

Following is a detailed

rown, Norval.....	\$325
ley, Paris.....	350
en, Burford.....	250
en.....	325
aver, Brantford..	200
y.....	220
arley.....	190
aws.....	175
idland.....	165
en.....	235
Thorold.....	210
ey, Copetown....	235
, Hamilton.....	210
280	
otland.....	200
. Fitch & Son,	240
Bros.....	275
ntford.....	300
ersville.....	250
McDonagh, Port	280
on.....	180
and.....	200
land.....	175
Beven.....	400
nt, Brantford....	250
wartout.....	230
Norval.....	200
. Beven.....	205
y.....	850
ney, Paris.....	500
aver.....	225
thour, Burford..	310
and.....	175
, Scotland.....	270
land.....	145
n Midland.....	200
agh.....	305
Brown.....	180
230	
g, Brantford....	125
. Cherry.....	220
son, Paris.....	235
hton.....	290
180	
275	
ward Edmondson,	300

Ayrshire Sale.

The Southern Counties successfully held on Thursday, Ontario. Forty total of \$5,850. Of the females, selling for \$11.50 each. There were eleven three three-year-olds, yearlings and three three yearlings made price of the sale was \$11.50. May bull calf, con- dordville, and sold for \$11.50. The list of

, King Lake.....	\$165.00
, Vienna.....	150.00
man's Corners.....	150.00
ewton.....	215.00
onburg.....	120.00
e, Owen Sound..	200.00
Mossley.....	200.00
urner & Son.....	210.00
Thamesford.....	170.00
110.00	
120.00	
145.00	
102.50	
185.00	
175.00	
135.00	
155.00	
125.00	
145.00	
120.00	
235.00	
135.00	
130.00	
150.00	
150.00	
175.00	
175.00	
180.00	
135.00	
185.00	
A. E. Sadler.....	115.00
n Bros., Wood-	100.00
102.50	
son, Mt. Elgin..	350.00
smith, Hatchley	177.50

Oxford Holstein Sale.

A total of \$15,515 for 62 head of Black and Whites characterized the Oxford Breeders' Consignment Sale of Holsteins, held at Woodstock on Wednesday, December 17. Included in the sale were 49 females and 13 males, the former averaging \$274. There were 19 mature cows, 7 four-year-olds, 4 three-year-olds, 12 two-year-olds, and 4 yearlings. Four bull calves, 4 yearlings and 3 bulls three years and over, constituted the male offering, which brought a total of \$2,235. The aged bull, Duke Wayne Aaggie, consigned by W. C. Prouse, Tillsonburg, brought the high price, and sold to R. M. White, Epping, for \$410. Among the females several individuals brought more than this figure, the leader being Helen Mercena Posch, consigned by McGhee Bros., Beachville, Ont., and going to F. J. Griffin, Burgessville for \$700. The following are the detailed results of the sales for \$100 or over:

FEMALES.

