue slightly coated; the dung is unusually dark colored, and is voided in hardened lumps, and the urine is also of a dark yellow color.

Treatment of Chronic Cough.—Should it appear that the cough is occasioned by irritation, or an irritable state of the lining membrane of the respiratory passages, I recommend the following:

Fluid Extract of Indian Hemp.....1 ounce.
Syrup of Balsam of Tolu.....2 "
Balsam Copaiba.....1 "

Mix.—About a table-spoonful of the above should be given twice, daily, from a small bottle.

The patient should be coaxed to drink an infusion of linseed now and then; it will lubricate the surfaces with which it comes in contact, lessen the cough, and tend to improve the condition.

Attention must be paid to the Diet. An irritable state of the mucous surfaces is apt to be aggravated by the use of hay of an inferior quality; in fact, poor hay, dusty or musty, is dear at any price, and is not, in that condition, fit for food. If the patient has been long kept on any particular kind of provender, a change becomes necessary—then such articles as linseed, sliced carrots,

green feed, or oat straw, may advantageously be given.

Should the cough be dependent on disease of the liver, I would advise the owner of the animal to consult a veterinary surgeon.

SHELTERING CATTLE.

Not long since, in looking over some of the excellent papers, (which my father takes, and thinks an indispensable article,) I noticed an article urging farmers to write on the subject of farming, and I thought that through the columns of your paper I would say something on this important topic. It is a fact that too many of our farmers don't make farming pay. I suppose it is the same with you as it is among us—that some men, who own farms of fifty to a hundred acres of land, complain that they can't get rich, or make farming pay. Some farmers will let their farms go to loose ends; let their cattle and sheep run over the farm wherever they will. The front yard and barn doors are often open, and the hogs and cattle fighting to see which will get the most feed, while the owner runs in, picks up the fork, gives them a good pricking, and away they go, "helter skelter." In the meantime he gets a pitch-fork full of fodder, and throws it in the mud, saying, "there, I guess that will do for this time. He throws the fork into the barn, sets a rail against the doors, and goes to the house to warm his shins. The cattle, hogs and sheep are huddled so close together, that the four feet of each would almost stand on a penny; while the rain and snow are giving their hides a good soaking; and a gust of wind comes and almost blows them off their foundations; and the boards on the barn are keeping time with the storm.

Now, the above is true of many farmers in this region. Keep your cattle and sheep under cover, and see the difference. After the fall's work is done, or any spare time, go to the woods and get out some timber; get some rails and boards, and put up some tables; then make a sheep shed, and see in how much better order your cattle will be in the spring. Your sheep won't have their wool half off their backs. Give your stock some roots or grain. Last winter my father tried this way of farming, and found that there was nothing lost, but a good deal gained. But perhaps I am occupying too much room in your valuable paper, and will close for the present, though I may hereafter give you some facts and figures of my past experience.

DAIRY FARMS SHOULD NOT BE OVER-STOCKED.

Pastures should not be overstocked—the supply of food must be abundant, otherwise serious losses will be incurred.

There is nothing gained by stocking clean up to, or a little beyond the full capacity of the land, and trusting to an extraordinary good growing season to bring the animals through. Much milk will require a proportionate amount of food, and

we have yet to see the cow miserly kept on scanty fare, who can turn *that fare* during the season into 600 or 700 pounds of cheese. The rule should be the largest quantity and best quality of dairy products per cow; and not the largest number of cows, without thought or care as to the respective quantity or quality of milk from each.

Let this be illustrated a little more fully. The annual average quantity of cheese made by some of our dairy-men has reached 700 pounds per cow; the average in the dairy of Mr. A. L. Fish, of this county, as has been given in the reports, was in 1845, 775 pounds per cow. At the latter figures, 30 cows would yield 23,250 pounds of cheese, which at 7 cents, amounts to \$1,627.50. Now compare this with a dairy of 60 cows, averaging 400 pounds per cow, and we have 24,000 pounds, which at 7 cents comes to \$1,680.00 or only \$52.50 to balance against the 30 additional cows. The average of Mr. Fish's dairy may be said to be an extreme point to reach, but the 400 pounds per cow in the larger dairy, is believed also to be more than the average amount realized by a very great proportion of dairymen. What has been attained by one, can, by good management, be realized by others. Of one thing there can not be much doubt; there is a faulty management somewhere, which demands correction, and it is the duty of every dairyman to study all the causes likely to influence or control the quantity and quality of his dairy products, and try to reach the highest standard of excellence in all that pertains to his business. Let not the land then be overstocked; make ample provision for supplying food for a certain number of cows, and if the quantity of cheese in the aggregate is to be increased, let the poorer animals of the herd be selected out and sold, and their places filled by better stock, rather than adding to the herd, cull and refuse cattle, and scrimping all in their food during a part or the whole of the season.—*N. Y. S. Ag. Society's Trans.*

BIRDS CONSIDERED INJURIOUS TO THE FARMER.

