and the fruit hauled as soon as packed to the railroad and shipped at once. Method of transportation to Eastern markets is by fast freight; nearby markets are reached by express. The time required for a car of fruit to reach Chicago is 8 to 12 days; to New York, 12 to 18 days. Owing to the time required to reach market, much of the fruit arrives in poor condition, resulting in a loss to the grower. When freight rates become lower and time shortened, millions of people in the East will be able to enjoy California fruit, and the grower will be benefited as well.

Co-operation among the growers has been tried many times, but the combinations of shippers and dealers have always prevented any good results from these efforts. The same holds good with the dried-fruit industry, the grower being at the mercy of the transportation companies and the shipping companies.

Cover Crops.

To the Editor "Farmer's Advocate":

In reply to your questions re cover crops for orchards, I may say that I have grown crimson clover, vetches, rye and red clover. I prefer the clovers, as they are not only a protection but increase the fertility of the orchard. For twelve years I grew some sort of a cover crop, but the last year I have not plowed my apple orchards. The trees are woody, thrifty and healthy, and my object now is rather to try to handle them in such a way as to get more fruit and less growth of wood.

Crimson clover was sown about July 1st, harrowed, and then rolled. It was plowed under the following May. Rye was sown in October, and plowed in the following May; vetches in June, and turned under about the same time as clover. With a little meal, an orchard of red clover convenient to the hogpen makes pork cheaply. I am of the opinion that a cover crop tends to produce clean fruit. My orchards were plowed, not disked, the object being to bury the cover crop out of sight, in order to promote rapid decomposition of vegetable matter for the benefit of the trees. Plowing was deep enough to do the work thoroughly and properly, probably about six inches.

I used a chain and a rolling coulter. With the latter a man does not waste any time kicking the stuff off, as with the ordinary field coulter. It cuts its way as it goes, and nothing gathers. A. W. PEART.

Halton Co., Ont.

APIARY.

Methods of Wintering Bees.

(Ottawa correspondence.)

In the course of his evidence before the Agricultural Committee of the House of Commons a few days ago, Mr. John Fixter, Apiarist at the Central Experimental Farm, spoke as follows regarding experiments conducted to ascertain the best methods of wintering bees:

"At the Experimental Farm we have carried on a great many experiments, wintering bees in the cellar, in the root-house, in a pit dug in a hillside, outside on the summer stands, and outside with extra cases covering them. The cellar is below a private house. The walls are of stone and the floor of cement. The bee room is 12 feet wide, 15 feet long, and 7 feet high. It is large enough for three tiers of shelves and eight passages. It is boarded off from the remainder of the cellar by a partition, which extends around the chamber and far enough from the stone wall to allow for an air space. Under the cement floor a layer of one foot of stone, varying in size, acts as a drain and keeps the cellar perfectly dry. The lowest shelf is 18 inches from the floor, and the others twenty inches apart. Neither the hives on the third or uppermost shelf, nor the uprights supporting the shelves, touch the ceiling, so that no vibration can reach the hives from above. This chamber is thoroughly ventilated, as is also the whole cellar. Ventilation is carefully attended to, and sudden changes of temperature are avoided; for this, a thermometer which is always kept in the cellar is watched. The best temperature for the bee cellar has been found to be from 42 to 48 degrees.

"In regard to the different experiments that have been carried out in wintering bees in the cellar, I may say that in experiment No. 1 six colonies were put into winter quarters and placed on the shelves. Under the back end of each hive was placed a three-inch block; each hive was raised from its bottom board by a one-inch block being placed at the back to ensure free ventilation. All front entrances were left wide open; the wooden covers were all removed, and replaced with cushions made with chaff, four inches thick, sufficiently wide and long enough to lap over the hives two inches. Temperatures were taken once each week during the winter. The temperature was kept at from 44 to 48 degrees. The bees were quiet, only a slight hum being noticeable previous to February. When the temperature got up to 52 degrees the bees began to get uneasy and commenced to hum. The average weight of each hive when put into winter quarters was 58½ lbs.; when taken out on April 22nd, 49¼ lbs. per hive, showing that each hive had lost 9¼ lbs. on an average.

"In experiment No. 2, six colonies were put in the cellar and placed on shelves. A three-inch block was placed between the bottom board and the brood chamber in front, making the entrance three inches high. The temperature was kept the same as in No. 1. During the winter all the colonies in this experiment were kept perfectly dry and clean, and the bees showed no uneasiness of any kind. The average weight when put into winter quarters on November 23rd was 59 lbs. 12 ozs.; when taken out on April 22nd, 51 lbs. 8 ozs., showing that each hive had lost 8 lbs. 4 ozs.

