

## THE PRECOOLING OF FRUIT

What It Means to the Fruitgrower and the Splendid Results Which Have Been Obtained in California by the Government.

By Rufus Steele.

The world at a distance is to know at last the matchless flavor of California fruits when matured upon the trees. No more will Fifth avenue be satisfied with grapes that were green when they left California—no more will be Chicago be content with peaches that softened on the way. The old method has seen its end, for engineering skill and the investment of an enormous sum of money have abrogated its necessity.

The new pre-cooling plant at Roseville, Cal., which had its first practical demonstration early in October last, makes it possible for the first time to ship ripe fruit to the Atlantic seaboard. Also, it insures the California grower a better price than ever he has received.

Twenty years ago only the very hardest California fruits might be shipped as far as Salt Lake—the shipping industry was almost nil. Then came the refrigerator car and with it an era of new possibilities. The introduction of this ice-packed, air-tight car, providing safe transportation for highly perishable fruits, has been responsible for the development of an output which, in the year 1909, reached about 66,000 carloads, valued at over \$70,000,000.

The perfecting of pre-cooling, it is believed, will mean almost as much to the California fruit industry as did the coming of the refrigerator car. It will create for California fruit a demand impossible of estimation at this time. The average time required for a car of fruit to make the trip to New York, is nine days—to Chicago, seven days. A car of grapes, for instance, though heavily iced, would start eastward with a temperature of 70 degrees. Though the ice-bunkers were regularly replenished at frequent intervals, such was the heat in the fruit at the time the grapes went into the car, that perhaps five days would elapse before the temperature fell to 40 degrees, and ripening, or the development of decay, was stopped. Naturally the grapes had to be picked green enough to stand five days of ripening in the car. Unfortunately the full richness of flavor is found only in grapes that mature upon the vine, and thus New York, while eating ripe California grapes, never has known how good a California grape ought rightfully to be. The same condition has held true with practically all the other important fruits and vegetables raised in the orchards and gardens that border the Pacific. For several years experiments have been in process which sought to reduce the temperature of fruit fresh and hot from limb or vine as it went into the car. Most of the systems tried were found expensive and impracticable. From chilling baskets or crates separately, the refrigeration experts turned their attention to the handling of cars after they had been packed. Even when it was found possible to chill a carload at a time no practicable results had been obtained, for a fruit train could not wait upon a siding while each of its many cars was separately treated. And then the Pacific Fruit Express company and the Southern Pacific company conceived the great pre-cooling plant at Roseville, 20 miles north of Sacramento, at the junction of the Ogden and Shasta routes, making use of the "intermittent vacuum system" controlled by L. A. Roy of Chicago.

Under the direction of Arthur Faget, consulting engineer, more than a million dollars was spent in erecting a plant which could have no practical demonstration until it was completed. The plant was built in conjunction with the ice plant of the company, the largest in California. The first test was made on October 9 last. This initial demonstration was with a train of refrigerator cars loaded with ripe grapes brought from Lodi and run into the cooling sheds. Ten cars were cooled simultaneously. In two hours the temperature within the cars fell from 70 to 38 degrees. The cars were then dispatched to New York and Philadelphia with a delay of less than three hours. There was no ripening, no decay after the cars left Roseville, and ten days later those grapes were exposed in the markets of the two Atlantic cities in precisely the same condition as when they left California. The capacity of the Roseville plant is 20 cars at a time, and the plant will begin operation at full capacity with the first fruit crops of this coming season. The erection of an exactly similar plant is well under way at Colton, in the southern part of California, for the handling of citrus fruits and vegetables.

An idea of the products to be affected by the new pre-cooling process, products which now may be allowed to attain luscious maturity upon the stem, may be gained from an analysis of fruit shipments during the season of 1909. California shipped to eastern markets 45,000 carloads of citrus fruits, including oranges, lemons and

grapefruit; 13,500 carloads of deciduous fruits, including cherries, apricots, peaches, pears, plums, apples, grapes, persimmons, etc.; 6500 carloads of vegetables, including celery, cabbage, cauliflower, onions, lettuce, tomatoes and potatoes. All these products were necessarily picked before ripening was complete. They brought \$70,000,000 in eastern markets—how much more might they have brought had it been possible—as it will be possible—to let them mature on the stem? Undoubtedly the California grower may prepare himself for better returns than ever before, and loss through over-ripening in the car will be abated entirely.