Fairmont Dairy Alcartra, A. E. Hulet, Norwich.....	\$600
Mercedes Princess Acme, H. Campbell, Embro.....	275
Fairmont Bessie Alcartra, J. W. Innis.....	450
Fairmont Bessie Walker, G. E. Black, Guelph.....	270
Fairmont Pontiac Alcartra, R. Cooper, Welland.....	250
Lowlands Clarissa Korndyke, H. George, Putnam..	165
Helen Mercena Posch, F. J. Griffin, Burgessville....	700
Daisy Calamity Kistry, G. E. Black.....	280
Pauline De Kol Countess, R. Smith, Oxford Centre..	300
Princess Bell Kent, W. C. Howard, Rockwood.....	340
Silver Stream Inka Darkness, G. H. Laird, Inner-	250
kip.....	230
Pearl Lyons Hengerveld, E. Neville, Princeton....	485
Gertqui Hengerveld Keyes, Earl Grier, Wood-	280
stock.....	250
Princess Ormsby Walker, R. Cooper.....	205
Firth's Farm Daisy, R. S. Oliver, St. Mary's.....	410
Madam Banks Posch, F. H. Peer, Norwich.....	400
Lady Canary Franc, G. E. Black.....	220
Netherland De Kol Segis, G. E. Black.....	110
Lady Princess Dot, K. R. Edwards, Georgetown....	290
Maple Lodge Inka De Kol, C. Frith, Jackson's	190
Corners.....	200
Duchess Schillaard, W. H. Curry, Woodstock....	175
Rose Aaggie Pietertje, J. Winer, Guelph.....	625
Vida Princess Veeman, F. J. Frith, Maidstone....	425
Belle Funderne Ormsby, M. R. McArthur, Thames-	290
ford.....	245
Cherry Grove Spotty, E. Dyson.....	280
S. C. Butter Bess, G. E. Black.....	100
Princess Hengerveld Dixie, G. E. Black.....	300
Martha De Kol Pietertje, K. R. Edwards.....	210
Calamity Posch Netherland, E. Neville, Princeton..	300
Nora Anne Inka, T. Dent, Woodstock.....	210
Queen Mary De Kol 2nd, G. F. Black.....	300
Hengerveld Beauty, E. Neville.....	300
Maggie Jean De Kol, W. McGee & W. D. Craw-	300
ford.....	
Pioneer Daisy De Kol Hartog, W. Wyndham,	355
Guelph.....	210
Cedarbrae Bessie Mechthilde, T. H. Dent.....	190
Posch Butter Baroness, J. W. Farmer.....	180
Maple Lodge De Kol Queen, B. Sutherland, Embro.	155
Queen Inka De Kol Posch, J. W. Atkinson.....	200
Bessie Wietske De Kol, G. E. Black.....	210
Victoria Inka De Kol, Chas. Frith.....	170
Flossie Tehee Hengerveld, Geo. Franklin, Ingersoll..	220
Betty Fayne Butter Baroness, G. E. Black.....	290
Rosa Colantha Posch, W. Wyndham.....	235
Colantha Jewel Hengerveld, Jas. Innis, Woodstock.	125
May Wayne Inka, J. Winer, Guelph.....	220
Beauty Abbecker Ormsby, F. H. Griffin.....	110
Blossom Aconeth, W. H. Chambers, Selford.....	200
Lakeview Winner, E. Dyson, Guelph.....	110
Fern Posch Inka, W. H. Chambers.....	

MALES.

Prince Snow Hartog, G. H. Cuthbert, Ingersoll.....	155
Baron Sylvius, Roy Chambers, Burgessville.....	160
Sylvius Lad, T. Sims, Thamesford.....	165
Silver Stream Paul Lyons, W. R. Edwards, George-	170
town.....	155
Sir Rufus Segis, F. Lock, Innerkip.....	410
Duke Wayne Aaggie, R. M. White, Epping.....	160
Center View Tony, A. H. George, Putnam.....	190
Prince Colantha Abbecker, D. Adams, Bright.....	200
Calamity Sylvius, H. B. Taylor, Mt. Elgin.....	105
Sir Maplecrest Abbecker, Thos. Dutton, Woodstock	150
Sylvia Fayne Butter Boy, H. Fiddie, Burgessville....	150
Prince Sylvia Posch, E. W. McMaster, Appin.....	165
Sir Ormsby Hartog Mercedes, W. Wilson.....	

Holstein Records for November.

Official records for Holstein-Friesian cows from November 1 to 30, 1919, show that official tests of thirty-three cows and heifers were received and accepted for entry in the Record of Merit. The only 30-lb. cow for November is Lawncrest May Echo 2nd., leader in the mature class with 30.40 lbs. butter from 587.7 lbs. milk. Katie Abbecker Fayne is the best in the senior four-year-olds with 25.66 lbs., while Colony Sena Newman is highest among the junior four-year-olds with 28.04 lbs. Countess Echo Alcartra, as a senior three-year-old, shows 26.45 lbs. There are only two junior three-year-olds, led by Pontiac Dorothy Hermas, while Colony Korndyke Newman is the only senior two-year-old with 13.5 lbs. Among the junior two-year-olds, Belle Model Pietje 3rd. leads with 22.34 lbs. from 435.1 lbs. milk. Zarilda Clothilde 3rd De Kol, the well-known Colony Farm cow, shows a record made eight months after calving of 18.69 lbs. butter from 453.6 lbs. milk.