There is a certain class of birds, who, whenever or wherever they happen to appear, are indiscriminately shot at and murdered. I speak of the Crow, the Blue-Jay, the Owl, and the Hawk.

The character of these birds has been singularly mistaken, for while they are

secretly doing good to the farmer, he repays their kind services by killing them.

Let us begin and take them up in regular order, in the way I have set them down, and perhaps I may be able to convince some farmers that instead of their being an injury to the farmer—as he imagines them—they are positively a benefit. Let us begin with

THE CROW.—He, for example, has had great injustice done to him. While he is accused of eating the corn, he is really doing good. When you see him in the corn-field in the spring, scratching vigorously, do not imagine that he is eating the corn. It is not the case. Watch him closely and you will be convinced; *he is eating the grub-worms.* For every blade of corn that he destroys—for when his supply of animal food is shortened, he must live—he kills at least five hundred grubs. This is a positive fact. Now consider which is the best, whether you lose one blade of corn or suffer to live five hundred grub-worms.

THE BLUE JAY.—This bird, from being so unmercifully destroyed has greatly decreased in numbers. How he was put upon the “black list” I don’t know. He is the avowed destroyer of grubs—his enemy and ours.

THE OWL.—Strange how this majestic bird was included on the list. Guardian of the “night” as he is, seldom makes his appearance during the day-time. He frequents barns and old ruins—there to destroy numberless rats and mice. In some parts of Europe he is said to be kept in families, like a cat, and it is said that he equals in patience and excels that animal in alertness.

THE HAWK.—It is an admitted fact that this bird does sometimes trouble the hen-roost, but in my opinion the injury done in this manner is more than counter-balanced by the benefit he confers by destroying *vermin*, such as the weasel, the fox, the racoon, with untold numbers of rats and mice. Very seldom do we find a good thing in this world without its disadvantage. We should remember this when we ruthlessly take the life of the above-mentioned bird.—*Country Gentleman.*

THE FEEDING QUALITIES OF OIL CAKES.

The following is an abstract of a lecture by Dr. Macadam, being the fourth lecture of his course especially devoted to Agricultural Chemistry, now being delivered by

him in the New Veterinary College, London.

The ordinary food of stock, consisting of grass, hay, and turnips, is very bulky in its nature, and contains a small per centage of flesh-forming, ingredients accompanied by a large proportion of heat producing constituents and refuse matter. The digestive system of the sheep and the ox are specially designed for making the best use of such food, but the fattening process proceeds slowly, unless an admixture of richer food is given. The oil-cakes which are now so extensively consumed by stock, supply in small bulk, and with a comparatively little trouble to the animal, a large amount of fat and flesh forming ingredients. The feeding qualities of oil-cakes are mainly dependent on the presence of albuminous compounds to the extent of 20 to 40 per cent., accompanied by an average of 12 per cent. of oil, but besides these, there is a large amount of starch and woody fibre, along with a little sugar and gum, and saline matter containing phosphates (the principal elements in bones). In short, we have present in an oil-cake the important feeding properties of the ordinary food of animals in a concentrated form, and readily capable, when partaken of by the animal, of becoming flesh and fat.

One of the great advantages of a feeding stuff with the composition of an oil-cake, is the presence of so much ready formed oil, as this is easily assimilated by the animal system, and is readily stored up as fat. At the same time, the digestive powers act on the starch, gum, sugar and part of the woody fibre, resolving these into compounds which, as they circulate through the blood, become elaborated into fat capable of being also deposited in the tissues. The albuminous constituents also become transformed before and after entering the blood, and ultimately are woven into flesh in the living structure, whilst the phosphates are taken up into the blood and supply the wants of the bone.

Linseed-cake is regarded as the first-class oil-cake, and it is obtained from linseed by bruising, steaming, and subjecting it to pressure in hair-cloth bags, when about 25 per cent. of oil is extracted, and linseed cake is left. The better kinds contain 24 to 30 per cent. of albuminous compounds, and about 12 per cent. of oil. Linseed oil-cake is liable to be mixed with inferior oil-seeds, bran, and other cheap materials,

which detract from its nourishing properties, and occasionally impart to it noxious properties. A simple way of examining linseed-cake is to grate down about half an ounce, and put it in about half a tumbler of water, and stir for a short time. Good cake gives a light-colored jelly, with an agreeable taste and smell. If other seeds be present as impurities, they communicate a disagreeable taste and unpleasant odor, like refuse canary seed.

Cottonseed-cake is made from the seed of the cotton plant in two years. (1) By crushing the whole seed—husk and kernel—yielding a cake with a little more than 20 per cent. of albuminous compounds and 6 per cent. of oil, and which is very objectionable as an article of food, owing to the presence of the fragments of husk and much cotton fibre. (2) The cake is prepared by first shelling the seeds so as to remove the husk, and the kernel so obtained is compressed so as to extract some of the oil, and a very superior feeding cake is left, which contains from 30 to 40 per cent. of albuminous compounds, and 15 to 18 per cent. of oil. In the shelled or decorticated cake no fragments of the husk should be observed. The newly prepared or fresh cake is yellow in color, somewhat resembling mustard, but become brown on the surface when exposed to the air—especially when damp—and the brown tint passes gradually to the centre as the cake gets aged.

