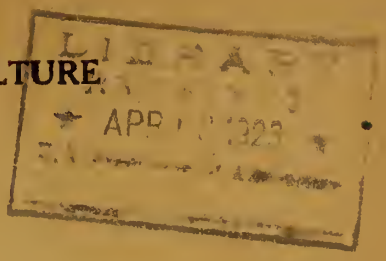

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Bibliography on the Preservation of Fruits and Vegetables in Transit and Storage, with Annotations.

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Bibliographical Contributions.

No. 1. A check list of the publications of the Department of Agriculture on the subject of plant pathology, 1837-1913. Prepared in the Bureau of Plant Industry Library. 1919.

No. 2. Check list of publications of the state agricultural experiment stations on the subject of plant pathology, 1876-1920. Prepared in the Bureau of Plant Industry Library. 1922.

No. 3. Check list of publications issued by the Bureau of Plant Industry, United States Department of Agriculture, 1901-1920 and by the divisions and offices which combined to form this bureau, 1862-1901. Prepared in the Bureau of Plant Industry Library. 1921.

No. 4. Bibliography on the preservation of fruits and vegetables in transit and storage with annotations. Prepared in the Bureau of Markets and Crop Estimates Library. 1922.

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Bibliography
on the
Preservation of Fruits and Vegetables
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BIBLIOGRAPHY ON THE PRESERVATION OF FRUITS AND VEGETABLES IN TRANSIT AND STORAGE, WITH ANNOTATIONS.

Compiled by Katharine G. Rice.

In assembling this bibliography an attempt has been made to cover rather completely the publications issued prior to July 1, 1920, that have a bearing on the preservation of fruits and vegetables in transit and storage. The successful marketing of perishable products depends to a large extent on harvesting and transporting or storing them in such a way that they will reach the consumer in a satisfactory condition at the time he wants them.

Special attention has been given to investigational and historical material. Bulletins and articles of a popular nature which deal with the practical application of the results of investigations and with commercial practices have also been included. It is hoped that the annotations will be useful in giving some idea of the extent and character of the material included in the references.

This bibliography was planned and begun by Mr. Edwin Smith, who was formerly connected with the Division of Preservation of Fruits and Vegetables in Transit and Storage of the Bureau of Markets. It was then turned over to Miss Caroline B. Sherman, at that time Librarian of the Bureau of Markets, who delegated Miss Katharine G. Rice to complete the work. The outline prepared by Mr. Smith and the references which he had selected were found very useful. Before the bibliography was completed, Miss Sherman and Miss Rice were transferred to the Division of Market Information and because of the pressure of other work it was laid aside. At the request of the present librarian it has been completed recently.

A few references to material published in foreign languages are included. The titles have been translated into English but the annotations indicate the language in which the articles are written.

The call numbers shown at the right hand side of the pages are those used in the Library of the Department of Agriculture and, of course, will be useful only in connection with work carried on in that particular library.

Mary G. Lacy,
Librarian, Bureau of
Markets and Crop Estimates.

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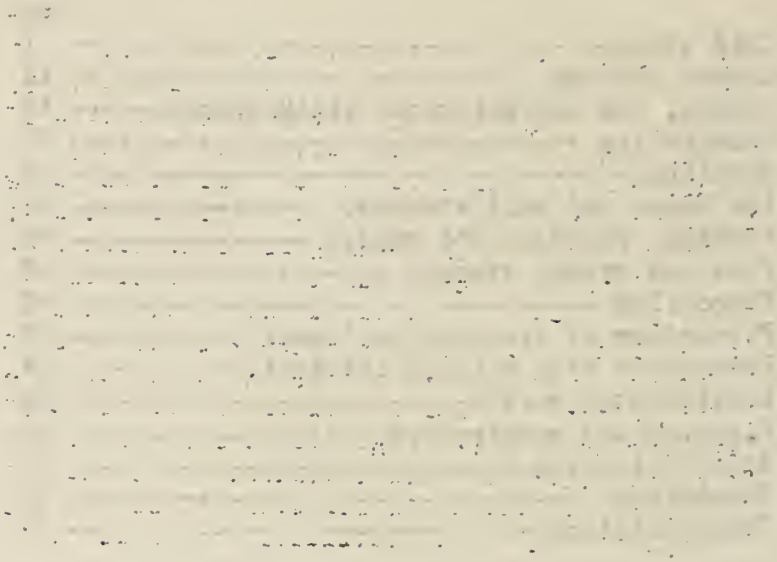


