EXTRACTED HONEY.

A suberiber writes .—" I have a few colonies of bees in boxes hives, and would like to get some extracted honey from them this summer. Would you be kind enough to tell me through the ADVOCATE how to proceed ?"

It would certainly be a little difficult to get extracted honey from box hives. You might get "strained boney in the manner described in a previous issue of the ADVOCATE, but that does not appear to be what you want. Ye vant extracted *honey taken with th* honey extractor. This machine can only be used on hives with movable frames—that is, frames which may be removed from the hives without injury to bees or frames and returned. You must, therefore, transfer your bees from the old box hives to movable frame hives before you can use a honey extracter on them. There are several methods of accomplishing this, but as you appear to be a novice without experience in the modern arts of bee keeping, you had better adopt a simple and easy method, as follows. —Have your movable frame hives ready, and when your bees swarm put the new swarms in the new hives Then in 21 or 22 days after the first swarm from every hive issues, the *young bees all being hatched out by* that time, you can transfer bees and comb to a frame hive. Take the box hive containing the bees, invert it, place an empty box or hive the same size over it in natural position, closing up any openings where the hives meet, and then "drum" the bees out of the under into the upper hive: Take the latter with the bees and put it in a cool place bottom up having covered the bottom (now the top) with wire gauze or cheese cloth to confine them to the box or hive. Now take the old hive of comb, cut the latter out and fasten all that is fit in the empty frames of the new hive. If you have a honey extractor the honey had better better be extracted from the combs before you fastem them in the frames, or afterwards, as you may fine it, easier. Should you do it before you insert them you would need what is called a "comb basket," with perforated sides, in which to place the combs before placing them in the extractor.

Having transferred the combs, set your new hive on the stand of the old one, bring your box of bees out of the cellar or other place, and after opening the entrance of the new hive wide dump the bees down in front of it, and the work is done.

Farmers Advocate.

Manures.

MANURES FOR SPRING CROPS.

During the past week we have received three publications bearing upon the seasonable subject of manures for spring crops. The first of these is a report of manurial trials carried out for the County Council of Northumberland by Dr. SOMERVILLE, Professor of Agriculture at the Durham College of Science; the second is the report of the Experiments Committee of the Norfolk Chamber of Agriculture for 1892, and the third is a paper on "The Rational Use of Artificial Manures," by Dr. BERNARD DYER, read at the recent meeting of the Rochester Farmers' Club. The Northumberland experiment were apparently commenced last year, and were of a very comprehensive character. We pass over those relating to the manuring of grass land for hay, because they appear to have been carried out without any consideration as to the effect of the manures upon the character of the herbage, and we have recently referred to experiments of a similar kind which appear to have been conducted on a better system. (1) The results of the experiments with oats may also be left unnoticed, as Dr. SOMERVILLE states that they cannot be regarded as satisfactory, for reasons into which we need not enter. The most elaborate set of experiments was one carried out principally to test the relative values of the chief varieties of phosphatic manure, carried out at four different stations. We cannot help thinking that the object of this experiment would have been better fulfilled if each of the phosphatic manures had been tried by itself, as well as with other manures, whereas the only one tried alone was superphosphate. Dr. SOMERVILLE states, however, that every plot concerned in throwing light upon the main question received the same weight of nitrogen and potash, and an equivalent weight of phosphate of lime Therefore, he adds, it is sufficient in making comparisons to refer simply to the phosphatic manure without mentioning the others used with them. The phosphatic manure that, on the whole, gave the best results was vitrolised bones, which gave the largest yield five times out of eight, but the increase over the produce of the unmanured crop was obtained at the cost of 7s. 6d. per ton, whereas that obtained by the use of two other phosphatic manures was less. On one pair of plots 575 lb of vitriolised bones per acre were used. with ½ cwt. of nitrate of soda, 2 cwt. of kainit, and 44 lb. of blood meal. Against this dressing were tried 393 lb of basic slag on one pair of plots, and 539 lb. of superphosphate on another. In each case the same quantities of nitrate of soda and kainit were used as on the plots supplied with vitrolised bones; but with 225 lb. of blood meal instead of 44 lb. to make up for the nitrogen retained in the bones. Other quantities of superphosphate and slag were tried, but those just given proved the most economical. The cost per ton of increase in turnips was 5s. 11d in the case of the slag, and 7s. 1d. in that of the superphosphate. When the quantity of slag was increased to 500 lb. the cost of the increase appears to have been 6s. 3d. a ton. But the best results of all appear to have been obtained by mixing the phosphates; the cost of the increase when superphosphate and slag were mixed and given with the manures above mentioned being only 5s. 9d. a ton. The general conclusions drawn by Dr. SOMERVILLE from the experiments are: (1) That basic slag is the cheapest phosphatic manure; (2) that a mixture of slag and superphosphate is better than either alone; (3) that part of a turnip manure should consist of soluble phosphate; (4) that kainit, as a rule, may be profitably added at the rate of 2 cwt. an acre to a turnip manure; (5) that the addition of nitrate is absolutely necessary to obtain a full crop of turnips; (6) that superphosphate alone added to dung is not directly profitable when used in large doses, (7) that nitrogen in the quantities used was not a profitable addition to sixteen loads of farmyard manure, (8) that so far as the turnip crop is concerned artificial manures are more profitable than dung, (9) that small doses of artificial manure are always more directly profitable than large doses. With respect to what is stated about kainit, experience has proved that its profitableness depends entirely upon the soil to which it is applied, and that on heavy land in good condition it has seldom proved advantageous. (1) In an experiment with white turnips, in which different quantities of superphosphate were used, 3 cwt. per acre gave an increase of 3 tons 12 cwt. over the produce of the unmanured plot, whereas by doubling the quantity of superphosphate the extra produce was only 1 cwt. It is true that when the quantity was brought up to 9 cwt. the produce was 2 tons 4 cwt. more than when the smallest quantity was used; but this was not sufficient to render the additional manure decidedly profitable. An interesting trial as to the effect of sowing nitrate of soda for a turnip crop at different periods shows that the best result was got when half the nitrate was applied at the time of sowing, and the other half at the time of thinning.

