

Surplus white comb honey can be obtained from straw hives in as good form as from the best constructed bar-frame hive by using a super-crate constructed for this purpose. It consists of a square box, with weather cover, made to contain fifteen one-pound or ten two-pound sections. At the bottom is a hole, corresponding with the hole on the top of the straw hive, covered with excluder zinc, through which the bees pass and store their honey in the sections. Should it be wished to super a hive which has not a hole in its crown, a piece about three inches in diameter may be cut out of the centre. This is best performed in the middle of a bright day when many bees will be out in the fields at work, and, if done with care and gentleness, using a sharp knife, scarcely a bee will take flight. The super can then be placed on the hive, which, if done when the hive is in a prosperous state, with large quantities of honey coming in, the bees will usually at once ascend and begin to work out the comb foundation with which the sections are furnished. Swarms in straw hives should not be supered till about twenty-one days after hiving, as the bees put into a straw hive have all the wax for comb-building to secrete, consequently they are not ready to store surplus honey so soon as those in bar-frame hives which are furnished with foundation. White comb honey can also be obtained in straw supers placed upon skeps. These should have a piece or two of white drone comb neatly fixed to the top as an inducement to the bees to enter them and commence work. Drone comb is given in preference to worker comb, it being much better for storing honey in. Sections and supers should be well protected with warm material.

THE BREEDER'S INCIDENTALS.

Pittsburg National Stockman and Farmer

There are no men connected with agriculture whose incidental expenses bear harder upon them than do those of the breeder of fine stock. His is a business which, from the first to the last, is accompanied by apparently trifling expenses of which many are inclined to take but little account, but which, if not allowed for, will make huge inroads into their profits. These things are necessary, and can be avoided only by the sacrifice of points which in these days are regarded as absolutely essential to success. There is but one thing for the breeder to do respecting them, and that is to prepare for them and meet them. Any other course would be suicidal.

Of course among the outlays necessary for the breeder must be included all of those accompanying ordinary stock-raising—such as for providing food, shelter, etc. The only difference is that the breeder's expense of this kind must be greater, just as he regards his stock as worthy of more care and attention. His stock does not fare much better, perhaps, than the stock of the average farmer should fare; but to place it in the condition in which the latter is too often found would be to inaugurate a policy which would soon obliterate all distinctions between scrub and well-bred stock.

Besides the breeder is faced by the necessity of keeping up the cost of registering his stock, of expending more in the transportation of his animals, of employing plenty of intelligent and often high-priced help, of incurring a good deal more expense than his brother farmer in entertaining strangers, of advertising, making use of job printing, etc., etc. If he be an importer, a vast deal is in this circumstance added to his necessary outlay, involving incidentals of the magnitude of which few people have an adequate conception.

A contemplation of all these things is in

these times a source of great discouragement to many breeders, especially to the younger ones who have had but little experience in the ups and downs of the business. With a phenomenally light demand for nearly all kinds of fine stock, and with no apparent immediate returns for their investment of labor and money, it is no rare thing to meet with men who are wondering, after all, whether all this will pay. Some are ready to adopt one expedient for getting through, and some another. The general drift is toward increased economy in the management of the business—a most hopeful tendency, and one which needs to be encouraged. However, this is a matter which needs to be looked after with extreme caution. Of course men of judgment know that it will not do to relax in feed and care though an occasional breeder is inclined to that course. Others feel that registry expenses (which are indeed frequently burdensome) may be cut off—which we need not argue is a very grave error. Others are ready to abandon advertising—a mistake only less serious than those named. The instinct of hospitality, which is a prevalent characteristic of nearly all stockmen, is perhaps the only thing in which there is no marked inclination toward curtailment of outlay.

We repeat that all these expenses necessarily belong to the successful prosecution of breeding. It is better to abandon the business for some other one than to attempt to run it, in these progressive days, without them. To avoid any of them *in toto* is to handicap one's self at the start, and to practically surrender the field to men who better understand what its possession implies. Can any one afford to make such a sacrifice?

APPLICATION OF MANURES.

(English) Agricultural Gazette.