FRUITS

Bailey, E. W. Local cold storage problems for southern Illinois. Ill. Hort. Soc., Trans., new ser., vol. 50, 1916, p. 523-540. 81 * I16
Temperature is the important factor in successful fruit marketing. Cold storages and precooling. Discussion.

Barnard, H. E. Cold storage. Sci. Amer. Sup., vol. 71, no. 1851, June 24, 1911, p. 398. 470 Sci25C
A general article on cold storage practice.

Beach, S. A. New York apples in storage. N. Y. Exp. Sta., Bul. 248, 1904, p. 83-152. 100 N48
Results of experiments showing life in storage of 205 varieties of apples. Discussion of results regarding coloring, maturity, cellar storage, mechanical and ice cold storage, size of apples, scald.

Benson, A. H. Cold storage of fruits. New South Wales Agr. Gaz., vol. 4, pt. 11, Nov. 1893, p. 870-877. 23 N472
A system of cold storage which affords a nearly even temperature with a constant influx of cold air, 41.7 degrees. Period of storage for various fruits.

Blair, J. C. Fruit storage experiments. Ill. Exp. Sta., Cir. 44, 1902, 18 pp. 100 I16S
Details of construction for a fruit cold storage house and cellar.

Blake, M. A. Cold storage test with peaches. N. J. Exp. Sta., Rept. 1911, p. 72-73. 100 N46S
Cold storage test of peaches at 28 and 32 degrees.

Boodle, L. A. Cold storage of fruits and vegetables. Kew Roy. Gardens, Bul. Misc. Inform. 1914, no. 1, p. 11-16. 89 K51B
A review of Hill's investigations at Cornell regarding ventilation.

Brown, B. S. Modern fruit marketing. New York, 1916. 283 pp. 93 B81F
A complete discussion of the harvesting, packing, storing, transporting and selling of fruit.

Cairns, A. D. Cold storage fruit notes, 1907. West.Aus.Dept. Agr., Jour., vol. 15, pt. 12, Dec. 1907. p. 902-906. 23 W52J
Keeping qualities of several varieties of apricots, peaches, plums, nectarines, apples and pears.

* These symbols refer to the call numbers used in the Library of the U. S. Department of Agriculture.

Carter, W.F.Jr.	Apple storage. Ice and Refrig., vol. 54, no. 2, Feb. 1918, p. 73-74. Immediate delivery to cold storage is important. Equipment: Reinforced concrete structure most satisfactory; brine system of cooling.	295.8 Ic2
de Castella, F.	Storage test of shipping grapes. Victoria Dept. Agr., Jour., vol. 9, pt. 8, Aug. 1911, p. 531-532. Variety test in cold storage of grapes packed in cork.	23 V66J
----------	Storage test of shipping grapes. Victoria Dept. Agr., Jour., vol. 10, pt. 12, Dec. 1912, p. 715-717. Continuation of variety tests begun in 1911.	23 V66J
Clark, V. A.	Cold storage on the farm. Mechanical cold storage for fruit. Keeping qualities of apples. U. S. Dept. Agr., Farm, Bul. 119, 1900, p. 9-18. Suggestions for cold storage on the farm. Behavior of different fruits and vegetables in a mechanical cold store. Relative keeping qualities of 23 varieties of apples.	1 Ag84F
Clemence, G. L.	Cold storage for farm products. Mass. St. Bd. Agr., Rept. 1896, p. 226-236. A popular article on cold storage on the farm and the construction and management of cold storage houses.	2 M38R
Cold storage.	Garden and Forest, vol. 7, no. 341, Sept. 1894, p. 352-353. Historical. The influence of the refrigerator car and cold storage upon the fruit and vegetable supply of New York City. "Experimental attempts at cold storage began in this city eighteen years ago (1876), and developed into a commercial industry three years later."	80 G161
Cold storage for apples.	Ice and Refrig., vol. 48, no. 5, May, 1915, p. 288. Description of a small cold storage for apples to be located near the orchard.	295.8 Ic2
Cold storage for fruit.	Cape of Good Hope Dept. Agr., Agr. Jour., vol. 23, no. 5, Nov. 1903, p. 520-531. Correspondence about methods of commercial practice as observed in the United States.	24 Ag8

