

ment or any suggestion that any college graduate or District Representative stands "sponsor" for any experiment. The advertisement does state what is entirely different—that a competition was carried out, as reported in the press some few months ago, by the Department of Agriculture and under the District Representative, and it also gives what is likewise public knowledge the fertilizer method of two contestants. One man used a "home-mixed" and realized a profit of \$33.15, and the other man used a "factory-mixed," 3-6-10, and got a profit of \$135.25. No one is expected to attribute the entire difference to the fertilizer, but I think it is a reasonable conclusion that a considerable portion was—which is another way of saying that with proper treatment the profits of the first man would have been vastly greater. There was, therefore, nothing misleading about the advertisement except your correspondent's interpretation and his grossly unfounded reference to the District Representative. Now, as to the general question of "home-mixed" vs. "factory-mixed" fertilizers, I may say, before proceeding further, for the particular information of "Jas. Hunter," that I am a graduate of an Agricultural College and "know something of the principles of fertilizing." I sincerely hope that the following remarks will not prove an insult to his intelligence, but that they will serve to enlighten him and the very few other "unbelievers" in the superiority of "factory-mixed fertilizers." I am confident that it does not pay one farmer, with the average farmer's knowledge of chemistry, to try to assemble the proper fertilizer ingredients and mix two or three tons. Further, if dry mixing with nitrate of soda or sulphate of ammonia became general, the acidulation of low-grade goods would cease and these high-grade ammoniates would soar in price under the enormously increased demand and limited supply beyond profitable use by anyone. In point of fact, at present, probably not one ton in 100 used is home-mixed. "Too much fuss" is the explanation. The history of home mixing is about the same in every part of the continent. A farmer or group of farmers decide that they can buy their materials and mix their plant food cheaper than they can buy the factory-mixed. The materials are purchased, the barn floor, sand screen, and shovel are brought into use, a quantity mixed, according to their ideas of a formula, and applied in the usual way. As a general thing the results are unsatisfactory, the fields show irregular growth, and some of the advocates begin to lose faith in their theory. The following year will find a smaller quantity of raw materials purchased by that particular section, and in three or four years the entire group are again buying factory-mixed goods. It has been my observation that a farmer who has tried home-mixing once or twice never touches it afterward. It is too much work, there is an uncertainty about the production, and he lacks confidence in his own mixing. If any farmer believes that he can mix raw fertilizer materials and have the finished product anywhere near the equal of factory-mixed goods, let him try it and then draw several samples from different parts of the fertilizers and have them analyzed.

If, as some theorists contend, commercial fertilizers can be mixed at home with crude appliances, why is it that the manufacturers of commercial fertilizers spend hundreds of thousands of dollars in plant equipment. One of the very best arguments against home mixing is the fact that fertilizer manufacturers spend a vast amount of money for the most expensive machinery so that the best results can be secured by the farmer. It is estimated that about 95 per cent. of the commercial fertilizers used in this country are complete or factory-mixed goods. Home mixing is an absolute impossibility in order to secure the maximum results, and when the farmers learn this to their entire satisfaction it will be better for the agricultural industry of this country. It is to the ultimate interest of the agriculturist that this mistaken idea of the home mixing of commercial fertilizers be corrected, for the proper results are very seldom, indeed, I may say, are never secured—and then the home mixer is added to the list of those who decry the use of commercial plant food.

The purchase of fertilizer materials at general quotations in small lots to suit individual needs is not always practicable, but for the sake of explanation, assume that such purchase may be made. Let us suppose that the farmer wants the fertilizer for spring application, the ammonia of which will be progressively available throughout the growing period of the proposed crop. He must figure out his needs in, say, broken lots of organic nitrogenous matter, and one or more of the nitrogen containing chemicals. To these the acid phosphate, potash, etc., must be added; for, to enable an even application per acre, by means of hand or machine distribution, the mixture must be made up to definite weights. The drill will apply evenly and accurately, say, 210 pounds per acre, therefore, the "home-mixed" fertilizer must be so proportioned as to contain in 200 pounds the amount of plant food desired to apply per acre. All this detail having been worked out, the mixing on, say, a barn floor or

