EDS. COUNTRY GENTLEMAN—When called on to add a cow to the dairy herd, the first thing to be observed by me is the shape, color and character of the horn; it is the index to the quality of the cow. If the horn is not right, she must possess many other points to counteract the defects, and in most cases th y are not overcome. The proper shape of the horn and fine escutcheon go together, take off the horns, and you destroy one of the best modes of judging of a good cow.

The curl on the back, in the bovine race, indicates the distribution of the nourishment in the animal. It should be remote from the shoulders; then, in the cow, it will go to the formation of milk; on the steer, it will place the fat on the ribs and profitable parts, and if what forms the horns comes in contact with this fluid, it will intermix and clog the flow, and make a fleshy animal; hence no milk. (1)

1 regard this practice as destructive of the milk properties of the cow, to say nothing of the cruchty and disfigurement of the animal. By no means would 1 use a disformed bull. *Philadelphia*, Pa. G. B.

COST OF HOEING ROOT-CROP.

NORFOLK (WYMONDAN DISTRICT): June 14th 1888.

"The price given for hocing roots is 7s. 6. an acre for chopping out, picking, and hoeing once afterwards. Alfred J. Learner, Crownthorpe, Wymondham." (2) The above extract is from the English Agricultural Ga-

The above extract is from the English Agricultural Gazette of June 18th, 1888, and will, I hope, show that when M. Séraphin Gudvrement and I stated that the cost of *singling* his root-crop amounted to \$2.40 = about 9s. 6d., we were not amusing ourselves with the credulity of the public. Mr. Learner is a well known Norfolk farmer, and his men and women know how to use a hoc. M. l'abbé Chartier will doubtless see this statement. JENNER FUST.

MILKING TUBES.

PILLING'S PATENT.

AGRICULTURAL NOTES. BY A PRACTICAL PARMER. BEAN AND PEA DEETLES.

Almost simultaneously with the issue of Mr. Whitehead's warning from the Agricultural Department upon the subject of bean and pea beetles, I received some specimens of beans which were infested with this nuisance, and it appears that the plague is more than usually rife all over the kingdom at the present time. The bean beetle lays its eggs within the seeds, while they are still soft in the pod ; the eggs hatch out, and produce maggets, and it is during the larval form almost entirely that the damage is done; these larva, which, like the larvæ of other insects, seem gifted with an inordinately voracious appetite, cat away the best part of the inside of the seed, usually, however, avoiding the germ, and then, just before their impending change into the motionless pupal form, they bore a passage-way through the kernel, right up to the inside skin of the seed which is left to form a lid to the home. The winter months are passed by the insects in the larval form, but with the warm of spring they assume the state of the completed beetle, and, knocking away the lid to their passage, they emerge on bean slaughter intent. It will

(1) Well111

(2) My "gapping out and singling by hand,"

A. R. J. F. Jenner Fost.

be gathered from this description that seed infested with these beetles is not, to a casual observer, peculiar in appearance; the bean, until the exit of the beetle, appears to be sound and whole, and really the only indication is the tiny circular "grease spot" on the skin whose transparent appearance has been caused by the removal of the material behind it when the larva made its passage. It has been suggested that suspected seeds should be steeped in water, when the injured ones would, by reason of their diminished specific gravity tend to float. But the hole made by the larva bears so small a proportion to the bulk of the bean that the test will not answer in practice. It will be noticed, too, that the germ of the seed, containing the future plumule and radiclo, remain as a rule untouched by the interloper, so that the seed has not lost the power of germination. What happens is that the seed germinates readily enough, but as it has been deprived of some of the quantity of endosperm or albumen necessary to its existence until such time as it has put forth its roots and leaves, the shoot scarcely has appeared above the surface of the ground when it dies from exhaustion. Naturally there is no cure for this state of things when once the maggots have begun their work, but possibly if the seed was taken in hand as soon as it was harvested, the eggs and young maggots might be destroyed without prejudice to the life of the seed. Dipping the seed in boiling water has been tried, but the consequences are almost as fatal to the seed as to the insects. Dry heating in a kiln is a more promising remedy. But I think that treatment with either chlorine or curbonic oxide gases might lead to better and more certain results than any yet attained. But this matter stands in need of experiment before it can be attempted on a large scale. The practical point is to examine beans and peas intended for seed, and if they contain beetles not to use them.

FEEDING RATIONS.

We publish to-day another of those questions relating to the feeding of stock which have recently become frequent in our own columns and also in the columns of some of our contemporaries. If we look back but a short period no such questioning was known. Advice upon the purely practical side of feeding was frequently asked ; but that there was a scientific side to the subject was, if known, certainly not considered. And yet the information now being sought by and given to the farmer is not new ; it has been known for many years, and one wonders that it has not been made use of by farmers loog since. In some cases it would seem that it was not needed, for there is evidence that many of our best breeders and feeders have arrived practically at that right adjustment of both quantity and quality of food which scientific feeding experiments show to be necessary. These men are, however, the most anxious of all for this scientific knowledge. They want to know why they have succeeded. And is it not the chief aim of science to give us " the reason why" alike of failure as of success; while therein lies its chief value to practical farmers? We must, however, guard against the reaction from " practice without principles " going to extremes and becoming " principles without practice "; if so, it will only result in failure and disappointment. The quickest way along the stream is down the middle; and in farming, also, we must avoid extremes, or we shall strike against the bank and not make any progress. Science cannot take the place of practical experience and knowledge. It is to the farmer what the compass is to the sailor, which, though it shows him how to steer, could not itself control the vessel. We have found out, rather late, unfortunately, that a too implicit belief in artificial manuring has led to much waste of money." Let us remember the lesson and not make the same