Cold storage for fruit. West Indian Bul., vol. 5, 1904, p. 117-134. 8 W522
Interviews with cold storage operators, railroad steamship company officials in the United States.

Cold storage of fruits. Amer. Gardening, vol. 24, no. 443, Aug. 1, 1903, p. 384-386. 80 Am3
Temperatures, methods and formulae for the preservation of exhibition specimens.

Cooper, Madison. Practical cold storage. Chicago, 1905, 600 pp. 2nd ed. 1914, 816 pp. 295 C78P
Short historical sketch; theory, design and construction of buildings and apparatus; application of cold storage to dairy products, fruits, fish; use of ice; ice houses. The second edition incorporates more exact data on design, construction, and insulation. "A standard authority on modern cold storage practice."

Douane, M. Utilization of refrigeration processes for the conservation, storage and transportation of fruits. Bul. Mens. Off. Rens. Agr. vol. 16, 1917, p. 229-51. 14 P218
A report to the French Commission containing suggestions for the organization and development of the fruit industry. (French)

Eustace, H. J. Cold storage for Iowa grown apples. Iowa Exp. Sta., Bul. 108, 1909, p. 394-414. 100 I09
Discussion of experimental results concerning the relation between the handling of fruit, the operation of the storage and the behavior of the fruit in storage. Covers many points in The Apple in Cold Storage by G. Harold Powell.

Faville, E. E. Cold storage for fruit. Kans. Exp. Sta., Bul. 84, 1899. 31 pp. 100 K13S
The results of tests in commercial cold storage and the practical handling of products in cold storage.

Ferretti, U. Refrigeration and the cold storage industry. Rocca San Casciano, Italy, 1909. 442 pp. 295 F37I
An extended treatise on the cold storage industry. Bibliography.

Fruit storage experiments. Ill. Exp. Sta., Cir. 67, 1903, p. 3-10. 100 I16S
Results of the use of ice cold storage for one season.

Fulton, S. H.	The cold storage of small fruits. U. S. Dept. Agr., Bur. Plant Indus., Bul. 108, 1907. 28 pp. Results of investigations covering three years, relative to the factors including soil, climate, harvesting, packages, storage temperatures and varieties, which affect the keeping of small fruits in cold storage.	1 P69B
Garcia, Fabian.	Hatch Projects. N. M. Exp. Sta., Rept. 1914-15, p. 60. Results of a preliminary test on the keeping qualities of Bartlett pears.	100 N465
Gourley, J. H.	Notes on storing apples. Amer. Soc. Hort. Sci., Proc. 9th meet., 1912, p. 41-44. An experiment to determine the relative value of open and closed packages for the storing of apples. Discussion.	81 So12
Greene, L.	Apple storage problems. Ind. Hort. Soc., Trans. 1915, p. 72-96. A paper on the author's work in Iowa. Influence of moisture, freezing, maturity, color and size. Discussion.	81 In2
————	Cold storage for Iowa grown apples. Iowa Exp. Sta., Bul. 144, 1913, p. 357-373. Results of freezing apples on the tree and in cold storage. Picking, packing, time of storage, culture, variety tests.	100 Io9
Hall, F. H.	Keeping quality of apples. N. Y. Exp. Sta., Pop. Bul. 248, 1904. 11 pp. Variety tests. A popular treatment of the material contained in N.Y. Exp. Sta., Bul. 248, See Beach, S. A., New York Apples in Storage.	.100 N48
Hollsinger, F.	Cold storage for fruit. Amer. Hort., vol. 5, no. 12, Dec. 1895, p. 180. Historical.	80 Am38
Jörgensen, I.	Cold storage of food. Sci. Amer. Sup., vol. 88, Sept. 6, 1919, p. 150-151. Cont. Sept. 20, p.178. When fruit is kept in cold storage, there is a change in the chemical state but not in the physical. Ripening, equation representing relation between respiration and temperature. Respiration number, an index to keeping possibilities. Other factors besides temperature, humidity, light, and movement of air vary for different species and varieties.	470 Sci25C