in a mortar bed, is apparently simple enough, except that the time lost will cost the farmer many times the cost of the same work in a fertilizer factory. But the mixing is a more difficult matter than it would seem. Fertilizer materials are almost always in a crude state, and the fertilizer manufacturer must mill them before or during mixing in order to secure a homogeneous product. Not only must the ingredients of the mixture be all evenly distributed throughout the mass, but the final product must be dry and granular, and must remain so in the machine distributor. Many of the crude fertilizer materials are lumpy and more or less hard. These must be all thoroughly broken up before the mixing begins, and a shovel and a plank floor will serve as a very inefficient means to this end. As a result, most "home mixtures" are a pretty crude mixture indeed.

And now comes absolutely the most important part of "home mixtures." When applied to the soil these mixtures are ineffective, as a rule, unless used in excess. A farmer uses commercial fertilizers in accordance with his observed means, he does not use it in excess. With an evenly-mixed fertilizer applied, say, at the rate of an ounce per foot of soil, representing one plant or stool, suppose the nitrogenous fertilizer in the mixture chanced to be lumpy, and one plant got the small lump while the two adjacent plants got nothing. The result would be that only one-third of the plants would be fertilized with nitrogen, and the one which did receive nitrogen fertilizer would probably get so much that its growth (if a tuber or grain crop) would be all top and no seed. This is a more or less extreme case, but is still a very practical one. Now, suppose the above accident occurred to only 10 plants of 100, the crop loss would be exactly 10 per cent., of course, but this 10 per cent loss has been paid for in fertilizer, seed, soil preparation, tillage, rental, etc. That is the loss of 10 per cent. means the loss of all the profits in that particular crop that would have been received had the fertilizers been properly and intimately compounded. Even with the most painstaking supervision and costly machinery, the exact mixing of commercial fertilizer compounds is difficult enough; how much more difficult the rough fining and manipulation without machinery or trained supervision?

The farmer who attempts to mix fertilizers with a shovel on a barn floor during the busy period will pay exorbitantly for his fertilizer in labor if he would but add this expense to the cost of raw materials. It is far too costly to do with the hand in a retail manner what should be done wholesale with an automatic machine. All commercial fertilizers must be carefully and intimately mixed to secure results, and this can only be done at the factory with the automatic grinders and mixers. One agricultural writer, who is an advocate of "home mixing," in an article in which he recommends the "home mixing" of fertilizers, states, "that the objection, of course, is the difficulty and labor of accurate compounding." That's the whole story. Between the lines of this statement, one who runs may read that this agricultural writer really recognizes the fact that it is impossible to properly mix commercial fertilizers on a barn floor with a spade and a sand screen. After all is said and done "results speak louder than words." I strongly advise farmers to give a good brand of "factory-mixed" goods a fair trial, and not to be stampeded into buying "raw materials" for home mixing. I say this even though we would as gladly sell them as our 3-6-10 and other "factory-mixed" brands.

Robert Davies Co., Toronto.

R. INNES.

The Sweet Clover Situation.

From letters which we have received at this office, and from statements made to our representatives when going about the country, it would seem that some of our readers have gathered false impressions from reading articles on Sweet Clover in "The Farmer's Advocate." We have published some articles written by correspondents, and which have praised this crop to such an extent that many have been led to buy sweet clover seed and prepare to sow it. We have also published articles from correspondents who call the plant a noxious weed, which they state becomes a perennial nuisance. We wish it strictly understood that we have never advised the extensive sowing of this crop, neither have we condemned it. Our advice to enquirers has been that if they try it at all to be rather careful and sow only a small plot at first to decide for themselves whether or not it should replace red clover and alfalfa as a pasture and hay crop. Acting on this advice we are sowing one acre of it at "Weldwood" this spring, and hope to be able to give our readers the benefit of our experience. We have little faith in it as a crop for good soil, and do not expect to see it take the place of the old stand-bys, alfalfa and red clover, but from experience we hope to be in a better position to judge.