Rape-cake is the cheapest kind of oil-cake, but many varieties are equal to linseed in composition, and in some cases have been found equally useful in the feeding of stock. It is prepared by bruising and compressing rapeseed, which yields rape-oil, largely used as a lighting-oil, and leaves in the bags the rape-cake. This description of cake has naturally a pungent taste, which cattle and sheep rather dislike at the first, and very often it is found necessary to mix the bruised cake with locust beans or merely to sprinkle the cake with treacle, which to a great extent mask or cloak the pungency of the cake, and besides add to the feeding properties. Rape-cake is often mixed with other seeds, especially mustard seeds, which necessarily impart blistering properties to the cake, and thus give rise to rather serious effects in the alimentary canal of the animal partaking of such a mixed cake. The presence of the mustard seed may be easily determined by reducing cake to powder, and mixing it into a thin paste with cold water in a pickle bottle, which can be

corked up. If the quantity of mustard is great, the characteristic smell of made-up mustard will be decidedly apparent in a quarter of an hour, but failing its appearance, then the experiment may be allowed to go on for twenty-four hours, when should no pungent odor be recognized, and the taste is not extra strong and pungent, then mustard is not present in quantity to be at least productive of harm; but if the mustard odor is obtained, and especially if a very strong pungent taste accompany it, mustard is present in quantity to be injurious to the health of animals partaking of the cake.

The judicious employment of the various kind of cake in the feeding of animals is productive of the best results, but cakes of all descriptions are too rich to be given alone to feeding stock, and the daily quantity should be limited. In the feeding of sheep with cake, it would be safer if some plan could be adopted whereby each one would only take its allotted share. During recent seasons, several fatal cases happened, not only where a too liberal dose of the rape-cake had been thoughtlessly given, but even where the proper quantity was weighed out for a given number of sheep, but as one sheep could appropriate its own and its neighbour's shares, evil consequences result.

In concluding the subject of oil-cakes, special reference must be made to the very rich nature of the droppings or manure obtained from stock fed on cake. The improvement in the nature of the manure through the instrumentality of the oil-cake is mainly due to a part of the albuminous or nitrogenous compounds passing through the animal without having been taken up by the system. The proportion of the nitrogenous ingredients of the oil-cake which thus pass direct through the alimentary canal, and appear in the manure, is variously estimated at seven eighths down to nine-twentieths of the whole, and therefore we may safely consider that the manure represents one-half of the total value of the oil cake.

Dr. Macadam illustrated his lecture with a large number of diagrams relating to the constituents of food, and exhibited experiments connected therewith.

NOVEL MODE OF SLAUGHTERING.

Dr. Carson, an eminent English physician and physiologist, who is said to have contributed no small amount of valuable infor-

mation to the medical and physiological literature of England, has recently suggested a plan, the result of much personal study and experiment, by which animals intended for the provision market may be so slaughtered as at once to cause death with the least amount of pain, and greatly improve the quality of meat. The process recommended is the admission of air into the throat of the animal, by means of puncturing between the ribs, whereby the lungs are collapsed and cannot be again inflated. Simultaneously with this puncturing, the spinal marrow at the junction of the skull with the first joint of the neck is severed by means of a short stiff knife, which produced instantaneous paralysis and almost immediate death. The physiological explanation of this process is the sudden stoppage of breathing, and the immediate suspension of the circulation of the blood, by which all the venous or carbonated blood is prevented from entering the lungs, and is drained off from the carcass, while the arterial blood and sanguineous lymph are retained, which, it is said, renders the flesh more succulent and nutritious than when it is completely drained of the fluids named, as in the ordinary way. It is also said by the butchers who have practiced this mode of killing, that the meat so prepared sets sooner and keeps longer.

TURNING CHEESES.

Mr. Harris, of the *Ohio Farmer*, gives an account of a method of turning cheeses, which he saw practiced in Ohio, as follows:

Turning heavy cheeses has always been a severe tax upon the strength of most dairy women. I saw a device for accomplishing this work in a safe and easy manner, in the cheese factory of Mr. Cox, of Mesopotamia. In his curing room, Mr. Cox uses, as supports for his cheese, two stringers of scantling, some ten inches apart; on these scantling stand the cheese, each upon the inverted cover of a cheese box of a size a trifle larger than the size of a cheese.—When the attendant goes to turn the cheese, she takes another cover, of the same size, puts it on the top of the cheese to be turned, then, with one hand on the top of this cover and the other hand at the bottom cover, flops the cheese over, with only the strength of a child, since, when the cheese is tilted up to one side, the opposite side balances down between the two scantling, and the cheese goes over as easy as turning a pair of waffle irons. Another and greater advantage of this method of turning cheese, is that there is no danger of bruising or breaking the corners in turning, as they are perfectly protected by the rim of the cover. The mode of handling, is equally applicable to cheese on shelves.

