

Butterflies, Lord Bellevilles, Earl Stanhopes, Dukes, and Duchesses. Although in most instances the residents were beaten by the interlopers, with their matchless animals, still, as just remarked, their stock was a pretty fair type of the real breed of Shorthorn, and furnished perhaps better evidence of its feeding-to-profit qualifications.

Sale of Shorthorns at Lancaster, England.

Messrs. Peel and Hopper united such portions of their herds as they wished to dispense of, and offered them by auction at Beaumont Grange, near Lancaster, the end of July.

Mr. Peel's catalogue comprised 29 cows and heifers and 5 bulls, which brought the total sum of £1,922 11s., being an average of £56 10s 10d. Lalage, a cow, was bought by Captain Oliver for 235 guineas, and Grateful went off for 105 guineas. Some of the animals obtained lower prices than their quality and breeding would justify. Mr. Hopper's animals consisted of 5 bulls, and 20 cows and heifers, which realized £784 7s.; being an average of £32 13s. 8d. The weather was unpropitious on the day of sale, or a larger sum would probably have been obtained.

County and Township Shows this Autumn.

West Durham Agricultural Society at Newcastle, Oct. 4.

South Ontario Ag. Society at Whitby, Sept. 18 and 19.

Kingston Elec. Div. Society, Kingston, Sept. 13.

Fullarton, Logan and Hilbert Society, at Mitchell, Oct. 2.

Russell Co. Society, at Smith's Hotel, Os-
goode, Sept. 27.

Hay Township Society, at Rodgerville, Oct. 9.

South Wellington and Guelph Townships, at Guelph, October 10.

In the Counties of Lanark and Renfrew, at

Perth, first Tuesday in October.

Lanark, second Tuesday in October.

Smith's Falls, first Friday in October.

Ferguson's Falls, third Tuesday in October.

Carlton Place, first Tuesday in November.

Clayton, second Wednesday in November.

Packenham, second Thursday in October.

Franktown, second Tuesday in October.

Almonte, last Thursday in October.

Sand Point, first Tuesday in October.

Renfrew, second Tuesday in October.

Ross, fourth Tuesday in October.

Pembroke, third Wednesday in October.

Roseville, second Thursday in September.

Arnprior, first Thursday in October.

North Simcoe Society, at Barrie, Sept. 19.

Blenheim Township, Drumbo, Oct. 4.

Norwich Township, Norwichville, Thursday,
Oct. 10.

North and South Wentworth and City of
Hamilton, United Show at Hamilton, October
9 and 10.

West York and York Township, at Yorkville,
October 22 and 23.

East York and Markham Township, at Union
ville, Markham, Oct. 9.

Ancaster Township, at Ancaster, Oct. 3.

Peel County, at Brampton, 17 and 18 Sept.

City of Toronto Elec. Div. Society, and Tor-
onto Mechanics' Institute, Union Exhibition,
commencing Oct. 7, and to continue for two
weeks.

North Oxford and Ingersoll, at Ingersoll, Oc-
tober 9.

Eramosa Township, at Jones' Inn, Eramosa
October 8.

[Secretaries of Agricultural Societies will
oblige us by informing us of the days on which
their shows are to take place.—Eds.]

Baron Liebig on the Action of Peruvian Guano.

MUNICH, June 14, 1861.

There is a very prevalent opinion among agri-
culturists that guano produces a greater effect
than an artificial mixture containing the same
quantity of bone phosphate (3 Ca O, PO_3), and
of nitrogen in the form of salts of ammonia.
I have myself observed in experimenting on
pieces of meadow lands that those portions on
which guano was spread became very soon
conspicuous by darker green grass, whilst an
artificial mixture, as above stated, appeared to
exert scarcely any action.

This hitherto unexplained rapidity of action
is due to the presence of oxalic acid in Peruvian
guano.

When guano is extracted with water, a solu-
tion is obtained which contains about 2 per cent.
of phosphoric acid, and 6 to 8 per cent. of ox-
alate of ammonia. If, however, guano be mixed
with water, and the moistened mass be let
standing for some days (just the state in which
it would be in the soil), it is found on extraction
with water from time to time a portion of the
moistened mass that the amount of phosphoric
acid has increased, and that of oxalic acid di-
minished. This reaction continues many days,
the quantity of soluble phosphoric acid still
increasing in proportion to the diminution of
oxalic acid, until at last the oxalic acid almost
entirely disappears from the solution, and in its
place is now found a corresponding amount of
phosphoric acid. The idea immediately occurs
that from the long contact with water the phos-
phate of lime and oxalate of lime and phospho-
us of ammonia.

But in a neutral solution of oxalate of am-
monia, phosphate of lime is not decomposed,
at least only very slowly. There must, therefore,
be in guano some other substance which is the
means of causing in the moist manure, the de-
composition of the earthy phosphate. This
substance is sulphate of ammonia, which is
always present in Peruvian guano. In fact,