Kapadia system of preservation.	Cold Storage and Prod. Rev., vol. 19, no. 220, July 20, 1916, p. 154-155. Conservation through the presence of an inert gas. Excellent for delicate fruits.	295.8 C672
Kirk, T. W.	Cold storage of fruit. New Zealand Dept. Agr., Jour., vol. 5, no. 5, Nov. 1912, p. 508-515. Plans and cost of a plant for 4000 cases of fruit.	23 N48J
Knight, J.	Experiments in cold storage of fruit. Victoria, Dept. Agr., Jour., vol. 5, pt. 2, Mar. 1905, p. 158-159. Notes on keeping quality of apples and pears.	23 V66J
Latchford, F. R.	Cold storage for fruit and other productions. Ontario Fruit Grow. Asso., Rept. 32d meet., 1900, p. 81-89. A popular discussion of ice cold storage.	82 On8
Lemson, H. H.	Storage of apples. N. H. Exp. Sta., Bul. 79, 1900, p. 25-29. Report of biological study concerning the storage of apples.	100 N45
Loiseau, Leon.	Preservation of fruits by cold storage. Paris, 1903. 29 pp. Keeping peaches and other fruits in cold storage and their shipment to New York.	295 L83
de Loisy, C.	The conservation of fruits by cold storage. Rev. Soc. Sci. Hyg. Alimen. vol. 6, no. 3, 1908, p. 79-80. Refrigeration does not inhibit the ripening processes going on in the interior of fruit. Storage temperatures recommended for peaches, oranges, lemons, grapes, and tomatoes. (French)	389.9 Sol
McKay, G. H.	Cold storage. N. J. Hort. Soc., Proc. 1907, p. 127-135. Some suggestions concerning the profit of careful fruit storage in New Jersey. Discussion.	81 N42
Mason, R. P.	Cold storage for apples. Amer. Cultivator, vol. 57, no. 46, Nov. 16, 1895, p. 1. A brief article giving the proper temperatures.	6 Am32
Mauro, I.	Application of cold in the agricultural industry. Agr. Mod., vol. 19, no. 23, 1913, p. 270, 271. The conservation of strawberries. (Italian)	16 Ag823

Memorandum respecting cold storage and the utility collecting stations. Ontario Govt., By order Leg. Assem., 1900, p. 1-12, 14-16. 295 On8
Cold storage is advantageous to successful marketing and maintaining trade. The collecting station - erection and control.

Moody, J. F. Cold storage of fruit. West. Aus. Dept. Agr. and Indus., Bul. 31, 1912. 7 pp. 23 W52B
Discussion of cold storage.

Powell, G. Harold. The apple in cold storage. U. S. Dept. Agr., Bur. Plant Indus., Bul. 48, 1903. 64 pp. 1 P69B
Description of a comprehensive series of experiments on various varieties of apples from several States when held in cold storage. Culture of fruit, maturity, packages, size of fruit, temperatures and scald.

