

but it varies this diet with occasional meals of small fish, young turtles, smaller frogs and the young of water-birds. It sometimes even secures adult birds, as sparrows have been found in their stomachs, and one captured near Guelph, Ont., contained a swallow.

This species breeds from the end of May until July. The tadpoles do not develop into frogs during the first season. It is not until the second season, and sometimes the third, that their final transformation occurs.

The full-grown tadpoles measure six or seven inches from the tip of the nose to the end of the tail, and have the hind legs well developed. They breathe by means of internal gills on each side of the throat. These gills are concealed by the outer skin, which grows back in a fold from the sides of the head. There are three sets of these internal gills on each side. They are feathery tufts extending into cavities between the walls of the throat and the outer skin of the sides of the head. The gill-chambers are connected with each other by a passage underneath the skin of the throat. Alternating with the tufts of gills there are three openings in the throat-wall which lead from the gill-chamber into the throat and mouth. Water is continually passing in at the mouth and nostrils, through the gill-slits into the gill-chambers and out at the breathing pore, which opens to the exterior from the left gill-chamber. The tadpoles have the power of reproducing their tail if it happens to be bitten off. When the transformation from a fish-like form to a frog begins it proceeds pretty rapidly. The arms appear, the left coming out through the breathing pore and the right breaking through the skin over the right gill-chamber. The mouth rapidly widens, the gills begin to disappear and the lungs to come into play, so that the animal comes to the surface of the water to breathe. The tail gradually becomes shorter and narrower and within a week is completely absorbed. In about four days more the ear membrane appears and the tadpole is now a Bullfrog.

This is the species which supplies the frog's legs which are in demand as a table delicacy. In the United States \$50,000 worth of legs are sold annually, and in Wisconsin and California frog-farming is proving a profitable industry.

THE HORSE.

Cutting feed cuts down waste.

Good straw is better for the idle horse than very bad hay.

Store some good clean oat straw for the horses. It will save hay next winter.

It is not always how much you feed, but how regularly it is fed and how good it is.

Never feed corn-meal to horses. Cracked corn or whole corn is more easily digested.

If the horse is exhausted let him rest for a time before feeding him, and likewise, do not work him too strenuously on a full stomach.

Fall work is not easy work for the horses, and they should get the best of care. Avoid standing them in drafts when they are hot, and groom them carefully.

LIVE STOCK.

The Herdsman's Skill.

Very little mention is ever made of the herdsman's skill in bringing out his stock for exhibition. Much of the success of the individuals or the entire herd depends upon the fit they are in, and this in turn depends largely upon the herdsman. True, it is the sagacity of the owner who is proven in the sires and females which he selects with which to head or to replenish his stock, but even after wise matings are made and the young stock comes on many a good individual is ruined in the making. A little depression back of the shoulder, a lack of constitution, or spring of rib are often fed out in an animal by a skillful herdsman, and up to the time the call sounds for animals to line up the herdsman is on the alert with open eyes for any defects or inferior qualities in his entry. Even a comb in his hip pocket is brought into use while the animals are on exhibition, and numerous slight defects are rendered invisible to the judge's eye if he is not keen of sight. At some large fairs trophies are donated to the most successful herdsman, and they are worthy of them for the unceasing attention that spells success for the herd. It would be advantageous for many breeders whether they exhibit or not if they could take lessons from these herdsman who bring their stock into the

ring in such excellent fit. The technique of the operation need not be carried so far as is done for show-ring purposes, but the general principles, the care and the intelligent exercise would be valuable acquisitions to the regular feeder's practice in caring for his stock.

Making Improvement in Sheep.

Editor "The Farmer's Advocate":

My experience of many years in handling and breeding sheep on my farm has convinced me that the only permanent improvement of the flock must be brought about through the direct co-operation of the influence of both the ewe and the ram. The man who has a flock of inferior ewes of mixed breeding may bring about great improvement by the continued use of improved breeding rams, but if this improvement is held or made permanent he must keep up a systematic selection of the ewes that are kept for breeding purposes. As the flock more nearly reaches perfection the necessity of selecting the breeding ewes with equal consideration becomes more apparent.

Every experienced sheep owner knows that among his breeding ewes that throw individuality into their progeny there are two distinct classes, the positive and the passive. The positive possesses an individuality by right of inheritance and they are capable of adding to the blood line in volume and momentum. The passive are perhaps lacking in both quality and breeding and simply serve as a channel through which the ram throws his type and are unreliable as a perpetuating force. This point is very forcibly illustrated by noting the results often secured by mating a pure-bred ram with a flock of inferior ewes. The progeny will many times closely resemble the ram and for all that can be seen they are fully his equal in every respect, but if they are kept for breeding purposes they cannot be relied upon to reproduce themselves in type or quality. Their dams of inferior breeding simply acted as channels through which the pure-bred sire threw his type and they have added nothing to the volume or momentum of the blood line. In the prospective breeding ewes we must have individuality and breeding if we obtain the best results and these must come from the two currents that compose their blood lines, namely, great sires and great dams.

