lower incisors and the bearing surface of the the laterals are showing wear, and the inner edges teeth almost level. have disappeared in the laterals; and at eight years in the corners. At nine years the table or wearing surfaces of all the lower incisors should be level, and usually, if a side view be taken, with the teeth shut, a hollow will be noticed near the outer edges of the upper corner incisors, forming a sort of hook. At ten years the marks are supposed to have disappeared from the central upper incisors; at eleven from the laterals; and at twelve from the corners. It must be remembered that while this is the rule, the changes taking place in the upper teeth are not as regular as in the lower. After eight years the general shape of the teeth gradually changes; they become longer, deeper from before backwards, and narrower from side to side; the table surfaces first assume a rather round form and afterwards become some what triangular. In some cases, after the 'teens are past, the teeth become shorter, but this is not by any means constant. My experience has taught me that, while set rules may be laid down as to the appearances of the teeth at certain ages until 35 years or older, no definite dependence can be placed upon these rules; the condition of the teeth in an advanced age will depend to a considerable extent upon the quality of the teeth (some are harder than others, as anybody who is in the habit of dressing teeth can testify) and upon the nature of the food upon which the animal has Below will be seen a few cuts represubsisted. senting the appearances the teeth should present at certain ages.



Fig. 1.-Lower jaw at 21 to 3 years.

The central temporary incisors have been shed and replaced by a permanent pair, which should be up full and in wear at three years, and sometimes are at 21.



Fig. 2.-Lower jaw at 81 to 4 years

The lateral temporary incisors have been shed and replaced by a permanent pair, which should be well up and in wear at four years, and sometimes are at 31. The central pair show a little wear on the outer edge.

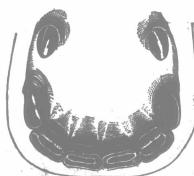


Fig. 8.-Lower jaw at 41 to 5 years.

The corner temperary incisors have been shed and replaced by a permanent pair, which should be up full and in wear at five years, and some-The centrals show wear at both times are at 41. edges, and the outer edges of the laterals have begun to wear. In male animals the canine teeth have appeared, and at five should be fairly well, It is quite rare to notice these in fegrown. males, but occasionally we see them either full-sized or rudimentary. Therefore, it will be seen that at five years a horse has a full mouth of permanent teeth.

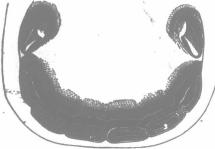


Fig. 4.-Lower jaw at 6 years.

The marks have disappeared from the centrals,

At seven years the marks of the corners are even with the outer.



Fig. 5.-Lower jaw at 7 years.

The marks have disappeared from the laterals, the corners are showing wear, and both edges are worn to a smooth surface.

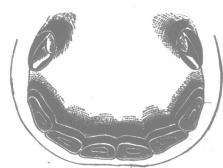


Fig. 6.-Lower jaw at 8 years.

The marks have disappeared from the corner teeth, and all the teeth are evenly in wear.

At nine years the lower incisors are all well worn down, with almost flat surfaces, there being little cavity left.

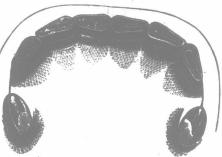


Fig. 7.-Upper jaw at 10 years.

The mark is almost gone out of the centrals, is still quite visible in the laterals, and clearly defined in the corners.



Fig. 8.-Upper jaw at 11 years.

The marks have disappeared from the laterals, but are still visible in the corners.

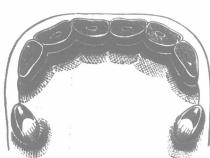
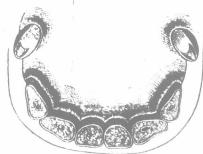


Fig. 9.—Upper jaw at 12 years.

The marks have disappeared from the corners. and the table surfaces of all are in wear.



big 10.-Lower jaw at 13 years

To see de sarfaces of the central pair are

nearly round, those of the laterals becoming  $\ensuremath{\,_{SO}}$ and those of the corners gaining in thickness, compared to width.



Fig. 11.-Lower jaw at 14 years.

The table surfaces of the laterals are almost round, and those of the corners becoming  $s_{\rm 0}$ 

At 15 years the surfaces of the corner lower incisors have become round, at 16 those of the central upper incisors, at 17 the lateral, and at 18 the corner. In the meantime the surfaces of the lower teeth have been gradually assuming a triangular form, and at about 20 those of the upper jaw gradually take on the same shape. At about 15 the points of the canine teeth begin to wear flat, and this gradually continues.



Fig. 12.-Lower jaw at 26 years.

The lower incisors are all somewhat triangular, and twice the depth from before backwards as from side to side. The canines have become quite flat on top



Fig. 13.—Upper jaw at 29 years.

All the teeth are somewhat triangular, and twice as thick as they are broad. The canines are quite flat on top.

While these figures show what we expect to see, as already stated, they are nor reliable after the animal has reached 12 years; and the age, after that, must be judged by the general appearance of the mouth and head, and it requires a great deal of observation and experience to acquire a reasonable degree of skill.

## LIVE STOCK.

## THE DUAL-PURPOSE CATECHISM.

Editor "The Farmer's Advocate"

I have been reading in an Iowa paper of the origin and development of the polled Durham (or Shorthorn) cattle, and more recently of the polled Herefords. Would it not be worth while to develop this method of dehorning, instead of using the saw or pincers? Your readers might be interested in some information along this line. Are there any polled Shorthorns in Canada?

In reference to Mr. Arkell's excellent and illuminating article in your last number, I would like to ask whether the high-grade beef cows which have suckled three calves in a year may not justly be termed "dual-purpose Shorthorns." and whether or not Mr. Arkell thinks that it would be more profitable for the Untario farmer to use such cows to suckle calves or to milk them, sell the cream or butter, and raise the calves on skim milk? Also, if such a cow can raise three calves, where, and of what kinds, can calves be got to put on this cow?

Mr. Arkell does not think the problem can be solved by raising dual-purpose cattle, and states that "the man who tries to go in two directions at the same time usually finds himself at a stand-Admitting the general truth of this remark, it may be doubted that Mr. Arkell does not distinctly recommend the development of a milking strain of Shorthorns. If so, is it not the raising of dual-purpose cattle, by selection inside one well-established breed, and not by crossing? Perhaps others beside myself would like to have Mr. Arkell define his views more explicitly W. C. GOOD.

Brant Co., Ont