_____ Cold storage investigations by the U. S. Department of Agriculture. Ill. Hort. Soc., Trans., new ser., vol. 36, 1902, p. 363 - 368. 81 Il6
A discussion of maturity, decay in storage, temperature, wrapping and packages for the storage of pears, peaches and apples.

_____ Cold storage with special reference to the pear and peach. U. S. Dept. Agr., Bur. Plant Indus., Bul. 40, 1903. 28 pp. 1 P69B
Discussion of results of experiments with picking and packing pears and peaches for storage; temperatures.

_____ Relation of cold storage to commercial apple culture. U. S. Dept. Agr., Yearbook, 1903, p. 225-238. 1 Ag84Y
The apple industry in 1903. Markets, marketing, cold storage development and the proper harvesting and handling of apples.

Pratt, B. B. Does wood of the box affect the flavor of apples? Better Fruit, vol. 8, no. 3, Sept. 1913, p. 25. 80 B46
The results of tests in cold storage using boxes of different kinds of wood.

Preservation of grapes by freezing. Pure Products, vol. 10, no. 7, July 1914, p. 355. 389.8 P97
Description of a process used in Holland for preserving grapes as when taken from the vine. Six hundred pounds showed only 1 per cent loss in weight.

Quinn, G.	Further experiments in the cold storage of fruit. South Aus. Dept. Agr., Jour., vol. 10, nos. 2 and 3, Oct. 1906, p. 75-78. Accounts of the cold storage of plums, apples and pears for different lengths of time.	23 So84
Ramsey, H. J.	The handling and storage of apples in the Pacific Northwest. U. S. Dept. Agr., Bul. 587, 1917. 32 pp. Methods of harvesting and storage. Storage life of various varieties of northwestern apples.	1 Ag84B
Rane, F. W.	Notes on cold storage. Amer. Gardening, vol. 19, no. 194, Sept. 1898, p. 634-635. Essentials for successful storage. Taken from a paper presented to Society for Promotion of Agricultural Science, 1897.	80 Am3
Reynolds, J. B.	Cold storage of pears and apples. Ontario Agr. Coll. and Exp. Farms, Bul. 123, 1902. 8 pp. Discussion of methods for handling pears and apples in cold storage. (Summary in Canada Hort., vol. 25, no. 10, Oct. 1902, p. 404-405)	101 On8B
Ruddick, J. A.	Cold storage and the cold storage act. Canada Dept. Agr., Dairy and Cold Stor. Com., Bul. 23, 1910, p. 3-27. The cold storage of apples and other fruits. Warehouses. Ice storages on farms. (Eggs and dairy products included).	44.9 C16B
_____	The cold storage of food products with some notes on insulation and warehouse management. Canada Dept. Agr., Dairy and Cold Stor. Com., Bul. 44, 1915. 23 pp. Methods and proper temperature for cold storage. (Includes suggestions for storage of dairy products and furs.)	44.9 C16B
_____	Refrigeration in relation to fruit growing in Canada. Nova Scotia Fruit Grow. Assoc., Rept. 48th meet., 1912, p. 33-42. Popular address.	82 N85
Selfe, N.	Cold storage and the preservation of fruit from an engineer's point of view. Tasmania Coun. Agr., Jour. July, 1895, p. 68-71. A popular article in the nature of a review with suggestions.	23 T18A

Smith, E. Precooling, shipment and cold storage of tender fruit. Canada Dept. Agr., Dairy and Cold Stor. Com., Bul. 48, 1916. 35 pp. 44.9 C16B
Results of warehouse precooling; time required for precooling; storage life; the effect of rapid vs. gradual precooling on cherries, peaches, plums, pears.

Stetefeld, R. Cold storage for fruits and vegetables. Gartenflora, vol. 54, 1905, p. 231-245. 80 G19
Discussion of results of experimental work in the United States and Europe. (German)

Stubenrauch, A. V. Cold storage, precooling and shipping deciduous Fruit. Oreg. Hort. Soc., Proc. 25th meet., 1910, p. 31-38. 81 Or32
General discussion of factors influencing the keeping of fruit in storage and transit.

