

DAVID DICKSON says: "English farmers formerly used ten hundred pounds of ground bones per acre to grow a single crop. Experiments proved that two hundred pounds dissolved in acid produced the same effect, and secured a saving in outlay of seventy per cent."

LIQUID MANURE TANKS.—We take the following from the *Western Rural*: "As liquid manure is exceedingly beneficial to all vegetables, plenty of it should always be available, and without a liquid manure tank this cannot be obtained. For large gardens, a tank should be built exactly like a cistern; the bricks being closely cemented at the bottom, sides, and roof, to prevent the liquid from percolating through the soil, and also to keep surface water from entering the tank. The liquid should be conveyed to the tank by tile-drains from the stable, byre, kitchen, &c., and may be taken out by a pump. In small gardens a hogshead or large cask of any kind that will hold water may be sunk in the ground, and will answer on a small scale. In this, soot, guano, &c., may be converted into a valuable manure, by dissolving them in a suitable proportion of water. Manure is much more readily taken up by the roots of plants when in solution than when solid. In fact, solid manure has to be dissolved before it can enter the sponge-like mouths of the roots."

The Live Stock.

AYRSHIRE CATTLE.

The cows of this breed have for more than a century occupied a foremost rank among British cattle for dairy purposes, and the more recent improvements that have been effected in the breeding of cattle generally, have by no means lowered their position in this important respect. The origin of this valuable breed, like many other matters of a similar character, is involved in much obscurity; and any speculations with a view to throw light on so intricate and difficult a subject, would be more curious than useful. It is more than probable that, after the middle of the last century, the old Teeswater breed was more or less used in the south-west parts of Scotland to improve the native stock; and there is also reason to think that Alderney blood was subsequently introduced, which produced a decidedly beneficial influence as regards milking qualities. Even to the present day a striking similarity exists between the improved Ayrshire cow and the Alderney or Jersey, both in external conformation, and in milking qualities. As early as the latter part of the past century, and particularly during the greater portion of the

present, Ayrshire breeders have taken great pains by careful selections and the judicious introduction of fresh blood to develop the milk producing power, for which their favourite cattle are now so widely and deservedly distinguished. A recent writer facetiously remarks in reference to their early history:—"Very probably the blood of 'the cow with the crumpled horn'—that tossed the dog, that worried the cat, and all that—viz., the Holderness or the Alderney cow, had something to do with the process of 'natural selection.' Crumpled horns, however, are now looked upon as a grave defect in Ayrshires. Horns are merely dangerous ornaments, and, as breeders well know, can be moulded to any form to suit the taste of the times."

The qualities of the Ayrshire cow, as described by Mr. Aiton, who had much experience as a practical breeder and close observer, are as follows:—"Tameness and docility of temper greatly enhance the value of the milch cow. Some degree of hardiness, a sound constitution, and a moderate degree of life and spirits, are qualities to be wished for in a dairy cow, and what those of Ayrshire generally possess. The most valuable quality which a dairy cow can possess is that she yields much milk, and that of an oily, or butyraceous, or caseous nature, and that after she has yielded very large quantities of milk for several years, she shall be as valuable for beef as any other breed of cows known, her fat shall be more mixed through the whole flesh, and she shall fatten faster than any other."

With all due deference to so high an authority, we must express a dissent from the last condition as applicable to the Ayrshires, or, indeed, to any other breed that is highly distinguished for dairy qualities. Although the Ayrshire cow, when dry, can be fattened and made to produce a good quality of beef, the process generally is longer and more expensive than it is in the case of Durhams, Herefords, Devons, Galloways, or any other breed characterized for its meat producing power. The improvements, however, that have of late been effected in the Ayrshires, Alderneys, and other dairy stock, have unquestionably increased their feeding qualities after they become dry. Cows of any breed, while yielding a large supply of milk, are w^hown to be generally low in flesh, and