Care must be exercised in this handling that he does not, by a sudden plunge or increased speed, get away from the driver, and that is why I keep inside of an enclosure, rather than on the road, so that he could not get very far if he should get loose. I always find it very advisable to put the reins for this training through the shaft-tugs, rather than through the rings on the back-pad, as with them lower you can keep your colt straight in front of you, and so prevent him turning, as he is very likely to do if he can work the reins over his hips when they are through the rings on the back-pad. During these lessons I teach him to obey the restraint of the reins, and my bidding to go ahead when I tell him, and to stop and stand when I say "whoa!"; to move backward when I say "back-up!" and to slacken his pace and ease up when I say "steady!" Now, I consider this the most important part of his training when well learned to go ahead when told, and to stop and stand when told; and right here, above all things, do not, by a confusion of these terms mix or muddle the intellect of the colt, so that he does not know what you want him to do half of the time. Use your terms each one for each purpose, always.

At this stage of his training, I consider him ready to hitch and drive. Now, too great precaution cannot be taken at these first hitchings to see that everything—I mean the harness and rig—are strong, not likely to break, and adapted to the purpose you are using it for. Bad habits are very readily acquired at this stage, if anything goes wrong and you are unable to control your colt. I do not hitch the colt double the first time, but single, to a cutter with high shafts and cross-bar, and with sufficient length of shaft to obviate any danger of the colt striking the runner with his foot while in motion; or, if it be summer, a two-wheeled cart is preferred. I always harness him in ordinary single harness, hitching him quite snug in the harness, especially the breeching and side straps, using a straight bit and an ordinary side check, and at the first hitchings use what some term a "kicking strap," merely a strap fastened to the shaft, passed over the colt's hips, through the back-strap, and down, fastening to the other shaft; this prevents him getting out of the shafts, if he should try to. Give him short but frequent drives at first, gradually increasing the distance, so as not to tire him unduly. This also accustoms him to being hitched and unhitched. If the colt seemingly learns very fast, and is driving very nicely, always bear in mind that he is still only a colt; be ready for any emergency, harness him, hitch him, and drive him carefully.

To teach him to stand tied in harness, I use a strong rope, long enough to go around his neck, and knot, then through the ring of the bit, and tie to the object I am tying to. Be sure this rope is strong. I generally get a new rope for each colt, as the surest way to develop a puller is by using at first a poor halter. If you would save a broken shaft, perhaps, and probably a general mix-up, avoid tying to a post or tree, or single object, or anything that at first the colt might attempt to walk around, but rather tie to the side of a building until he has learned to stand.

When I finally hitch him double, I am very careful that there is nothing about the equipment that will irritate the colt. Colts well trained single are often very easily spoiled on being hitched double; the presence of the other horse is something altogether new, and they seem very easily irritated. I am very careful to hitch to a wagon or implement with a high pole, so that the whiffletrees, or tugs, cannot possibly touch them on or near their heels, making them also pretty tight in the harness to avoid any slackness of tugs or belly-bands, that they might easily step over or through. Then, in turning at first double, always turn away from the colt for quite a while, as the pole often teases them. If, however, the colt should show any tendency to irritation, by switching the tail, or attempting to kick, by all means be very gentle and patient, and avoid any outburst of anger or whipping or loud talk, and patiently work away, all the time coaxing the colt, giving it every chance. I have handled many colts that were almost spoiled, and by kindness and coaxing only, although it has often taken a long while, I have completely won them over to be the most quiet and docile of horses. There will be times and cases where the use of the whip is imperative to overcome a stubborn will; at such times use it, but not unmercifully. But my experience is that firmness and common sense, practiced from the first, without undue whipping, is the better course, if it can be worked at all.

Although this may all seem some trouble, the trainer who loves a well-mannered horse has all the compensation he looks for if this be the result of his training.

CLARK HAMILTON.

Dundas Co., Ont.

Tried and True.

LIVE STOCK.

Feeding the Pig.

