

had been blown bare of snow repeatedly, and was still uncovered, the soil was frozen 24 inches deep. In a forest where the snow was not drifted, the frost line averaged only 2 inches. When the surface soil is impervious to water, it is manifestly a matter of indifference whether the subsoil is tiled or not. The surface water cannot reach the tiles, and no flood of water can come from such tile drains.

The rapidity with which a drained soil takes up the rain when it falls after a dry spell is not to be overlooked in discussing the drainage. A tiled field will take up and strain one-fifth of an inch more rainfall after a dry spell than a field destitute of the drainage. The influence of drainage is often regarded simply as removing water, but the secondary influence upon the soil, even if the tile is dry half the time, is of equal importance with the water removed.

Some have attempted to explain the fact that a tile-drained field will endure drouth better than one not drained, by asserting that the air circulating through the tiles gives up moisture to the soil, but Prof. Kedzie thought a better explanation is the increased power of drained soil to hold water in a capillary form, and, perhaps, also from its greater power to draw up water from the deeper soil by capillary action. In many rains the tile does not discharge water at all, as the increased capacity of the soil to retain water enables it to absorb the whole shower.

Surface ditching, and removing forests, may increase floods and contribute to drouths. During warm months tile-draining tends to mitigate floods by taking up the excessive rainfall and holding it in capillary form, keeping back the sodden flow that would pass over the surface of the soil if not absorbed by it, and escape by flood.

One of Canada's Booth Herds.

The Sheriff-Hutton herd of Shorthorns belonging to Wm Linton may be seen at his farm on Yonge street, in the town of Aurora, Ont., which is one of the most neatly kept and prosperous looking places we have visited in Ontario. The large manufacturing firms of J. Fleury's Sons, who manufacture almost every description of farm implements, from a wheel-barrow to a binder, employing 200 men the year round, and the extensive plow works of The Wilkinson Plow Co., give an impetus and enterprize that otherwise would not exist. Mr. Linton has been a breeder of Shorthorns all his life; born at Sheriff-Hutton, Yorkshire, England, in the heart of the great Shorthorn district, where the greatest Shorthorns that ever adorned mother earth were given birth. It was in the North Riding of the County of York where the great Dukes of Northumberland were bred, where Mr. Bates bred his Duchess, where Mr. Booth bred Bracelet, Necklace, Mantalini, Bride Elect, Queen of the Ocean, Soldier's Bride, &c., where Mr. J. Outhwait bred Vandewere and Royal Windsor, and where Mr. Linton's father bred Lord Irwin, Royal Irwin, Beau Benedict, Arthur Benedict, Sir Arthur Ingram, &c., &c., and it is from the best of those cattle that the present Sheriff-Hutton herd has sprung. Mr. L. imported seven females and three bulls in 1885, the remaining stock at Sheriff-Hutton, except two aged cows, after the distribution sale of 1879. These are all but one of the noted Sowerby family which was purchased from Mr. Richard Booth in 1837. Mr. John Booth's Marcus (2262), the sire of Mantalini, was the first bull used at Sheriff-Hutton, then follow Young Matchem (4422), Prince Albert (4791), Liberator (7140), the sire of Hudson (9228), who stood first at the Royal Show at York in 1848, and was used in the herd of Mr. A. Cruickshanks. Next came General Fairfax (11519), from Sittytton, and Magnus Troil (14880) from the same source. Earl Windsor

(17788), from StackHouse, (1) brought in again the Booth blood, followed by that King of the Harem, Mountain Chief (20383), from that magnificent show cow Soldier's Bride, who won upwards of \$5,000 in money and cups. He was extensively used at Warlabby. Next came British Hope (21324), from Lady Pigot's (2) herd, he was the sire of Lord Irwin (29123) which was thrice first in the Royal ring. Next Mr. J. B. Booth's Sergeant-Major (29957), which was the sire of Sir Arthur Ingram (32490). He also was thrice first in the Royal ring, and won over one hundred prizes at leading shows throughout Great Britain, in fact he won more prizes and was the sire of more Royal prize winners than any other bull that ever lived; Sergeant-Major being followed by Mr. J. B. Booth's Paul Potter (38854). He was the sire of a host of Royal prize winners, such as Arthur Benedict, Beau Benedict, &c., &c. Both Lord Irwin and Sir Arthur Ingram were extensively used in the herd. Mr. Linton thinks with such a compounding of the very best blood in the present Sheriff-Hutton herd, he should stand second to none in breeding Shorthorns. With such cows as Sowerby's Queen, Sowerby's Rose, Sowerby's Gem, Miss Sowerby, and eight or ten others, nearly all roan, large, wide, deep, thick-fleshed cows and heifers, we really do not see how he can fail. The calves speak for themselves, and are a nice promising lot, such as one would expect to see from such ancestry.

We found this herd in better flesh than we had expected, for it is generally known among breeders that Mr. Linton is not a heavy feeder. He says his experience has proved that with breeding stock too heavy feeding is not advisable, a subject whereof our readers may enjoy his views from his able pen in these columns. He certainly has the animals on which to build. A grand lot they are; all they want is bringing out. Besides the Shorthorns, Mr. L. has a flock of Cotswolds and some good Berkshires and black-breasted red game fowls. Personally, Mr. L. is much respected. He is very well informed, especially on everything pertaining to Shorthorns, and his honest, candid, straightforward manner has won for him many warm friends. *Farmer's Advocate.*

In the Short-Horn divisions of the Brussels Exhibition the classification is not for ages but for teeth. Thus prizes are offered "for bulls with more than six permanent teeth," this being for those over three years old; bulls with not more than six permanent teeth" (under three years old); and "bulls with not more than two permanent teeth" (not exceeding two years old).

COLOURING BUTTER.—At a meeting of the South of Ireland Merchants' Association in Limerick last week, the following resolution was unanimously adopted:—"That we request the farmers of the district who use artificial colouring in the make of their butter to at once discontinue it, as they find buyers in England strongly object to butter of a high colour, and they frequently give their orders to Danish and other continental shippers in preference to Irish, simply on account of the colour of Irish butter being too high to please their customers, who prefer pale-coloured butter."

THE DAIRY.

BUTTER-FAT TEST OF MILK.

Everyone who has to do the practice work connected with milk must have often felt the want of some ready means of estimating the butter fat therein, whether as a means of find-

(1) Bred by my dear friend William Carr.

A. R. J. F.

(2) Another old friend of mine, and one of the loveliest women ever seen on earth.

A. R. J. F.