The adaptation of the feed to the crop and the soil is a first necessity in the economy of manuring; but more than this is required in order to feed a crop intelligently. The form in which to use the different manures, the quantities to use, the time and mode of application, are all of extreme importance. But even when all is done that can be done in this matter, when the combined wisdom of practice and science has told us all that it can yet tell us in regard to the judicious choice and distribution of manures, it affords, at the best, but a fickle and imperfect data to work upon. It is not merely a chemical composition of soil and crop; for in every soil, nay in every field, there are certain physiological and other peculiarities that are important factors in the problem, and some of these are not yet clearly determined.

Whether the most soluble forms of manure are the most economical to use will depend on the nature of the soil, the season, and the crop, as also on the practice of manuring. If the soil is retentive, the season or climate is dry, the crop a short-lived, shallow-feeding one, and the practice is to manure often and give little at a time, then all the inferences are in favor of soluble manures. Even where the three first conditions are reversed it may still be best to use soluble or readily soluble manures, provided they are given on the principle of "little and often." Ammonia in the form of nitrates or nitric acid is, in the absence of vegetation, or unless taken up by vegetation, especially liable to be washed out of the soil. A soluble salt of potash, or a soluble phosphate, is not liable to the same risks of removal as the nitrogenous element of manures. Still a plant can only take up a small quantity of food at a time, and it is obviously a waste to apply more than the plant can make use of within a given time. "It may be alleged that the portion not ab-

sorbed bides its time, and eventually becomes useful; but this is very doubtful; it is in the last degree improbable that it all remains in the soil; for the very circumstances which make an artificial manure useful are those which lay it open to loss when it remains there for a length of time." Both the soluble salt of potash and the soluble phosphate are no doubt taken up in large quantities by the plants, but any excess is soon fixed in the soil, and is not then so accessible to the growing crop.

The question of light or heavy manuring will, in a measure, be regulated by the practice which is adopted in regard to the above. The more soluble the manure, the less of it can be given profitably at one time, and the more frequent should be the applications. What the *paying point* exactly is must be determined by every farmer on his own soil, in reference to the crops he is raising, and the climate he has to deal with. It is a point well worth resolving. Need we add that, in order to obtain a full and healthy plant, a change of artificial manures may at times be necessary; that to feed plants properly they may need to be dieted, just as dyspeptic men and animals have to be dieted.

As manures are designed to be absorbed by the roots, or small rootlets, of the plants, it is important that they be finely divided or pulverised, and, in the case of fertilisers applied in the insoluble form, ultimately mixed with the soil. No single root, or mass of small roots, can do the feeding for all the others. The manure must be accessible to them all. In the case of the larger plants, or plants cultivated in wide rows, this does not necessarily involve that the manure in its dry state should be thoroughly incorporated through the entire body of the soil. We have seen cabbages and other crops fed with a spoonful of manure with the very best effect; and for drilled crops generally there is probably no better plan than manuring in the row. Spoon-feeding and manuring the plants directly, whether in the drill or otherwise, is specially applicable when the readily soluble sulphate of ammonia and nitrate of soda are the manures used.

THE AGRICULTURAL EDITOR.

From Texas Siftings.

Dyke Fortescue rambled into the office of a rural newspaper published in the interests of a small class of rural readers, and named, *The Farmers' Friend and Cultivators' Champion*. The proprietor intended to be absent for two weeks, and Dyke undertook to hold the journal's head up stream until his return.

"You will receive some visitors, quite likely," said the proprietor. "Entertain 'em. Entertain 'em in a manner which will reflect credit upon the paper. They will want to talk stock, farming, horticulture, etc., you know. Give it to 'em strong."

Dyke bowed, borrowed a half dollar, got a clean shave, a glass of beer, and soon returned to face the music and edit the first agricultural journal with which he had ever been connected.

"I can feel that with my journalistic experience, it will be just fun to run an agricultural paper," said Dyke to himself.

At 2 o'clock p. m. the first visitor showed up at the door of the office, and Dyke cordially invited him inside. The farmer entered hesitatingly and remarked that he had expected to meet the proprietor, with whom he had an appointment to discuss ensilage.

"I am in charge of the Journal," said Dyke. "O, you are. Well, you seem to have a pretty clean office here."