ENGINEERING DEPARTMENT.

A TON OF HAY BY MEASURE.

It is a matter of considerable dispute how much hay in the mow ought to be allowed as a ton in weight. In some of the agricultural journals figures widely apart are given as correct. Some assert that a cube of ten feet square is required, or 1000 cubic feet; while others place it as low as six feet square and eight feet deep, or only 288 cubic feet. Now, both of these cannot be right, neither can any measure be fixed upon to hold good under all circumstances. Hay at the bottom of the mow will be more solid than at the surface, and the whole will be very much affected by the quantity of grain put on top of it (if any) and the depth of the hay.

But, having occasion to sell a ton of hay in my barn, to be sure of the quantity for future reference, I measured off a space 8 feet square on one corner of the mow, and cut down 7 feet deep, and found the hay

removed weighed 2,020 lbs., thus making 448 cubic feet, a good measure for a ton of average hay; it was taken from the surface, upon which 200 dozen of good oats had been stored. The hay was 12 feet deep.

In this country, when hay is sold in the barn, it is generally calculated 392 feet to a ton, which I am confident will always fall short. On the contrary, 448 is as near the number as actual trial will give me.

DURABILITY OF TIMBER.

The piles sustaining the London Bridge have been driven 500 years. In 1845 they were critically examined, and found to have decayed but slightly; these piles are principally of elm. Old Savoy Place, in the city of London, is sustained on piles driven 650 years ago; they consist of oak, elm, beech, and chestnut, and are perfectly sound. The bridge built by the Emperor

Trajan over the Danube affords a striking example of the durability of timber in the wet state. One of these piles was taken up, and found to be petrified to the depth of three-quarters of an inch, and the rest of the wood had undergone no change, though it had been driven 1600 years.

There is much uncertainty concerning the conditions insuring the durability of timber. Many of the vessels built on the lakes during the war of 1812-14, from timber then freshly cut, have varied materially in their durability, notwithstanding the fact that the timber seems all to have been cut in the same manner, at the same season of the year. Some of these vessels were decayed in three or four years, while one of them, which, in the presence of numerous spectators, was permitted to pass over the Falls of Niagara, within a few years was found to be perfectly sound when picked up below the Falls.—*Working Farmer*.

THE PROPER DEPTH OF UNDERDRAINING.

Sanford Howard, Esq., of the Boston *Cultivator*, who has spent much time among the best farmers of England, alludes to a remark in the London *Farmers' Magazine* in regard to a "dogmatism of drainage" among some English writers on the subject, and remarks that we, on this side of the Atlantic, are not strangers to this same kind of dogmatism. It has been asserted here, as in England, that a drain should always be at least four feet deep. "The attention of these dogmatists," says Mr. HOWARD, "has been called to the fact that on certain lands in this country, drains of two and a half to three feet deep have doubled the crop of wheat, raising it from fifteen to thirty bushels per acre, on the average, for several years; and in reference to this fact the question has been asked whether there was any evidence that in these cases the benefit would have been greater from deeper drains, or whether the increased benefit from four-foot drains would have compensated for the increased expense. No responses were made to these questions, but the persons to whom they were addressed go on with their dictation without even alluding to the demonstrated benefits of drains of less depth than their creed recognizes.

"Occasionally the attempt has been made to show that four-foot drains are not really any more expensive than those of two and a half feet, because, it was asserted, the spaces between the drains could be

doubled. The defenders of this assumption were told that experience had clearly proved that in stiff clay soils this rule was fallacious; that the deep drains would not sufficiently draw the water through the wider spaces. This fact seems now to be generally admitted by British teachers, though some of their American pupils have not yet found it out."

Mr. Howard cites several instances to prove that the four-foot rule is not applicable to all cases.

We do not know how it is about Boston, but in this section farmers do not need to be cautioned against putting their drains too deep. They are much more inclined to run to the opposite extreme. We have seen many tiles laid not more than 20 inches deep, and of course the farmer did not receive half the benefit he would if they had been 2½ to 3 feet deep.

John Jonnston says:

"If practicable, drains should go so deep that the water comes in at the sides, instead of rising from the bottom of the ditch, and this I have found to be the case at from 2½ to 3 feet deep, on my farm. After going deep enough to protect the tile—and 2½ feet is ample for that—I can see no reason for getting down eighteen inches into the hard-pan or stiff clay, wherein there is no water, neither do I think any man can show a good reason for so doing."

TASTE IN HOUSE PAINTING.