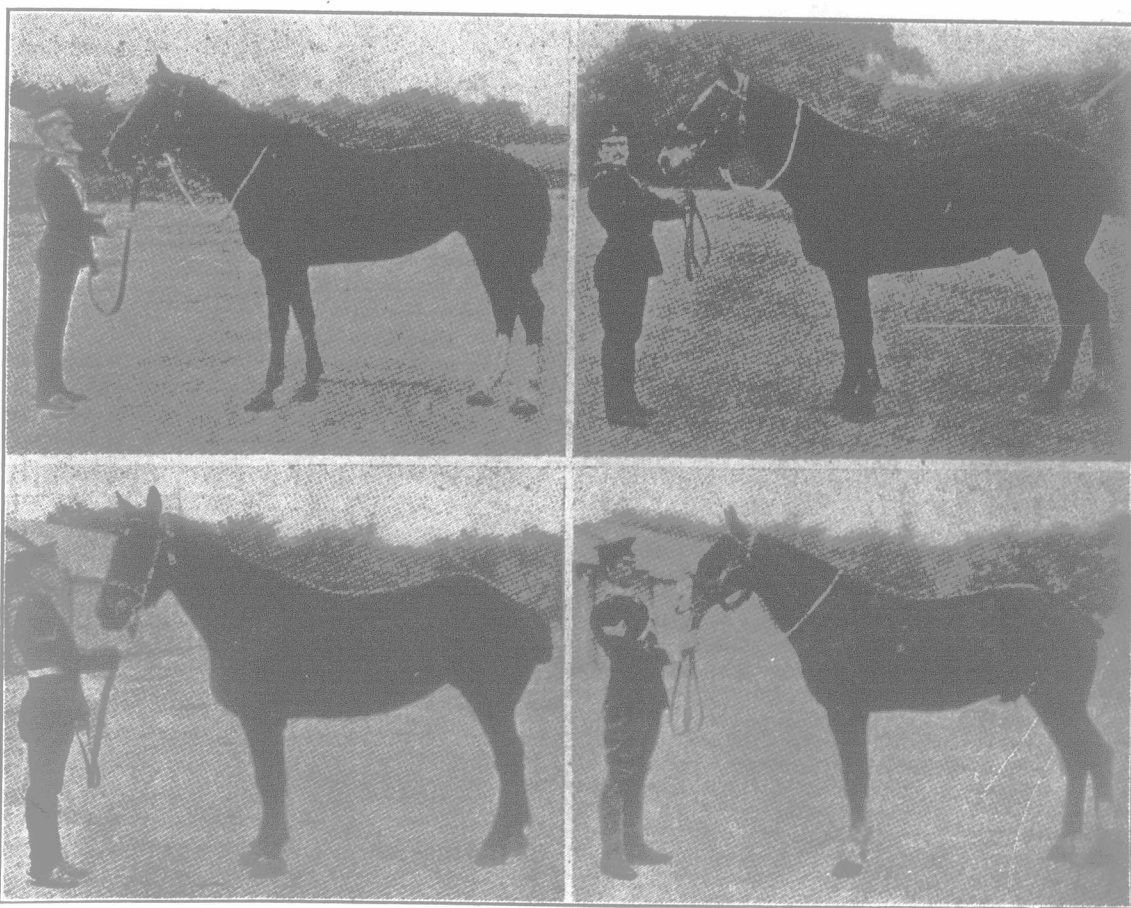
In the selecting of breeding ewes there are a number of things to be kept in mind, and none of us who raise sheep can afford to go about the work ignoring their relative importance. The first point to be looked for is constitutional vigor. An animal that shows signs of constitutional weakness should be discarded at once for these qualities are very essential in the development of a good lamb. A ewe that is constitutionally weak can generally be detected by the appearance of her fleece, a narrow chest and dull, sluggish movements. If the appearance of the ewe does not satisfy me, I catch her and examine her carefully, note the quality of her lambs, and if she does not measure up to the standard of

quality I wish to maintain in my flock I put her in the fattening pen.

There are many things to consider in determining which ewes to keep over for another year and it is an excellent plan to keep a record of the performance of each individual in the flock so that it may be referred to at the time the selections are being made for the next year's breeding flock. On this record of performance should be noted the conditions, for sometimes ewes lose their lambs for no other cause than negligence on the part of the owner, and it is folly to discard a good ewe unless she is a failure under favorable conditions, as she is well worth another trial. The ability of a ewe to properly nourish her lambs is of great importance, for ewes that are inferior milkers are poor property in a breeding flock. Of course the kind and quality of food given the ewes during pregnancy frequently affects their milking qualities during an entire season, but in the majority of cases we are compelled to rely upon the quality of the lamb in determining the value of the ewe as a future member of the breeding flock.

Breeding ewes that are in any way diseased should not be maintained, for their progeny are apt to inherit such disease and transmit it to their offspring. There is plenty of difficulty with disease in a flock of sheep without inviting and fostering the very elements that will destroy the results of systematic selection. None but the best and most vigorous individuals that are free from all hereditary diseases should be selected for breeding purposes.

Great regard ought to be paid to the size and general contour of the ram that is selected to head the flock. His structure should be firm and massive with a broad and capacious breast, without a disproportionate length of legs, well-formed and fully-developed quarters, and especially the hindquarters. His loin should be stout and well-knit, and his features bold and masculine. A firm, muscular neck with a bold courageous eye are indicative of spirit and vigor. The head should be long but rather small and finely moulded. These appearances denote excellent qualities in rams of every breed. I do not believe in selecting an extremely large ram, nor those that are weak in one point and strong in another. Study the breeding ewes and select a ram that will have a tendency to correct any weaknesses or defects that they may possess. In the purchase of the ram great care ought to be exercised as to what his appearance would be when in a normal condition, for it is unsafe to rely upon the form or appearance of sheep when these have been created by high and unnatural feeding or external applications. It is more than likely that their progeny will be injured rather than made better by such methods. While the selection of the ram is of very great importance, yet I do not believe he represents as large a factor in the improvement of a flock of sheep as many writers would have us believe, especially when the flock is well-bred and the ewes nearly as good in quality as the pure-bred rams that are used to continue the work of further improvement. Johnson Co., Ill. W. H. UNDERWOOD.



Types of English Army Horses.

Cavalry of the line.
Transport.

Artillery.
Mounted Infantry.