_____ Factors governing the successful storage of California table grapes. U. S. Dept. Agr., Bul. 35, 1913. 31 pp. 1 Ag84B
Investigations from 1906 to 1912. Description of test work. Satisfactory methods for packing grapes for storage. Transportation.

_____ Fruit and vegetable transportation and storage investigations by the Department of Agriculture. Amer. Warehousemen's Asso., Proc. 23d meet., 1913, p. 116-142. 297.9 Am32
Results of experimental work on grapes, pears, apples, pineapples, and celery. Discussion.

_____ Report on grape shipment experiments. Calif. Fruit Grow., vol. 40, no. 1115, Nov. 29, 1909, p. 1-4. 80 C12
Experiments of the Bureau of Plant Industry in California relating to the storage and transportation of table grapes.

_____ Storage and refrigeration of fruits and vegetables. Stan. Cyclopedia of Hort., vol. 6, 1917, p. 3245-3259. 90 C995
Systems of cold and common storage; insulation; temperatures for fruits and vegetables; maturity and methods of handling fruits and vegetables for storage.

_____ Storage and transportation investigations with citrus fruits and grapes. Ice and Refrig., vol. 36, no. 1, Jan. 1909, p. 8-9. 295.8 Ic2
Valencia oranges, lemons and table grapes.

Taylor, W. A. The influence of refrigeration on the fruit industry. U. S. Dept. Agr., Yearbook 1900, p. 561-580. 1 Ag84Y
The historical development of cold storage. Effect of cold storage and the refrigerator car upon the development of the fruit industry.

Valvassori, V. The preservation of fruits and vegetables. Rev. Soc. Sci. Hyg. Alimen. vol. 1, no. 5, 1904, p. 592. 389.9 Sol
A summary of data regarding the length of time fruit and vegetables may be kept in cold storage. (French)

Waugh, F. A. A model cold storage house. Coun. Gent., vol. 76, no. 3074, Dec. 30, 1911, p. 7, 27. 6 C833
Description of fruit storage house at Massachusetts Agricultural College.

Wilcox, E. V. Cold storage for tropical fruits. Hawaii Exp. Sta., Press Bul. 47, 1914. 12 pp. 1 Ex63H
Storage tests of the Star apple, avocado, fig, papya, pineapple, and mango were made at 32 degrees, 36 degrees and 45 degrees.

_____ Miscellaneous investigations. Hawaii Exp. Sta., Rept. 1914, p. 23. 1 EX63H
Experiments on the adaptability of cold storage to various tropical fruit.

Wright, W. P. Cold storage of fruit. Gt. Brit. Bd. Agr., Jour., vol. 6, no. 1, 1899, p. 85-87. 10 G79J
A report of experiments with sort fruits at temperatures of 30 and 32 degrees and with apples at 36 degrees.

VEGETABLES.

Aldrich, P. H. The winter storage of roots. Vt. Exp. Sta., Bul. 203, 1917. 9 pp. 100 V59
Concerning the loss in weight and the decay of roots in various forms of storage and packing mediums. Edibility of stored vegetables.

Close, C. P. Irish potato investigations. Md. Exp. Sta., Bul. 132, 1909, p. 151-173. 100 M36S
Cold storage of seed potatoes has little advantage over ordinary storage.

Cold storage onions. Pacif. Rural Press, vol. 57, no. 21, May 27, 1899, p. 321. 6 P112
Experiments showing that it is feasible to overcome the sprouting propensity of onions.

The keeping of asparagus in cold storage by canning establishments. Pure Products, vol. 6, no. 6, June 1910, p. 312-313. 389.8 P97
No appreciable change takes place after storing for period of four weeks.

Morse, F. W. Experiments in keeping asparagus after cutting. Mass. Exp. Sta., Bul. 172, 1917, p. 297-307. 100 M384
Analysis and physiological study of asparagus under refrigeration.

