

some surplus for the expectant apiarist. The rains have helped the buckwheat up and along, and it now promises well, the earlier sown lots in favorable situations having come into bloom the first week in August. Should the frost keep off and the weather prove favorable, the bloom will be continuous and protracted, as the buckwheat is now (August 15th) in all stages, from just above ground to blooming. The casual fall flowers are also coming out, and altogether there will probably be a good fall for the bees to partially offset the very bad summer.

LESSONS FROM DROUTHS.

These drouths, which of late years recur so frequently, ought to teach the apiarist, as well as the farmer, useful lessons. The chief one of these is to give more attention to the propagation and cultivation of the flowers, plants and crops which best stand the drouth. The farmer ought to scatter his chances, as it were; that is, he ought to diversify his husbandry more, and the agricultural apiarist ought to keep his weather eye in the same direction. Corn, for instance, is a crop that stands a great deal of drouth, for if the rain refuses to descend upon it from the clouds we can keep cultivating it and stirring the earth around it persistently, thus getting at night by absorption the moisture which the clouds deny us. Over and above the corn which this very useful crop yields, there are the stalks which make excellent feed for cows; besides, corn planting, with proper cultivation, is death on all weeds. Then it yields both pollen and honey for the bees. All things considered, corn is one of the most profitable crops the farmer can raise, especially in a dry season like the present, and I am at a loss to explain the neglect of this crop among farmers except on the grounds of laziness to give it the extra attention it requires. Corn for fodder should also be more extensively raised, and the southern white seems to be much ahead of the western corn for this purpose. And in order to raise a good crop of this in a drouth, instead of sowing it broadcast, harrowing it in, and allowing it to shift for itself, it ought to be put in hills or drills and thoroughly cultivated, the same as field corn. This also yields pollen and honey. Sorghum is also excellent for all purposes mentioned, and may be likewise made to afford a supply of syrup.

Rye could also be grown to advantage against the contingencies of drouth. In most cases it will grow on the poorest land on the farm, and the drouth seldom commences early enough in the spring to materially injure it. Rye yields an abundance of straw, which makes very good

fodder, especially when cut up, and comes in good with a light hay crop.

SWEET CLOVER AND THE CHAPMAN HONEY PLANT.

These two plants (*melilotus alba* and *echinops sphærocephalus*), though good for little else than honey, ought to get more attention from the bee-keeper as resources against the drouths. The sweet clover will stand up alone and bloom bravely when almost everything else is dried up. And it blooms from June till fall, yielding an excellent quality of honey. I shall not say that it would be profitable to occupy good field land with sweet clover just for bees, take one season with another, but I mean to say that it certainly would pay to scatter it freely along fences, on roadsides and in waste places within reach of the bees; and in time of drouth, when almost every other source fails, this may yield enough, at least to keep up brooding.

The other plant, the "Chapman," so called because the gentleman of that name at Versailles, N.Y., first cultivated it in this country, and brought it to the notice of bee-keepers, is a native of France, is perennial, and from the experience already had with it in Canada, promises exceedingly well. Some three years ago the North American Bee-keepers' Association appointed a committee to investigate the merits of the plant. Others have also tested it within the last year or two in Canada, as well as the States, and on the whole the reports are very favorable. It is reported as hardy, withstanding the drouth, yielding nectar abundantly for from one to four weeks, and growing upon almost all kinds of soil.

WINTER STORES.

At last writing it was thought, owing to the severe drouth, that feeding to supply winter stores would have to be extensively resorted to. Happily the prospect is now changed, and the probability is that the bees will be able to procure natural stores, and that but little feeding will be necessary. This, however, is the month (September) when the matter of food for winter must be attended to and any deficiencies supplied. As to the amount per colony of food required from September till June, that depends upon various circumstances, but it is best to be on the safe side and give plenty. An average of 30 to 40 lbs. per colony is little enough. Of course those wintered outside require more than those in more comfortable quarters, for in the bee, as in other animals, the animal heat is kept up by the food. In a good repository, with other conditions right, a colony of bees will pass the winter from November till April on from 2 to 10 lbs. of honey. But this presupposes a repository and temperature which will secure quiescence