The Norfolk experiments of last season included some carried out for the same object as the main one in the turnip experiments in Northumberland, namely, that of determining the relative values of different phosphatic manures. The trial was made with swedes. Taking the results all round, the report states, superphosphate has come out just equal to bone compound and dissolved bones, as phosphates can be bought cheaper per unit as superphosphate than in any of the bone preparations, it is once more concluded by the conductors of the experiments that superphosphate is the most profitable form in which phosphatic manure can be applied to swedes. The basic slag did better than in previous seasons, but not as well as superphosphate. Experiments to test the value of salt in relation to the barley crop gave uncertain results. as in the previous season. In one case, after mangels, the addition of 3 cwt. of salt per acre produced an increase of 10 bushels, but in some other cases the crop appears to have been reduced by the salt. The idea that salt stiffens the straw seems to have been quite exploded by these experiments, as, the crops on some of the salt plots were badly laid. The only general conclusion come to in relation to some experiments in the manuring of barley on heavy land is to the effect that this crop does not require any special addition of cinereal manures, those applied to the other crops in the ordinary course of rotation being sufficient for it. (2) On the other hand, it is largely benefited by the application of nitrate of soda or sulphate of ammonia; but in every case in which more than one cwt. of either was applied the crop went down more or less. Some other experiments carried out in Norfolk in relation to the different varieties of wheat and barley are chiefly interesting in relation to the district in which they were tried."

(1) Nitrogen for the grasses, phosphoric acid and potash for the clovers.—ED.

METHODS OF BUYING MANURES.

EDS. COUNTRY GENTLEMAN — As spring is approaching and farmers are looking forward to planting various crops, a few remarks on this subject may be of interest. *Manures vary so* much in their constituents, and farmers being compelled to have manure in some form in order to keep up the fertility of the soil, as well as to feed *the plants while growing, they should* look well into the methods of buying. The principal ingredients needed when we buy artificial manure are nitrogen, phosphoric acid and potash. Natural manure from stable and yard do not always contain all these ingredients in the right proportions for the use of plants, and are therefore sometimes termed *incomplete* manures. But these are very essential, not only for the chemical elements which they contain, but for the mechanical effect they have on the soil, which cannot be readily calculated in dollars and cents.

Some natural manures may contain only one or two of the essential elements of plant-food, but from their mechanical effect, supplying humus, making heavy soils more absorptive, and thus more retentive of moisture, as well as of the fertility already there, they may be of great value, independent of the plant food which they actually contain. It is therefore essential that we use in connection with these natural manures, some *complete* or manufactured *fertilliser containing* all the ingredients in right proportions for plant use. It is in buying these that the farmer should be most careful, for in no way can he be more imposed on by unscrupulous manufactures and agents. For we must bear in mind that the buying of manure is virtually the buying of one or more of the principal elements, viz., nitrogen, phosphoric acid and potash. The more concentrated the material which contains these, the less will be the cost per pound of the actual plant-food furnished. The farmer by buying a large bulk of material, does not gain anything unless it contains plant-food in proportion, but rather buys weight only, and pays for quantity at the expense of quality. In buying a fertilizer. it is *well to ascertain how much of* the different elements it contains, and we can then see how much we are paying for our different ingredients.

The best mode for all farmers to pursue is to buy chemicals in the wholesale markets in any of our large cities and mix them for themselves. Almost any farmer has the appliances for doing this and can mix in a heap on the barn floor, doing the work on rainy days or at any time the weather is unsuitable for working out-side, and really not feel the cost of mixing. The chemicals he should buy would of course depend on the ingredients he wished. To procure nitrogen, he should buy nitrate of soda which contains when pure about 16 pounds of actual nitrogen per hundred pounds, or sulphate of ammonia, containing 20 pounds of nitrogen per hundred, but not in as soluble a form as in the nitrate. Therefore, if he wished to make a fertiliser that was not *too* soluble, but would remain in the soil long enough for a slow-growing crop *to get full benefit of it, he would use* some of both of these. He could also use some dried blood of a high grade, which would furnish about 14 pounds per hundred, or by using ammonite of high grade he would probably get 12 pounds of nitrogen and also 3 pounds of phosphoric acid, but not in a very soluble form. To get phosphoric acid, he could use bone-black superphosphate, a refuse from the sugar refineries composed of ground bones after being treated with acid. This would furnish 16 pound phosphoric acid per hundred. Also South-Carolina rock found principally in that State, and to some extent in Florida, and treated with sulphuric acid, which would furnish about 12 pounds per hundred of actual phosphoric acid.

(To be continued.)

(2) *Cinereal*=ash.—ED.