Parisot, F. Temperature in relation to storing potatoes. Jour. Agr. Prat., new ser., vol. 8, no. 50, 1904, p. 763-765. 14 J82
Abstract in Rev. Hort., vol. 77, no. 1. 1905, p. 8.
A temperature of 3°C. is found best for potatoes. (French*

Price, J. C. C. Harvesting and storing sweet potatoes. Ala. Exp. Sta., Bul. 197, 1917. 22 pp. Issued also as Bul. 197, pop. ed. 100 A11S
Tests with sweet potatoes stored in cold stores, banks and pits, show that cold storage is to be preferred. Plans for store house.

Thompson, H. C. Celery storage experiments. U. S. Dept. Agr., Bul. 579, 1917. 26 pp. 1 Ag84B
Results of experiments 1912-1916. Description of crates, effect of height of crates in storage room.

———— Preliminary report on celery storage investigations. Soc. Hort. Sci., Proc. 11th meet., 1914, p. 10-18. 81 So12
Temperatures in transit, type of crate and temperature in storage as related to decay.

White, T. H. Irish potato investigations from 1909 to 1913. Md. Exp. Sta., Bul. 172, 1913, p. 105-120. 100 M36S
Showing the advantage in holding seed potatoes in cold storage.

COMMON STORAGE.

FRUITS.

Brayton, A. W. Keeping apples in common storage. Ill. Hort. Soc., Trans., new ser., vol. 50, 1916, p. 412-416. 81 I16
Handling a storage house. Discussion.

Clark, V. A. Storing apples without ice. U. S. Dept. Agr., Farm. Bul. 119, 1900, p. 5-9. 1 Ag84F
Storage pits and houses. Specifications.

Concrete structures for storing fruit and vegetables. Ice and Cold Stor., vol. 20, no. 236, Nov. 1917, p. 145-146. 295.8 Ic22
Construction of a concrete storage cellar for use without ice. Cooling and ventilating systems. Plans.

Cummings, M. B. Farm apple storage. Vt. Exp. Sta., Bul. 186, 1915, p. 99-136. 100 V59
Studies in apple storage relative to dipping in various solutions and packing in various fillers. Structural character of apples in relation to storage.

Fagan, F. N. Home storage houses for fruits. Pa. St. Coll. Agr., Ext. Cir. 74, 1918. 18 pp. 275.29 P38C
Underground and pit storage. Specifications for storage house. Twenty-four illustrations.

Forbush, E. H. Common storage of fruits and vegetables. Mass. St. Bd. Agr., Bul. 5 (3rd ed. rev.), 1918, p. 172-183. 2 M38B
Various kinds of storages for small-scale producers. Suggestions for special care of certain products.

Grapes and how to store them. Coun. Life, vol. 36, no. 5, 1919, p. 68. 80 C832
Suggestions for storing grapes for domestic use.

Home vegetable and fruit storage. Mass. Agr. Coll., Ext. Bul. 26, 1918. 7 pp. 275.29 M381E
The cellar store room. Elementary.

Hutt, W. N. Air-cooled apple storage houses. N. C. Exp. Sta., Bul. 228, 1914. 31 pp. 100 N81
Materials for a storage. Arrangement for intake of cold air. Management. Plans.

_____ Construction and use of farm storage house for apples. Ind. Hort. Soc., Trans. 1917, p. 233-247. 81 In2
Description of an air-cooled storage house. Handling the apples for storage. Discussion.