The semi-official records report tests of fifteen cows and heifers in the yearly Record of Performance work concluded in November. There are no sensational records, although all except one two-year-old are above 400 lbs. butter. The best butter record is made by Evelyn Westport Welula, a British Columbia cow that made 673.75 lbs. from 16,066 lbs. milk. The best milk record is made by Lulu Pietertje 2nd., with 606.25 lbs. of butter from 16,172 lbs. milk. Only two animals each are found of the three-year and four-year-old class, the former being led by Lillian Hartog De Kol with 631.25 lbs. butter, from 14,094 lbs. milk. There are eight two-year-olds, headed by Hickory's Korndyke Sarcastic Toitilla, with 508.75 lbs. butter from 9,719 lbs. milk.

A CORRECTION.

We are asked by the University of British Columbia to make a correction regarding the last report of Ayrshire official tests which appeared in these columns in our issue of November 27. Springhill White Beauty, an Ayrshire cow, was credited with 12,691 lbs. milk and 490 lbs. fat. This should have been 590 lbs. of fat, we are informed.

HORTICULTURE.

Those who are thinking of planting out new orchards should get orders for trees in promptly. Last come, last served.

When doing the pruning provide yourself with a good pruning saw and clippers. The latter is indispensable in well-cared for orchards and a sharp saw saves many hours of hard work.

Now is the time to start pruning in large orchards if the weather is moderate enough to work. Waiting until March or April may be better in some respects, but it is better to make sure the pruning is done than to wait for some particular time when other work may crowd the weeks.

G. E. McIntosh, Fort Branch, Ottawa, notifies us that Canadian Railway companies have made application to increase by fifty per cent. the charge for the use of heated refrigerator cars. If interested growers will notify Mr. McIntosh he will inform them as to when all sittings of the Railway Board will take place.

Potato Growing in British Columbia.

EDITOR "THE FARMER'S ADVOCATE":

It is quite likely that because so many potatoes were frozen in the West both in B. C. and the Prairie Provinces that farmers will rush in to the growing of them next year with the very likely result of an over production. At any rate there is bound to be a greater acreage put in, and some things about potato growing will probably appeal to a great many at this time.

The potato, although it doesn't look like it to the casual observer, is closely related to the egg plant, and the tomato, but cultivation has widened the gap so much that the plants are not easily recognized as relatives. Originally the potato was bitter and unsuitable for food, and even yet we not infrequently find potatoes that have reverted to this original quality and show up a bitterness.

In the potatoes we eat the thickened part of the stem and by selection we have several shapes now grown, from the round through the oval to various long varieties and in color we can have from white to cream, yellow and purple. The skins vary too, from the smooth, glistening, or dull, to the very attractive netted varieties.

Much of the methods of cultivation need no comment, but a few cautions may be well to remember, and probably the chief of these is to avoid dirty seed. If it must be used treat the potatoes with dips of various kinds that are frequently given in the government bulletins. This is advisable not only in order that good-looking stock may be secured, but because the diseases carry over in the ground. In B. C. we are having considerable trouble on this account with the Orientals who neglect to treat the seed. Scab is troublesome in many places, and especially so where manure is plowed down and the tubers planted right away. It is better to put the potatoes on other land and avoid the scab.

The temptation to use small potatoes for seed is often discussed, and the practice is seemingly all right for one year, but if it is kept up the size of the potatoes will surely decrease.

Potatoes, like many other crops, are markedly affected by the date of seeding; too early planting will result in as great a reduction of the size of the yield as will late seeding. Experiments with both corn and roots have proven conclusively that the date of seeding affects those crops, and too early seeding is as bad as too late.

When cultivating potatoes it is well to remember that they are lovers of cool ground, and when a choice of land is possible avoid the lighter lands. Cultivation is also a matter that affects this side of potato life, and we should avoid excessive cultivation during hot spells, or at least avoid deep cultivation. They are shallow feeders and deep cultivation will break many of their feeding roots. One of the greatest helpers in potato growing is the harrow, and of the harrows, the tilting harrow is to be preferred. It may be used once or twice before the plants are up, but seldom more

than once after they are up. When harrowing after the leaves have come through—and it will materially lessen weed hoeing—wait till after 10 a.m. of a bright day and stop before 5 p.m.; the stalks will be soft in the heat at that time and not easily broken.