The pre-cooling plant at Roseville is a most interesting place to visit. It is combined with the ice plant, which has two 300-ton refrigerating machines (capacity in ice-making 150 tons each) and is much the largest ice plant in California. The cooling process is simple. Two great fans drive currents of air through a huge coil box of ammonia pipes and along delivery ducts through regulating valves, flexible canvas connections and a false door into the car, where deflectors distribute it evenly. The air passes out through two canvas connections above the ice bunkers at the ends of the car and back to the fans again.

The two fans are each ten feet in diameter and each is capable of delivering 50,000 cubic feet of air a minute. The coil box is 80 feet long, 32 feet wide, and contains 80,000 feet of two-inch pipe with more than 12,000 ammonia joints. The box is made of hollow tile reinforced with steel, and has an inch of asphalt all around it as an air seal. The coil is in two sections and the air passes from the upper to the lower. The delivery duct is made of No. 16 galvanized iron, 60 inches in diameter and 400 feet long.

The first step in cooling is to exhaust all the air in the car by use of a Roy Sprague intermittent valve. The exhausting process is repeated every 15 minutes during the first hour to rid the car of all gases given off by the fruit itself.

The cooling shed is 350 feet in length. The 20 loaded cars to be treated simultaneously are run into the shed, ten at each end. The doors are unlocked and swung open, the false doors clapped into place, the canvas connections quickly made, and the process begins. So perfect is the system that the temperature within the cars could be reduced to zero if desired. For practically all the products handled, it is believed that the ideal temperature will be found to vary from 38 to 40 degrees Fahrenheit. While the connections are being removed and the cars sealed after the desired temperature has been obtained, a procession of huge ice-blocks comes along the platform level with the car roofs on a chain-carrier, and the cars are iced with no additional delay. Three hours after a car arrives at Roseville from the vineyard or orchard where it was filled, it may be proceeding on its way up the Sierra. A crew of 50 men operates the cooling plant. As this Roseville ice and cooling plant stands today it represents an investment of over \$1,000,000.

The fame and value of pre-cooling will go to eastern markets with the first crop which is handled through the sheds of the Roseville or Colton plants. A finer product will mean a wider demand, and a wider demand will mean a better price. It would seem that the California grower may expect a substantial benefit without stretching out his hand.

### IS AWARDED \$100,000 AFTER LONG LITIGATION

SPOKANE, Wash., March 15.—One hundred thousand dollars' damage was awarded to Joseph H. Boyd, a pioneer merchant of Spokane, against the Northern Pacific Railway company, in a judgment handed down by the United States court of appeals for the ninth district, according to advice just received from San Francisco. The decision is the end of litigation started in Idaho 23 years ago and since then tried in a dozen courts, including the highest federal tribunal. Boyd's claim against the Coeur d'Alene Railway & Navigation company was for \$17,000, which obligation was assumed by the Hill corporation, when it absorbed the property following the failure. The claim was for construction work and was assigned to Boyd by the original contractor of the line from Coeur d'Alene to Mullan by way of Wallace, Idaho, built by D. C. Corbin, president of the Spokane International Railway company. The road is now a part of the Northern Pacific system. The Hill people repudiated the claim and suit was brought. The case was fought through all the courts and the costs have amounted to thousands of dollars.

Haskins for Health.

## A SINGLE HAIR.

By PERCY G. HALL.  
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The editor of the Excelsior Magazine sat at his desk opening envelopes containing contributions. Running over the sheets of one to discover if it came within the prescribed length, he found between two of them a hair. It was too long for a man's hair and too short for a woman's. But it must be one or the other, and since the manuscript was sent in by a woman he concluded that it had belonged to the latter. It was not black or brown or red; it was golden. And the name of the girl on whose head it had doubtless grown was Nathalie Rose Arrowsmith. But perhaps this was fiction.

