

apple there is scarcely any acid, and the apple appears to be really sweeter than it is. The sugar, when the cider is expressed from the apple, goes with it. This sugar is the basis of the vinegar. The cider, when manufactured, should be placed in a clean cask or barrel one that is sour, but not musty, being preferred. This barrel must be put in a warm place, and the bung left out to allow access of the air, to form the vinegar. The air unites with the sugar of the cider, causing a rapid formation of a gas, that causes the cider to boil, as it were, by its escape. Fresh air being constantly added through the open bung, the process is rapidly continued until the sugar is converted into alcohol. A change now takes place. The alcohol which is formed is acted upon by the air and converted into vinegar, more rapidly, of course, under proper conditions than unfavorable ones. If the barrel is only filled half full of the cider and kept at a temperature of from 80 to 85 degrees and air freely admitted, and the barrel agitated by rolling, good vinegar can be made in a few weeks, but the flavor will not be as high as it would by slower making. When the barrel or cask is filled very full and but little surface is exposed to the air, the process goes on very slowly. If the cider is kept, as in a cellar, at a low temperature, the process is also much retarded, frequently taking more than twice the time to complete the making. The better the cider, the better the vinegar. That made from green and unripe fruit will never make a superior article, and in many cases will turn black and putrify in the barrel and be worthless. Freezing is injurious to the flavor and quality of cider vinegar.—[Farm and Garden.

We have recently received a large number of letters about carp culture. We were advised to advocate the culture of carp in Canada; but the more we investigate the matter the less favorably impressed we are with the project. Some culturists have succeeded well for a while, but it is the end that tells. Reports of successes and failures are very conflicting. We cannot at present advise the farmers of Canada to go into carp culture.

The New York Times, in a forcibly written article against over-feeding stock, closes the long list of objections by the following remarks: Thus we have every condition for the outbreak of the prevalent diseases of the season. Fever of the lungs, congestion of the brain, inflammation of the intestines, disorder of the liver and spleen, carbuncular inflammation of the tissues, impaction of the stomach, or at the best a most fertile seed bed for the deposit of whatever germs of disease may be floating around in the atmosphere from near or distant plague centres, where these diseases are prevailing in a virulent and contagious form. The results are that pleuro-pneumonia, swinecholera, anthrax fever, splenic fever, under all common forms and names of lung fever, intestinal fever, Spanish fever, black quarter, bloody murrain, dry murrain, and the too common 'mysterious disease,' which baffles all the science and practice of the local practitioners," and which is always fatal, abound and bring dismay and serious losses to farmers and stock owners. Faults in feeding are very prevalent at this season, not to speak of the general ignoring of all sanitary conditions, and there are many circumstances which make it difficult to avoid these; but if our farm animals are to be preserved in health and these losses are to be evaded, these faults and neglects must be avoided.

The Apiary.

Races of the Honey Bee.

H. W. Lett, M. A., of County Down, Ireland, gives, in the Farmers' Gazette, the following sketch of ten different varieties of the *Apis mellifica* which are kept in hives:

I—BLACK OR BROWN. The ordinary hive or honey bee, called by the way of distinction, the black or brown, from being of almost one uniform brown-black color, with slight indications of paler bands on the abdomen, and clothed with grayish brown hairs. Until within the last fifteen years, no other bee was known in north or west Europe. This bee, after escaping, has made itself wild in the American and New Zealand woods.

II—ITALIAN ALP. The Italian Alp bee, sometimes called Ligurian, is indigenous to the mountainous district that lies in the north of Italy round about the lakes Maggiore and Como. It is of a light orange yellow color, with two orange red bands on the abdomen, and is longer and more slender than the black. They are better honey gatherers, more hardy and prolific, and very courageous in defending their own hives, even from the ravages of the wax moth.

III—CYPRIAN. The Cyprians are natives of Cyprus and part of Turkey in Asia. They are yellow, quite slender, wasp-like, and smaller than Italians. They always have a yellow shield mark on the back between the wings. They are strong, excellent honey gatherers, winter better than any other race, and are proof against being robbed by other bees. But they are easily excited, and most revengeful stingers.