Correspondents have expressed a variety of opinions about house painting. Evidently the principles of taste in this matter are not well settled, and some of the accepted theories are open to question. There are not a few people who are charmed with the house on Chestnut street, which is criticised as looking like a dark-skinned person with flaxen hair. Such a person evidently would not be beautiful; but does it follow therefore that a house with trimmings lighter than the ground may not be? Does this comparison of a house to a human body furnish a criterion of taste in the matter of coloring? It would seem, if we seek an analogy in the case, that inanimate nature furnishes the true example for coloring, but it happens that nature is altogether against the dogma of a light color for the body of the house and dark trimmings. The trees, shrubs, flowers, are all colored on the opposite principle, the solid and substantial parts dark, neutral or positive colors, and the ornamental, lighter shades and tints. It

would be a monstrous plant that should have its stalk a beautiful white, yellow, or red, and its blossoms wood color. Nature shades upward and outward from the heavy and sombre to the brilliant and light, and nature is beautiful. Why should not coloring after the fashion of nature be so admirable? It is; and the coloring of the house in Chestnut street, which the books perhaps condemn, is pleasant to the eye and is, therefore, in good taste, just as nature. It does not follow that dark ornamentation on a light house may not also be beautiful. It sometimes is. Everything depends on the style of architecture to which paint is to be applied. The cornice work that imitates stone should be painted a stone color, but how absurd to paint the lattice and lace work upon a cottage a dark brown as if it were impossible stone work. Some buildings ornamented in this style have the painful appearance of being crushed under a load too heavy to be borne.

A sensible man will not dogmatize on this question of paint. There is chance for great freedom in the matter, and the most diverse styles may be equally beautiful. The opportune thing to be said, now that the matter is up, as it seems to us, is that we

want more variety of colors and shades. The inevitable white and the dismal sandstone brown meet the eye everywhere. And yet there are thousands of beautiful neutral colors, shades, and tints, that may be combined or contrasted with most agreeable effects. Our painters should study this subject more thoroughly, and be prepared to direct the choice of their patrons, to originate new combinations and effects, and so give us an endless variety in the coloring of our houses. Nothing would add more to the beauty of any town or village. And it is not a matter requiring so much science as to be difficult, or so much experiment as to be expensive. Let us see what can be done by a little more freedom and originality in coloring, and by no means let us be disturbed if an attractive house is not colored after the model of a pretty woman. The pretty woman finds a white hat with dark trimmings, or a dark hat with light trimmings, beautiful, if got in good taste and costing enough, and it has never occurred to her that the latter cannot be really beautiful because a brunette would look ugly with flaxen hair. Everything in nature and art stands by itself. If harmonious with itself and its surroundings it is beautiful, whatever the books may say.

HORTICULTURAL DEPARTMENT.

RENEWING STRAWBERRY BEDS.

It is sometimes made an objection to certain kinds of strawberries, that after producing a few crops they die out, and leave the cultivator without a crop for the ensuing year.

It is worth remembering, however, that all strawberries bear better, and produce fruit of better quality the second year of planting out than at any other period of their lives, and it is probably on the whole better to base one's calculations on renewing beds every second year.

This is more particularly desirable when strawberries are grown in hills,—a plan which is now followed by those who seek the best results,—and which plan is very liable to be attended by the well known enervating effects of overbearing.

Many market growers of the strawberry, whose pecuniary interests generally lead them to the most profitable way of growing fruit, renew their beds every third year. They make a plantation every season, which, after bearing two crops, is destroyed. A new one planted, and an old one abandon-

ed, thus keeps up the annual succession. These are not planted exactly in hills, but in plow rows,—the plants, perhaps, twelve inches apart, and the rows two or two and a half feet. These rows are usually hoe-harrowed continuously through the early part of the season, till the fruit is ripening, when the whole beds are left to the undisturbed possession of the runners and the fruit. In September, after the new ground has been thoroughly prepared, the runner are taken off and set in pans of water, from which they are transferred to their assigned positions in the new rows. All the runners not wanted are then cut off with a hoe or harrow, the plants left to bear one more good crop next season, which is usually the best, after which they are destroyed, and the ground planted again with young plants, or left for the purpose of using for some other crop, according as it may suit the views or convenience of the planter in regard to rotative cropping.

This is a general outline of the practice of the best growers we know. They each

vary in some particular; but the main point is in the early renewal of the plants, as we have stated.

The questionable point would be this. Granting that a third year's crop from the same plants would not be as good as the second year's had been, would the difference be so great as to warrant the increased labor of making new beds? We believe it would. Moreover the labor is very likely to be overrated; for it costs but little more to make a new plantation than it does to clean out and fix up an old one.

There are some instances, no doubt, where it can be proved best to let a bed remain more than two fruiting seasons, and as long as it will bear well. In the ever varying circumstances under which horticultural rules are to be practised, these anomalies are continually occurring; but we have no doubt, as a general thing, it will be found most profitable and satisfactory to make a new plantation every second or third year.—*Gardener's Monthly*.

NEW WAY TO RAISE ASPARAGUS.

