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#### FARMER'S ADVOCATE THE

Preparing Farm Horses for Spring Work.

On most farms where there is little work for the teams in the winter, they are usually boarded cheaply up till early in March, when it is considered necessary to feed them up for spring work. No doubt the team that is kept hard by steady labor and good feeding all winter will be in best form to withstand the two or three weeks of rush until the crop is all in. But as mentioned, this is not prac-ticable on all farms. It is, therefore, wise to have them at the beginning of seeding as near the condi-tion of health and physical stability of the steady

rapidly increased; a half-gallon of ground oats, fed with chaff morning and noon for each horse, would do well for the first week, increased gradually until they are getting three gallons of grain per day by the time hard work commences. During this fitting period a good horseman would not keep the team standing idle in the stable, but would endeavor to give it regular work, increasing as the month passes, so as to have the newly-built muscles firm and strong. The amount of grain recommended a 1,400pound horse should receive while at hard work varies, but we would place it at five quarts in the morning, five at noon, and six at night. Teams should be fed not later than 5 o'clock a. m., after being watered. It is not well to allow a heavy feed of hay in the morning or at noon, or the horses will work uncomfortably for the first hour or more. A mouthful of water again just before hitching up cannot be harmful, but a full drink at that time should not be allowed or necessary, if they have been given a drink before feeding

If a horse with good grooming daily fails to shed his coat before seeding time he should be clipped, which will add much to his usefulness and comfort, and also the comfort of the teamster. While the teams are being prepared for work, the harness should also receive attention. Every set of team harness should be thoroughly cleaned at least once a year, and oftener would be better. It should be taken apart and thoroughly washed in warm soft water with soap, and after drying be well oiled with harness oil, which may be made by adding a small quantity of lamp black to neat's foot oil. This should be well rubbed and dried in before putting the harness together. A little clean oil without the black will do well for the lines. The harness, collars should be ma special horse that is to wear it to insure comfort and pre-vent shoulder, neck, back and other galls. Collars faced with regular cotton collar-facing, smoothly and firmly stuffed so as to fit the shoulders, usually give best satisfaction, as they can be dried, beaten, and brushed each morning before being put on to the horse. Some practice washing the shoulders, especially of colts, each night after work with salt and water. This tends to toughen the skin. If the shoulders feel hot after work, after washing and drying they should be given an application of white lotion, made as follows: To a quart bottle of water add a half ounce each of sulphate of zinc and sugar of lead. This should be well shaken and applied with the hand. This will remove inflammation and heal irritation and wounds. In conclusion, we would say in fitting horses for work, as in every other undertaking, study the ob-jects in view. It is not flabby fat that a team needs, but a good condition of flesh, mostly mus-cular, good healthful vigor, and feeling. We invite criticisms or suggestions on this important topic for March 15th isone which should much us not later March 15th issue, which should reach us not later than the 10th inst.

tends to arrest the vital processes. Success in live stock rearing depends, as in other lines of business upon proper attention to details, and a supply of pure air in a modern stable is one of these. Of all live stock quarters probably those most recking with visible filth and veritable hotbeds of bovine tuberculosis yet discovered have been the cow byres from which the milk supply of some of the older and larges cities, such as those in the Eastern States, have been drawn, and above all others these should be clean and pure.

By means of the law of the diffusion of gases and the rise of the heated breath and air from the animals' bodies, we are enabled to provide a reason-



FIG. I.-MR. J. A. JAMES' CEMENT CONCRETE TWIN SILOS.

rises and escapes through the feed chutes or other means of exit. Mr. Hawkshaw's basement is 51x65 feet, and he is more than satisfied with his winter's experience. Night and day, the temperature of the stable has ranged about 49 to 50 degrees. On winter afternoons when the stock were all out and doors open it would drop down to 45, but rise soon after they were in again to about 50. There was no dampness and the air always seemed beautifully pure and sweet. His animals never seemed to thrive better. By keeping a thermometer in the stable he took frequent note of the temperature and so can vouch for the accuracy of his statements.

### Double Cement Concrete Silo.

The photo-engraving (Fig. I.) reproduced on this

ing to the feed room in the basement. At the time of our visit, early in February, the silage, although somewhat acid on account of being put in some-what green, was being fed with good satisfaction.