The best feeders of stock seem to have a knack of knowing just what to feed, and how much. What to others may appear to be intuitive knowledge, will, on examination, usually be found to be the result of keen observation and painstaking, coupled with long experience. On coming into a stable, and looking at an animal, such a man will at a glance take note of a dozen things that the uninitiated would scarcely see, even if they were pointed out to him—such things as the condition of the droppings, the look of the hair, the brightness or dullness of the eye, the pose of the body, the curl of the tail, etc., from which he can unerringly interpret the thrift, or lack of it, in the animal viewed. It is men of this class, however—men who have learned a great deal without help—that are most ready to welcome fresh information on the feeding question, such as can be found in published analyses of foods, and in the reports of experiments conducted at the different experiment stations.

At the Agricultural Experiment Station at Urbana, Illinois, an investigation was started five years ago, the purpose of which was to develop a new feeding standard for swine. The work is not completed yet, but circulars are issued from year to year showing the progress to date, and emphasizing such conclusions as have been established. Thirteen experiments in all have been conducted, involving the use of 618 pigs. Circular No. 133, published last month, has reached us, and we note a few of the more important conclusions:

It has been found that exercise is essential to best results. "For maximum and most economical production, it seems absolutely necessary for the young and growing pig to have an abundance of exercise. Its chief value seems to be in the influence it exerts upon the respiratory and digestive functions. If pigs are changed from lots where they have had considerable exercise to lots where they do not have so much, their feed must be correspondingly reduced. Hence, they will also make smaller and usually more expensive gains.

Sudden changes in rations are warned against. As it takes time for a pig to become accustomed to a change, so that he will eat, digest and assimilate the new ration, as well as the old one, the more gradually such changes are made, the better.

It was found profitable to have pigs on pasture. By having access to grass, the pigs made better use of the foods given them than if these were given them in a small, dry lot.

Best results are obtained if a pig under five or six months of age is not fed more than he can fully make use of. In order to limit the nutrients to the amount that the pig can most profitably use, roughages may be introduced into the ration at this time. These serve a double purpose: First, they satisfy the appetite of the pig; and, second, they have a tendency to increase his capacity, so that, later in life, when he otherwise would not eat so much as he could profitably use, he will be able to consume a larger quantity of nutrients. This is in accord with the practice of the best Canadian hog-feeders, who make liberal use of clover or alfalfa pasture in summer, and of mangels or sugar beets in winter.

There is no standard for the amount of mineral nutrients required by the pig, and since the amount of mineral matter in the soil, the water and food supplied, varies so greatly, it is necessary, in order to get best results, to give the pig free access to a number of mineral substances, so that he can supply himself according to his appetite—a pretty safe guide. Salt, charcoal, air-slaked lime, bone meal (the two latter particularly in corn countries), wood ashes, clean soil, and soft-coal cinders, should be placed where the pig can get them at will.

It has been noted that the amount of water that a pig required, in proportion to weight, lessens steadily until the close of the fattening period. A pig, also, in his youth, needs a greater percentage of nitrogenous food than he requires in the later months of his life. If he has been started right, corn alone will do to put on the finish.

Unless pigs are running at pasture, three feeds per day are found to be more profitable than but two.

Barley Chaff as Stable Absorbent.

A bright young farmer, discussing the matter of stable absorbents, informed us the other day that he always saves the barley chaff for this purpose when threshing, finding it excellent to scatter in the gutter to soak up urine. He even takes his wagon to some of the neighbors' barns when they are threshing, and carefully gathers up what they would otherwise merely blow out into the barnyard. The saving of nitrogen thus effected represents a considerable sum, realized through the medium of increased crop production. No farmer can afford to waste liquid manure. If he has not enough straw or chaff, perhaps he can use air-dried peat, or else he may buy land-plaster or raw ground phosphate-rock. Even dust might be used, but do not employ ashes or lime.

Standing in Their Own Light.

I have taken "The Farmer's Advocate" for a year, and would not be without it as long as it is published, regardless of cost. It more than pays any man. Those who do not take it are standing in their own light.

S. VAN SICKLE.

Wentworth Co., Ont.

"There cannot be too much said about the benefits of underdrainage," writes a Carleton County Subscriber. "I had this year, off an acre and a half of underdrained land, fifty-four tons of turnips. Had it not been drained, I would not have had any such crop."