The London *Gardener's Chronicle* details the practice of M. Gauthier in the cultivation of asparagus, as follows:

Sowing.—The seeds should be selected from the plants that have been observed to give the fairest produce. It should be gathered when ripe, which is generally in September or October; and it should be sown immediately in fresh, dry ground. The seeds should be lightly covered with some good vegetable mould. In the month of May following, the plants will have attained the height of some inches. They should then be planted, choosing the strongest of those that have their buds farthest apart, and rather few roots. The plants, says M. Gauthier, which have their roots much developed, often yield small shoots.

Planting.—If the soil is strong it must be trenched and abundantly manured with leaves, decayed vegetables, or preferable, with street manure, finishing with some good soil at top.—There are three ways of planting. 1st. At six or seven inches apart, for obtaining green asparagus, called *aux petits pois*. 2d. At thirteen inches, for asparagus, green or blanched, under grass. For the blanched, soil should be put in the frames, or in the beds, to the height of about twelve or thirteen inches; for the green asparagus this is not neces-

sary. 3d. At three feet three inches distant, and in quincunx order, for the large blanched asparagus. When the plants are sufficiently strong, generally when three or four years old, form over each stool a conical heap of soil, like a large mole hill, ten to twelve inches high, and which may be progressively augmented in following years, according to the strength of the plants, to twenty inches. This work should be done in a dry time in March, the finest soil being gathered together by means of a hoe. The asparagus is gathered when it pushes an inch or two above the hills; and in doing this great care should be taken not to injure the crowns. The fourth year after planting, only a few shoots are gathered from each stool; this gathering should not be continued for more than three weeks at most. In the climate of Paris, the cutting of asparagus continues till the 15th of June; if prolonged beyond this period it will be at the expense of future crops. In the course of November we cut down all the stem to about thirteen inches. In this country (England) they are at once cut down to the ground. Then we uncover the stools so as to leave on each only a very bright covering of soil. By so doing, the maturity of the plants are perfected. Every second year, soon after the earthing up is taken down, it is necessary to give the asparagus plantations a good dressing of rotten dung. Those who prefer a different system of culture from that above indicated, should, however, says M. Gauthier, use plants of one year old, when they begin to push.

RENOVATING FLOWER BED

If the exhausted beds have a good bottom, we advise removing the top spit and replacing it with a mixture of virgin earth from an upland field well chopped up with old chippy cow-dung, and a good proportion of leaf-mould—say, if you can obtain the quantities equal parts of each of the three ingredients. If you can get the beds empty in the winter the best way will be to take off the top spit and fork over the sub-soil, so as to let the frost and snow penetrate it; then get a good supply of burned clay and hot bed dung, and chop them down together in a ridge, and let them be well frozen, and fill up the beds with the mixture early in March, and they will be in admirable condition for planting as soon as they have settled. Chippings off hedges, refuse, wood, straw, &c, built up over a hole, and

packed round with cakes of old turf, and then burned, make a capital dressing to dig into the old soil. If you cannot get new material to replace the worn-out stuff. If used chiefly for bedding plants, a compost of leaf-mould and sandy soil from a common, equal parts, and one-fifth of the whole very old dung, would prove a good mixture. Bedding plants do not require a rich soil as much as a *new* soil.—*Gardener's Weekly*.

BLANCHING CELERY.

We copy the following from the *Gardener's Chronicle*, that our readers may give it a trial during the coming autumn, and likewise for the purpose of suggesting another substance for packing celery in during winter, which we have found very successful when used for beets, parsnips, turnips, &c. We allude to fine moss, pulverized if necessary, such as nurserymen use for packing plants. It is lighter, and more easily handled than saw-dust.

"Having had some trouble in keeping late celery from rotting in a new kitchen garden where the soil was very retentive and damp, and the plants earthed up in the usual manner, I have since used saw-dust for the purpose, and find that it answers perfectly. Last winter all the late celery was earthed up with sawdust, and it kept quite sound till April, and no slugs or insects attacked it under ground, the heads being very solid, clear and crisp, and

well flavored. I had some doubts that the sawdust from resinous trees might give the celery a disagreeable flavor, but on trial I found this not to be the case, and the sawdust is not taken indiscriminately from the sawpits where different kinds of trees are sawn up. Before the late severe frost occurred in October, I had just finished the earthing up of all the late celery with sawdust, and I find it is now wonderfully fresh, the frost not having penetrated far through the surface to the hearts.

SETTING STRAWBERRY PLANTS.

About September 1st is a good season to set strawberry plants. It is a good practice to remove a portion of the foliage, leaving some of the most upright and flourishing portions. In some cases we have clipped off about half the entire foliage with a pair of shears, with good success. It is also beneficial to *puddle* the roots—dip them as they are set, in a thick muddy wash. The roots ought to be spread in a horizontal position, as much as possible. Set rather deep so as to admit a bowl-like hollow around the plants to receive water; and if it should not be necessary to water them by hand, the little hollows will the better catch the rains. After the roots have become fully set, in October, the earth may be evened around the plants, and they will not be so liable to "winter-kill" as those planted more shallow.