Breeding up of seed is something that pays very well but it takes a little inquiry on the growers part; yet when it is profitable growers should take some extra pains. Let the market settle the variety rather than your own preference, and if it is not fussy find out from the nearest experiment station which one of the varieties gives the best results. Here are some examples from actual tests that will show the force of this advice and also show the difference in yield and demonstrate the great difference in the yield of different varieties under similar conditions. A sport from the British Queen, which has been bred for a few years, yielded over 20 tons per acre while the British Queen yielded only 14.9 tons. One strain of Early Rose gave 16.9, while a Gold Coin gave only 13.6, so it is easily seen that variety and selection of that variety pays. Next year, with the probability of a great acreage being planted, will be a good year to start selection. There will not be any temptation to sell everything because of big prices.

Selecting the large potatoes or the smooth ones, or the even-sized ones from the storage bin isn't going to help you much. You must get down to hill selection and plant only one piece or one whole potato in the hill. Then dig by hand, reject the low-yielding hills and the poor-shaped ones. Aim for a shallow-eyed potato. Such ones save the consumer from the waste caused by digging out the eyes. Get them of a good shape and medium sized, or the size preferred by your best market. The best market is worth getting, and you can also sell many for seed at good prices.

British Columbia.

WALTER M. WRIGHT.

POULTRY.

The Feathers of a Hen.

The feathers of a hen fall gradually every year under normal conditions. Where conditions are entirely natural, as in the case of flying birds, this molt takes place so gradually that the birds feel the loss of their feathers only slightly. This is obvious for the reason that if the molt were to take place suddenly the bird would be unable to fly, and would for a considerable time be unable to defend itself from the attacks of its enemies. With poultry the molting period can be hastened by means of a period of fasting followed by a period of heavy feeding to enable the birds to regain the flesh lost during their fast. This practice, however, is not considered advisable by good poultrymen, since during the period of fasting the birds lose weight and stamina very rapidly, and considerable heavy feeding is required afterwards before they can be brought back to normal condition. Moreover, they will not start laying until they have regained some of their lost flesh, and this takes time. The best practice is to feed the hens on a normal and well-balanced ration throughout the molting season and to allow the molt to take place naturally.

Nevertheless, the earliness or lateness of the molt is an indication of the ability of the bird to lay well. It has been proven by experiment that the late-molting bird in the majority of cases is the heaviest layer. On the other hand the hen that gets ready to molt early and assumes a fine new coat of feathers well in advance of the rest of the flock is not the one to breed from. Look out for the hen that keeps right on laying until the cool fall weather comes. She is usually the shabbiest looking one of the flock, but her shabbiness comes from hard work, and when she does start to molt she usually gets it over quickly and does a good job of it, so that she can start laying again in early winter. Thus it can be seen that the molt as it occurs with various members of the flock is a factor that can be put to very good use when trying to single out the persistent layers.

Apparently also it is possible to utilize the molt in determining the age of the hen. We are not ourselves skilled in this practice, but a bulletin of the Dominion Department of Agriculture issued some time ago explains the method in detail. It is argued that every molt brings regular changes in the wing by which the age of the bird can be told so accurately that "it may be positively declared that the bird carries in its wing a certificate of birth very easy to read for anyone who knows where to look for it. It is explained that the skeleton of the wing in a hen corresponds to the arm and hand in man, and that the feathers which cover the wing are of various shapes and lengths, and may be divided into three groups called the primaries, secondaries and thirdaries. The first-named are the ten large feathers set at the extremity of the wing and which are invisible when the wing is closed; being covered by the secondaries and the thumb feathers. The secondaries are the feathers which grow on the part of the wing corresponding to the forearm. These are also ten in number and are of various lengths. When the wing is opened in flight these feathers form a large convex surface, offering a great resistance to air, and they are the most important feathers for telling the age of the bird. The thirdaries are the closest to the body and forming the shoulder are set on that part of the wing corresponding to the human arm.

The author of the bulletin says that all the great secondaries are renewed every year but at each molt some of these feathers are modified but always in the same way so that these modifications are characteristic of different ages. The number of short secondaries