The Excelsior Magazine was published in the far west, where women, being comparatively scarce, are appreciated. Possibly it was this that led the editor to dream over the golden hair and Nathalie Rose Arrowsmith. He was a young man of ideal tastes. He was not the owner of the periodical, but an employee whose business it was to select such contributions as would fit in between certain other staple matter. He possessed literary discrimination, but was aware that this delicate faculty was not considered in fixing his salary. What was expected of him was to read the manuscripts that came in to see that there was nothing in them calculated to offend any of the magazine's patrons, selecting those that would fit the empty spaces.

That a good game for Miss Arrowsmith would be "the fair one with the golden locks" gradually insinuated itself into the young editor's mind. He estimated the length of her production and, finding it within limits, laid it aside for acceptance in case it contained nothing objectionable. Meanwhile his operative mentality was on his work, but his ideal faculties—those akin to soul—were on "the fair one with the golden locks." By the time he had read her manuscript he had conjured up a poetic, æsthetic condition that enabled him to see in it the highest degree of literary merit. The language was "plains" or gulch language, and the author had succeeded in giving it as correctly as if she had kept a cowboy's boarding house. There were Rattlesnake Bill and Mexican Pete, as "bad men as ever fanned a 45 or twisted a bowie." Then there was Cactus Kate, not overparticular in her loves, but "a heart as big as Table mountain."

The story was available, but when the editor contemplated offering the management's limit of compensation for such productions—\$2.50—his whole ideal nature sickened. Yet what could he do? Any suggestion to pay an additional sum for a literary gem would only meet with a snarl from his chief and the remark that "we ain't in this yere business to educate authors, but for dust." He concluded to soften the blow for the fair one with the golden locks by writing her a letter of apology for offering her so pitiful a sum for her production.

If he had stopped at this there need have been no harm done. All editors kindly insert feather beds under struggling authors before knocking them down. It's a feature of the business. But the gold strand had stuck in his head, and he added some "soft stuff." He inclosed the proprietor's check for the price to be paid and sent the whole away with a fluttering heart.

A few days later the young editor heard a stentorian voice in the manager's private room debating some question with all the intensity of language of Rattlesnake Bill or Mexican Pete in the story. Then the manager called the editor into his office. There stood a strapping cowboy whose yellow hair hung down under his sombrero. There were pistols and cartridges in his belt and spurs big enough for buzz saws on his heels. He was flushed with anger; but, on seeing the editor, who was a delicate fellow of five feet two inches and a hundred pounds weight, he stood astonished for a moment then burst into a fit of uncontrollable laughter.

"Be you the kid as writ that?" he asked, holding forth the editor's apologetic message.

The editor stood stupefied.

"Waal, waal, I ain't on the blow about seein' big wonders, but this is the blardestest observation I ever made. So y' took me for a gal. And the hair ez got in between the sheets. A golden strand. And y' daubed in some soft soap on me. I sure never see nothin' like this before."

"Did you write the stuff?" asked the proprietor of Nathalie Rose Arrowsmith.

"Sartin. I read it to the boys, and they 'lowed it was fine."

"What made you choose that name?"

"Why, pard, I was called sudden on a roundup and let the stuff with a young feller ez jist come out to the Peters ranch from the east to send to your magazine. He put on the name. He said he'd give it a nom der plum."

"It is a plum," remarked the proprietor contemptuously.

"Waal, little one, I come up yere to see what kind of a galoot took me for a gal. I thort as if there was ary insult intended, though I ain't much on gun suddenness, I'd jist bore a hole in the man as did it. But you ain't big enough target for my guns. Good-by, Mr. Proprietor; goodby, little one."

And he walked out to the music of his spurs.

Then the manager turned to his editor.

"I reckon," he said, "this ain't no pasture for a moon calf like you? Y' better go east to some o' them college magazines. Here's your salary to date."

Haskins for Health.

## Something to Investigate and Consider

50 acres of the best soil in the valley, located 4 1-2 miles from Medford and 1 1-4 miles from shipping station.

5 acres planted to Bosc pears 5 years old.

2 acres peaches in full bearing.

22 acres pears and apples 1 year old.

13 acres alfalfa.

Balance of land ready for planting. No waste land.