DOMESTIC ECONOMY.

PACKING GRAPES.

S. Mitchell, of Steuben Co., writes the following in the *Rural New Yorker*:

Last fall, I instituted a series of experiments to ascertain the best method of keeping Isabella grapes through the winter; the result of which, no doubt, will be of interest to that portion of your readers who are lovers of this delicious fruit. They were all packed in boxes, one foot square and six inches deep, admitting three layers of clusters, and kept in a cool dry cellar; in fact, so cool during the winter that water standing in a pail would freeze half an inch thick. I am satisfied that the nearer the freezing point, grapes, and in fact all other fruits can be kept, without actually freezing, the longer and better they will keep.

Box No. 1 was packed with alternate layers of grapes and fresh grape leaves.

Box No. 2 with alternate layers and colored sheet wadding. Box No. 3 with alternate layers of newspapers and grapes.

Now for results. No. 1 kept fresh and nice until about the last of December, the fruit seemingly improving in flavor, and greenish clusters ripening up; when the leaves and stems of the fruit began to mould quite badly.

No. 2 kept tolerably well until about the middle of December, when I found the cotton sticking to the grapes where they came in contact.

No. 3 kept the best of the three by all odds. By changing the papers and repacking, I kept grapes until the 15th of March perfectly plump and fresh, and most of the stems fresh and green. I know not how much longer they would have kept had I not used up the last of them at that time.

RED PICKLES.

Divide your cabbage in quarters, sprinkle it well with salt, and pack it in a jar; let it stand 24 hours; take it out and wash off all the salt, lay it in a sifter to drain the water from it, and wipe as dry as you can; to one gallon vinegar, put one quart of poke-berry juice, (which you can get by scalding the berries and squeezing them,) one pound of brown sugar, one pint of onions, two oz. of cinnamon, 2 oz. of pepper, 2 oz. of allspice; boil all (except onions) a few minutes; pour over the cabbage, while boiling; cover closely and it will be ready for use in a few days.

TOMATO PICKLES.

One peck of green tomatoes sliced, 1 dozen sliced onions, sprinkled with salt, and let them stand till next day, then drain them; 1 box mustard, half an oz black pepper, 1 oz. whole cloves, 1 oz. of yellow mustard seed, 1 of allspice; put into the kettle a layer of tomatoes and onions, and one of spices alternately, covered with vinegar, and boil half an hour.

QUICK PICKLES.

Take a head of cabbage, slice it up or chop it, sprinkle salt through it; let it remain all night; chop up an onion with the cabbage, drain it through a colander, season it highly with pepper and celery seed, cover it with strong vinegar, and it will be fit for use the third day.

TOMATO OATSUP.

1 bushel of tomatoes boiled soft and forced through a fine wire sieve;—add $\frac{1}{2}$ a gallon of vinegar,— $1\frac{1}{2}$ pint of salt,—2 ounces of cloves,— $\frac{1}{4}$ pound of allspice,—3 ounces of Cayenne pepper,—3 tablespoonfuls of black pepper,—and 5 heads of garlic, skinned and separated.—Boil about 3 hours or until reduced to about $\frac{1}{2}$,—and then bottle without straining.

POTATO STARCH.

Starch made from the common potato furnishes an excellent substitute for arrow-

root, as a wholesome nutritious food for infants. It also makes a good cheap pudding for the table, if cooked like sago; and as it has not the medical properties of arrow-root, it is much to be preferred as an article of daily food, except for children who are subject to diarrhoea or summer complaint. The process of making the starch is simple, and the time required so short as to put it into the power of every one having the means at hand. Wash any quantity of potatoes perfectly clean, and grate them into a tub half full of clean cold water; stir it up well; let it settle, and then pour off the foul water; put the grated potatoes into a fine wire or coarse hair sieve; plunge it into another tub of clean cold water, and wash the starch through the meshes of the sieve and throw the residue away; or wash it again if the starch remains in the pumice; let it settle again, and repeat this process until the water comes off clear; scrape from the top any remains of the pumice; then take the starch out, put it on dishes to dry in a warm room, and it will be fit for use immediately. When wanted for use, mix as much as may be needed in cold water, and stir it into boiling milk, or water if preferred, and it requires no further cooking. It also makes a stiff and beautiful starch for clearing thin muslins and laces.

CURE FOR THE BITE OF A MAD DOG.

The following is worthy of the attention of all, particularly of those residing in places where dogs are allowed to run at large:

Mix one pound of common salt in a quart of water, and then bathe with and squeeze the wound with the same one hour, then bind a little more salt on the wound for twelve hours.

The author of this receipt was bitten six times by mad dogs, and always cured himself by the above mixture, and offered to suffer himself to be bitten by a mad dog in order to convince mankind that what he offered was effectual, which numbers could testify.—*New Haven Register.*

MANUFACTURING REVIEW.

PROGRESS OF THE MECHANIC ARTS.