IV—SYRIAN. The Syrian bees are found on that part of Asiatic Turkey which lies north of Mount Carmel. They are of the same size, qualities, and temper as the Cyprians, from whom they differ in showing less yellow, and being on the whole of a grayer color over their whole bodies. They are quite distinct from the next variety.

V—HOLY LAND. The Holy Land, or as the natives call them, the Holy Bees, are found in Palestine, south of Mount Carmel. They are marked like the Cyprians, but their hair is so light in color they appear to be beautifully striped. Their size is smaller than Italians, but larger than Cyprians. They are very active and far flying, most wonderful cell builders, and get honey from red clover; but they are ready to sting, become furious at the least smoke, and run off their combs when one is lifted from the hive.

VI—TUNISIAN. Tunis, on the north of Africa, has a peculiar race of bees. They are the same in size as the Cyprian and Syrian, but their color is dark brown—even darker than the common black or brown. They are active workers, keep on the combs when being handled, and bear smoke better than other eastern races; but they are liable to attack a person coming near them, even though not interfered with.

VII—CARNIOLAN. The Carniolan bees are natives of Carniola, in South Austria. They are longer and thicker than the black or brown, being the largest domesticated European bee. The color is a rich, dark brown, nearly black, while each ring of the abdomen is clearly marked by whitish-gray hairs, giving it a silvery look. They are equal to Italians in honey gathering, fecundity and hardiness, while they

are of a most remarkably gentle disposition, never attacking the manipulator, except when they are treated with improper roughness.

VIII—HUNGARIAN. The bees peculiar to Hungary are the size of, but far blacker than, the common brown. They are very fair honey gatherers, and as gentle as Italians, but their propensity to swarm renders them very uncertain and unprofitable.

IX—EGYPTIAN. The Egyptian bees are like Syrians in size, but quite yellow, like the Italians. They abound, both wild and in domestication, along the valley of the Nile, and while famed for good honey gathering qualities, are without exception the most ferocious bees known outside of India.

X—SOUTH AFRICAN. There is an excellent race of bees, both wild and hived, in the Cape Colony, which it is to be hoped will soon be introduced to our bee-keepers. They are the size and color of Italians, but grayer, while they are more tractable, and at the same time very prolific, and of remarkable working powers; where honey is to be gathered they keep at it early and late, and often are at work even by moonlight.

It is from the best of these races that the advanced bee-keepers of the world are now endeavoring to concentrate in one strain those characteristics which commend themselves as desirable in the best bred bee. And it may be safely stated that the honey bee of the future will be as superior to the bees known to us twenty years ago, as a pure Shorthorn is to an old brindled cow.

When taken out spread the manure at once on the field where it is to be plowed under in spring, says Waldo F. Brown, in the New York Tribune. I compost the manure in the barnyard, which is to be used on the garden or as a topdressing for wheat, but this shed-made manure I prefer to apply direct from the wagon when the land is frozen. Even if it does not do quite so much good, it saves labor at a busy time. Last winter I spread a part of the manure as we drew it out, but put some forty loads in a heap at the side of a field to be planted in potatoes. When spring came it rained so much and the land was so soft that we could not handle the manure at all when we wished to do so, and it gave us so much trouble that I made up my mind to spread in winter hereafter.

Mr. Henry Wood, in an address before the Wayland Agricultural Association (Eng.), makes the following allusion to the offspring of a Shorthorn cow which was over fed for exhibition purposes: "Mr. James How, of Broughton, Hunts, a tenant of our honorable chairman, had a matchless Shorthorn cow, called Lady Anne, one of the best animals ever seen. She won him 26 money prizes, 10 cups, and 4 medals, and bred three calves. The first, a bull calf, from a marked defect, was sold at a small price as a yearling. No. 2 calf was a heifer, and died when six months old. The third and last calf was born prematurely, and only lived a few hours. Thus, a priceless animal and her produce were lost; not only to the owner, but to the breeders of the country. Had the cow been kept in fair breeding condition, her progeny, and the produce of her produce, might have been available for the benefit of other herds. I may be told that, having won her owner so many prizes, she must have paid him in money. But, I would ask, how much did it cost to win those prizes?"