### Salient Points in Round Silo Construction.

It may interest some of the readers of the AD-VOCATE to know that in building a round silo it is not necessary to have the staves the full length. It is a great waste of valuable timber to cut plank twenty feet long. I built mine with good sound one and a quarter pine flooring, twelve and six-teen feet long, dressed and matched, with the edges made the proper bevel at the factory. Silo is ten feet in diameter, twenty-four feet deep. When building it I broke the joints, same as in laying a floor. At each joint I ripped half an inch in the end of each board and set in a piece of inch hoop-iron dinged in paint. A MCKENZIE A. MCKENZIE,

## Improving Land Without Manuring.

Editor FARMER'S ADVOCATE: SIR,—On page 81 of February 15th issue you invite experience from readers of the ADVOCATE, "How to improve the soil with-out manure." I would change our Quebec friend's plan somewhat. Plow the land 5 inches deep and subsoil 8 inches; harrow thoroughly before sowing; sow spring rye, 1½ bushels per acre, with a seed drill, and at the same time sow 12 lbs. Mammoth red or pea-vine clover per acre : allow the clover or pea-vine clover per acre ; allow the clover to drop behind the coulters of the seed drill ; to drop behind the coulters of the seed drill; pass a very light harrow or a Breed weeder over the land, and roll immediately after sowing. Too much stress cannot be laid on harrowing and rolling as soon as the seed is sown. The spring rye can be cut several times during the season for either a mulch or feeding. If the season is anyway favorable, the clover will grow to a good height for plowing under in autumn. I would prefer to leave the plowing until May, so that the clover would have made a good growth in spring. Sow the gypsum before sowing the grain. I would have some doubt about our Quebec friend's plan being a success. 1. The buckwheat would smother the clover.

clover

2. The winter rye will not do as well as the spring rye when sown in spring. 3. Twelve pounds clover will make a per-

fect mat when sown early in spring, and sown as directed. J. FIXTER. Farm Foreman. Central Experimental Farm.

# Maple Syrup.

BY JOSEPH YUILL.

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### Ventilation for Live Stock.

Oxygen gas, one of the chief constituents of pure air, is essential to the support of animal life. A small animal confined in a bell-glass containing pure oxygen will not be suffocated as soon as if it were placed in the same glass filled with atmos-pheric air. The great objects of respiration, or breathing, are first to introduce oxygen into the system, and secondly the removal of such noxious compounds as carbonic acid gas. While in a cold climate the comfort of housed animals by means of warment is increased animals by means of

dairy farm of Mr. J. A. James, Middlesex Co., Ont. The silos extend southward from the barn, beneath which is a stone basement for stock. The center partition divides it into east and west compart-ments, each of which is 20 ft. by 9 ft. 3 in., by 22 ft. deep, inside measurement, as shown in Fig. II.



#### FIG. II.-GROUND PLAN.

The walls are 18 inches thick at the bottom and 12 inches at the top, the partition wall being heavier, 14 inches at the top, although less would have done climate the comfort of housed animals by means of warmth is very important, it is equally if not more so, as far as health is concerned, that provision be made for a constant renewal of the air in the quarters occupied by live stock. Over 4 per cent. of the expired air is carbonic acid gas - a poison - which The concrete was mixed one part Queenston cement to six parts sharp, coarse gravel, and about one third the whole bulk in stones was bedded in. The bottom is also of cement concrete. Fig. II. represents the ground plan, which shows the corners round to insure no wasted ensilage in them. The end door (D) at north end opens into the chute lead-The concrete was mixed one part Queenston cement

Maple Syrup. BY JOSEPH YUILL. As the time of year for making maple syrup will soon be here, a brief description of modern methods of its manufacture as practiced by the writer may be considered opportune. The first thing is to have everything prepared in autumn if possible. Have a house 15 x 32 ft., 8 ft. posts, single boarded and battened. Have this house situated in a convenient place; if possible, on a sidehill; have a ventilated roof on one half of the house — the half over the evaporator — to allow the steam to eccape. Have the other half of the house full of dry, light wood. The first thing is to tap a tree facing to the south. As soon as the sap flows freely from this tree it is time to tap. This generally occurs the last week of March or first week of April. When the time arrives to tap be supplied with a sheep-skin with the wool on it to have under your knees; a light hand axe to dress off the rough bark; a common carpenter's brace and a half-inch bit. With this bit bore a hole in the tree one inch deep. It will greatly facilitate operations if two men go tapping. One man goes ahead, trims off the bark and bores the hole, and another man fol-lows and places the spout in position and hangs on the buckets. There are, a great many different kinds of spouts in the market, but I find the spout with a thread on it to screw into the tree gives the best satisfaction. Have a wrench fitted into a with a thread on it to screw into the tree gives the best satisfaction. Have a wrench fitted into a common brace; with this power the spout is easily screwed into the tree and there is no trouble about sap leaking past the spout. The spout is provided with a wire hook on which to hang the bucket. with a wire hook on which to hang the bucket. The size of the bucket requires to be in proportion to the size of the sugar bush. If you have a small bush, say two hundred trees, so you can get around it twice each day to empty the buckets, buckets holding six quarts will give the best satisfaction, they are so light and easily handled; but if you tap more trees than you can get around con-veniently twice a day, you are better with buckets holding eight quarts, and have them made of the best tin. The best will be found to be the cheapest.

Next comes gathering the sap, and there are a great many devices for gathering sap. A large barrel placed on its side on a sleigh and a filler to fill the sap into the barrel, and a piece of three-inch hose. If the sugar house is on a sidebill this piece of hose will run the sap into the feed trough, but if there is any ice on the sap this way of gath-

Sec. E.