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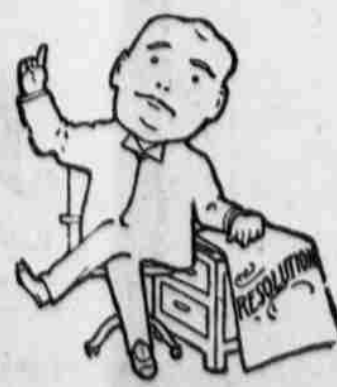
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## How Are These For Bargains

5-room house on Cottage avenue, East Side, lots 100 x 120 .....\$1500  
1 lot on Grape street, East Side, lot 50x120.....\$400  
2 lots on Palm street, 3 blocks from new depot, 56x 124, each .....\$450  
\* lots on Hamilton street, 2 blocks from new depot, 56x124, each .....\$600  
2 lots on Fourth street, 2 blocks off Oakdale, 56x 100, each .....\$650  
Fine residence lots in Crescent subdivision, close in, Call and look over our list in fruit land. They are some of the best in the valley.

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\$150 AN ACRE—270 acres, foothill land, about 6 miles from Medford; there are about 85 acres on this place now planted to fruit, which includes about 28 acres in bearing. The bearing varieties are Newtown and Spitzenberg apples and Comice pears. There are 25 acres of Newtowns in their second year with peach fillers and about 6 acres of Newtowns just planted; also 20 acres of Jonathans and 10 acres of Bartlett and Anjou pears just planted. About 200 acres of first-class fruit land on the place. There are many springs on the place and considerable water could be developed for irrigation; two houses, good barn and other buildings. Would subdivide nicely. Easy terms.

\$250—Sixty acres, 6 miles from Medford, about 15 acres cleared and partly planted; small buildings.

\$250 AN ACRE—70 acres, about 4 miles from Medford, free soil; 25 acres planted to Newtown and Spitzenberg apples, mostly 3 years old; in addition, about 25 acres under cultivation, balance easily cleared; good new 6-room plastered house, new barn; also set of old buildings. Could be subdivided into two or three tracts nicely. easy terms.

\$5500—Six miles from Medford, good new buildings, about 8 acres planted to Newtowns, Spitzenbergs and pears, 1 and 2 years old; about 7 acres additional cleared, balance not hard clearing; good team, wagon and machinery goes with the place. This is a 40-acre tract.

\$275 AN ACRE—Seventy acres of level land within a mile and a half of the city limits of Medford; first-class fruit land; priced at least \$50 an acre less than anything in the vicinity; good buildings. Would subdivide nicely.

\$12,525—Eleven acres in Comice pears, 10 years old; 9 acres in Bartlett and Anjou pears, 1 to 3 years old; close in; good soil; terms.

\$12,000—Eleven acres in Comice and Bosc pears, 14 years old; these trees are in full bearing and will pay a good income on the price asked.

\$7000—Thirty-five acres of black sticky, 3 miles from Medford, all under the ditch and can be irrigated.

\$13,000—Thirty-two acres, close to Medford, 8 acres in Newtowns and Spitzenbergs, 5 to 7 years of age; 14 acres in alfalfa, 3 acres in peaches, 2 acres in berries; irrigated; buildings.

\$14,000—Thirty-five acres; buildings; exceptionally fine place for a home; 12 acres in apples and pears 3 years old; about an acre of bearing orchard; 11 acres in alfalfa; all fine deep free soil.

\$150 to \$200 PER ACRE—Stewart acre tracts; 2 miles from Medford; tracts are from 10 to 25 acres in size; fine building spots on all; can all be irrigated; cheapest tracts in Medford neighborhood; easy terms.

\$300 PER ACRE—Finest 5 and 10-acre orchard and garden tracts in the valley; easy terms.

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## For Sale - - - Splendid Bargains

Picere, Shepherd & Co., 128 East Main Street.

A 5-room house, porches, plastered, modern, large barn, woodshed, new buildings; price \$2500 and \$1050 can remain one year at 6 per cent. Lot 50x168 feet.

Three-fourths of an acre, South Central avenue, with building; easy terms, \$1600.

A 6-room bungalow, modern, maple floors, an extra good buy, \$2000; North Riverside; \$1000 can remain on place.

A fine bungalow in Queen Anne addition, \$2100; 5 rooms, bath, electric lights, fireplace, cobblestone foundation, corner lot.

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