"In experiment No. 3, six colonies were put into the cellar and placed on the shelves, with tops and bottom boards of the hives left on, just as they were brought in from the bee yard. They were watched for dampness, mould or dysentery, also to compare the amount of honey consumed. The temperature was the same as in No. 1. During the entire winter the bees were kept perfectly dry, and a very slight hum could be heard. All the hives were found to be in first-class condition when placed on the summer stands. The average weight per hive when placed in winter quarters on November 23rd was 59 lbs. 15 ozs.; when taken out on April 22nd, 51 lbs. 3 ozs., showing a loss of 8 lbs. 12 ozs.

"In experiment No. 4, six colonies were put into the cellar and placed on the shelves with the bottoms of the hives left on. The wooden covers were removed, and nothing left on except a tightly sealed propolis quilt; the entrance was left wide open. When placed in winter quarters on November 23rd the average weight per hive was 57 lbs. 10 ozs.; when taken out on April 22nd, 48 lbs. 6 ozs., showing a loss of 9 lbs. 9 ozs."

Mr. Fixter said that they had found wintering in a root house very successful. A shelf was erected on the wall, the hives placed thereon, and covered with a curtain. Wintering in the pit dug in the side of a hill was fairly satisfactory. Extra precaution should be taken, however, to prevent water from getting in the cave.

Outside wintering was not found very satisfactory, as the temperature went too low in this country. Outside wintering was not satisfactory when the temperature went under 10 degrees below zero. The bees wintered outside consumed much more food than those wintered in the cellar.

Mr. Fixter said that he considered a well-drained, well-ventilated cellar the best place for wintering bees.

Loading Tokay Grapes on Car, C. F. X.—California Fruit Exchange.

Peach Crates Packed in Car.

POULTRY.

Points of S. C. W. Leghorns.

To the Editor "Farmer's Advocate":

1. Will you please describe the points of the pure S. C. W. Leghorn fowls.

2. Should the roosters be changed every year to keep them pure, or would every two years be sufficient? SUBSCRIBER.

Ans.—1. The American Standard of Perfection (1904) gives the points of male and female as follows:

THE MALE.

Head.—Short and deep. Beak—Yellow. Eyes—Full, bright, red. Face—Free from folds or wrinkles, bright red.

Comb.—Single, bright red, of medium size, perfectly straight and upright, firm and even upon the head, free from twists, side sprigs and excrescences, deeply serrated (having but five or six points, five preferred), and extending well over the back of the head, with no tendency to follow the shape of the neck.

Wattles and Ear-lobes.—Wattles—Long, thin, pendulous, bright red. Ear-lobes—Smooth, thin, free from folds or wrinkles, fitting close to the head, and white or creamy white.

Neck.—Long, well arched, with abundant hackle flowing well over the shoulders.

Back.—Of medium length, with a saddle rising in a sharp concave sweep to the tail; Saddle Feathers, long.

Breast.—Round, full, and carried well forward.

Body and Fluff.—Body—Of medium length, tapering from front to rear, and closely feathered. Fluff—Rather short.

Wings.—Large and well folded.

Tail.—Large, full, and carried upright. Sickles—Long and well curved. Coverts—Abundant.

Legs and Toes.—Thighs—Of medium length, slender. Shanks—Long, and in color bright yellow. Toes—Yellow.

Color of Plumage.—Pure white throughout.

THE FEMALE.

Head.—Similar to that of male, but smaller. Beak—Yellow. Eyes—Full, bright red. Face—Free from folds or wrinkles, bright red.

Comb.—Single or rose, bright red. Single—Of medium size, drooping to one side, free from side sprigs, and evenly serrated (having but five or six points, five preferred). Rose—Similar to that of the male, but smaller.

Wattles and Ear-lobes.—Wattles—Thin, well rounded, bright red. Ear-lobes—Smooth, thin, free from folds or wrinkles, fitting close to the head, and white or creamy white.

Neck.—Long and well arched.

Back.—Of medium length, slightly cushioned.

Breast.—Round and full.

Body and Fluff.—Body—Of medium length, deep and plump. Fluff—Rather short, but more fully developed than in the male.

Wings.—Large and well folded.

Tail.—Long, full, and carried upright.

Legs and Toes.—Thighs—Of medium length, slender. Shanks—Long, slender, and in color bright yellow. Toes—Yellow.

Color of Plumage.—Pure white throughout.

2. Roosters need never be changed to keep the breed pure. The object of changing males is