The Beef Ring for Fresh Summer Meat.

With the coming of the summer season the old problem of supplying fresh meat for the farm table is renewed. It is a comparatively easy matter for the farmer to cure pork or corn beef himself, but even where a goodly portion of either one or both of these materials is on hand it is necessary to have fresh meat for the table, and so far no better means has been devised than the beef ring.

We believe that beef rings are destined to become more popular than ever before, seeing that there is likely to be such a scarcity of good

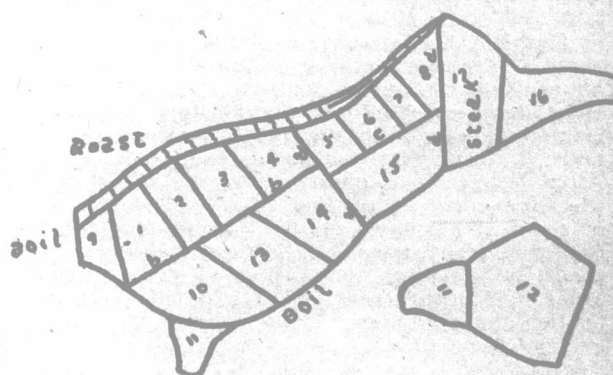


Chart No. 1.

beef cattle in the country, and with this scarcity comes the increased difficulty of obtaining suitable meat from the country butcher. It is getting near the time now when beef rings will commence their summer work. It is not too late yet to organize, but it might have been better had the work of organization been carried on a little earlier. Many of the best rings in the country do not kill their first beef until the first or second week of June. This permits of the twenty-share ring running on fairly late in the fall until after the threshing is done, silos filled and root crops harvested. This is an important consideration, as extra labor is needed for these different jobs, and it is necessary that plenty of good meat be available. The beef ring helps out greatly.

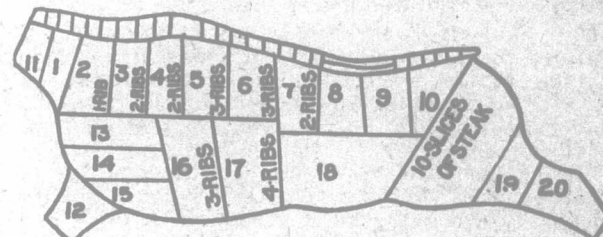


Chart No. 2.

There are different forms of organization, some preferring sixteen members, some twenty and some twenty-four. Taking everything into consideration, keeping in mind the size of the families on the farm, we believe that the twenty-share ring is about as satisfactory as any. All that is necessary to organize a ring is for two or three of those interested to go around among the farmers in a locality and get enough of them to signify their intention of joining such a ring, call a meeting and talk the matter over. It is necessary to hire a butcher or some competent person to do the killing. In a good many localities it is possible to rent an old barn conveniently located very reasonably. If this is not possible it does not require much out-lay to

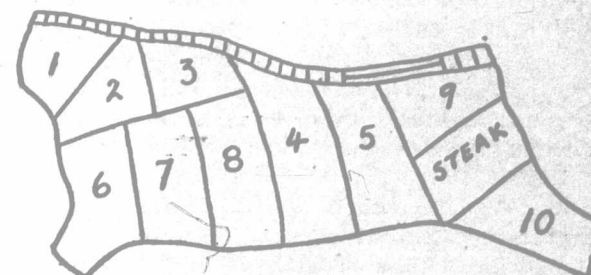


Chart No. 3.

build a small slaughter house. Every member of the ring agrees to furnish a two-year-old animal to dress 400 pounds, and subject to the inspection of a committee composed of two members of the ring. One of the best methods of determining the time at which each individual's animal should be killed is to have them draw the numbers. Place cards in a hat, numbered one to twenty, representing the twenty weeks, and each man draws his number and puts his animal in the week corresponding to the number. The animal is delivered to the butcher the day previous to killing, and is killed and cut up early on the following morning. It is necessary to agree up-