Nothing is more striking to the observer who goes the round of our machine shops at the present day than the advantages manufacturers now have in new and original tools in connection with systems for accomplishing specified results. It is, as it were, a new era, and those establishments which cling fondly and blindly to the old-time traditions, which were

in vogue twenty or even ten years since, are apt to find their dividends slipping away unconsciously, and their profits vanishing in a vexatious and perplexing manner.

Let us indulge in a brief retrospection and investigate the condition of apprentices for example, fifteen years ago. At that time it was thought a very great favor, in some establishments, to take a young man to learn the ma-

chinish's trade and allow him to pass the first years of his novitiate in carefully sweeping the floors, bringing water for the men, holding lamps for certain celebrated workmen; and he who should attain to the honor of fetching the foreman's rule or his chalk, or of cutting bolts in a vise with a pair of stocks and dies, was thought to be on the high road to distinction. Happily, these abuses are abolished. It never occurred to the worthy employers that they were not only imposing upon the confidence of those persons whose sons were committed to their care, but that they were also throwing away money, by allowing active and intelligent youths, who were desirous of distinguishing themselves, to fritter away their energy in menial occupations.

The national shrewdness has been the great leaven of reform in this particular. The systems in vogue now are to forward young men as fast as possible; and if they have any special fitness for their professions, to find it out as quickly as may be and turn it to account. The lathe has supplanted the broom, the stocks and dies have been deposed by machinery for the purpose, and the consequence is, the production of a higher and more intelligent class of workmen. Witness, in proof of this latter assertion, the new machines; examine the order and method in regulating workshops as compared with the ruinous slovenliness once practised.

From the new men, as we may call them, come all the improvements. They have seen the requirements of the work and have executed them. They have discovered that iron might do the work of muscle, and have applied it to that duty; and the results have been apparent not only in a pecuniary point of view, but also in a social view, the boundaries of which no man can set. Take, for instance, the

sewing machine—without the mechanical system instituted it would be impossible to make them except at such a cost as would forever debar their general use; or the rifle—which could the North have done when disarmed, without those wondrous private armories which reproduced, as if by a stroke of magic, the thousands upon thousands of weapons which were indispensable to the prosecution of war? Simply, nothing. What other arguments are necessary to demonstrate the value of the new regime?

Once, when a cylinder of a steam engine required to be re-bored there were many and profound cogitations. The factory was stopped, hands were thrown out of employment for days even weeks, according to the size of the cylinder, and much tackling, and large forces of men were brought into requisition to take the machinery apart and truck it to the workshop. Now, three men bring a light machine on a cart, fasten it to the cylinder flange and bed-plate, and do in a few hours what formerly required days to accomplish.

We might go on and multiply instances without number which would demonstrate beyond peradventure, how much better the new days and systems are than the old—how far superior, in every way, they are to those crude and awkward attempts which characterized the early history of the mechanic arts in every country. Where the limit to their progression will be fixed is something impossible to predict. As new obstacles arise they will be surmounted; as fast as mechanical riddles are proposed they will be solved, until all the menial offices and drudgery of life will be performed by the mutes who now slumber in the earth. They await only the fashioning hand and vital genius of the mechanic and inventor to fall to work.

COMMERCIAL REVIEW.

CROPS IN EUROPE.

All the intelligence recently received in regard to the crops is favorable. The *European Times* says that from all parts of the United Kingdom—east, west, north, and south—the crop accounts are most encouraging; and in the south of England the harvest has been unusually early, as well as productive. The cereal and the potato crops are all good, and from Ireland the most cheerful accounts come. Nevertheless it would hardly be safe to assume that it will not be necessary to import pretty largely from America.

CROPS IN CANADA.

The accounts which we continue to receive respecting the crops throughout Canada and the United States are most

cheering. An abundant harvest is secured everywhere, and the farmer will this year realize his most sanguine expectations. Prices have a downward tendency, as will be noticed by the annexed quotations:

Potash, per cwt.,	.....	\$6.10 to 6.15
Pearlash, "	.....	6.85 to 6.90
Flour, Fine, per 196 lbs.,	.....	4.00 to 4.10
No. 2 Superfine,	.....	4.20 to 4.25
No. 1 "	.....	4.30 to 4.40
Fancy "	.....	4.50 to 4.70
Extra "	.....	5.20 to 5.30
S. Extra Superfine	.....	0.00 to 0.00
Wheat, U. C. White, per 60 lbs.,	.....	\$0.90 to 1.02
" U. C. Red, "	.....	0.90 to 0.91
Peas, per 66 lbs.,	.....	0.70 to 0.71
Indian Corn, per 56 lbs.,	.....	0.55 to 0.56
Barley, per 50 lbs.,	.....	0.80 to 0.85
Oats, per 40 lbs.,	.....	0.47 to 0.50
Butter, per lb.,	.....	0.15 to 0.16
Cheese, per lb.,	.....	0.08 to 0.08½