Kaiser, W. G. A concrete storage cellar for the orchardist. Ill. Hort. Soc., Trans., new ser., vol. 51, 1917, p. 58-69. Description. Discussion regarding relative merits of concrete and brick. 81 I16

Lewis, C. I. Pear harvesting and storage investigations in Rogue River Valley. Oreg. Exp. Sta., Bul. 162, 1919. 39 pp. Study of increase in size of Bartlett pears. The "Pressure test." Time of picking and type of storage in relation to keeping Barlett and Bosc pears. Twenty-one tables. Comprehensive. 100 Or3

Lewis, D. E. The possibilities of a good cheap common storage plant. Better Fruit, vol. 8, no. 4, 1913, p. 14-15. Results of experiments at the Kansas Experiment Station. 80 B46

Lewis, W. J. Profitable fruit storage cellar. N. Eng. Homestead, vol. 65, no. 8, Aug., 1912, p. 140, 142. Descriptive. Diagrams. 6 N442

Quick, W. C. Essentials of air-cooled storage houses. Better Fruit, vol. 12, no. 11, 1918, p. 5, 23. Importance of ventilation, insulation, humidity. 80 B46

Ramsey, H. J. Management of common storage houses for apples in the Pacific Northwest. U. S. Dept. Agr., Farm. Bul. 852, 1917. 23 pp. Description and operation of common storages for apples. 1 Ag84F

Shear, C. L. Spoilage of cranberries after harvest. U. S. Dept. Agr., Bul. 714, 1918. 20 pp. Storage decays; losses occur because of smothering and fungus rots. Suggestions for harvesting, sorting, storing. 1 Ag84B

Simpson, R. A. Cool storage for the commercial apple-grower. Ill. Hort. Soc., Trans., new ser., vol. 20, 1916, p. 147-160. Description of a cool storage to be built in the orchard. Discussion. 81 I16

Smith, E. Farm storages for fruits and vegetables. Brit. Col. Dept. Agr., Bul. 58, 1914. 29 pp. Description of methods of ventilation and insulation of common storages; methods of building pits. Plans. 7 B77

Taylor, R. H. Some effects of high temperatures and humidity upon the keeping quality of Bartlett pears. Calif. St. Com. Hort., Mo. Bul., vol. 8, no. 3, 1919, p. 118-125. Temperatures ranging from 95 to 110 degrees F. will prolong normal ripening process. Procedure, tables, results. Not valuable for practical application. 2 C12M

Thayer, P. Storage of grapes. Ohio Exp. Sta., Mo. Bul., vol. 3, no. 10, 1918, p. 315-317. 100 Oh3S
The results of tests conducted on 22 varieties of grapes to determine which are best for storage. Handling.

True, R. H. Some factors affecting the keeping qualities of American lemons. U. S. Dept. Agr., Bur. Plant Indus., Cir. 26, 1909. 17 pp. 1 P69C
Notes on the methods of handling, storing, and curing California lemons and their decay.

War vegetable gardening and home storage of vegetables. Nat. War Garden Com., Washington, 1918, p. 24-31. 75 N212
A home storage manual for fruits and vegetables.

See also Cold storage, fruits; Handling, fruits.

VEGETABLES.

Alwood, W. B. A new plan for the construction of a storage cellar. Va. Exp. Sta., Bul. 58, 1895, p. 161-168. 100 V81S
Suggestions for construction.

Beal, W. H. Storage of Hubbard squash. U. S. Dept. Agr., Farm Bul. 342, 1909, p. 18-19. 1 Ag84F
Factors governing the successful storage of squash as determined by Prof. W. Stuart of the Vermont Station.

Beattie, J. H. Home storage of vegetables. U. S. Dept. Agr., Farm. Bul. 879, 1917. 22 pp. 1 Ag84F
Various types of storages with plans. Special methods for storing different vegetables.

Beattie, W. R. Celery. U. S. Dept. Agr., Farm. Bul. 282, 1907, p. 22-34. 1 Ag84F
Decays, blanching, handling, storing in trenches, cellars and storage houses.

_____ Onion culture. U. S. Dept. Agr., Farm. Bul. 354, 1909, p. 21-29, 31-33. 1 Ag84F
Harvesting, storing, marketing.

_____ The storage and marketing of sweet potatoes. U. S. Dept. Agr., Farm. Bul. 520, 1912. 16 pp. 1 Ag84F
Harvesting, marketing. Construction of storage houses.

_____ Sweet potatoes. U. S. Dept. Agr., Farm. Bul. 324, 1908, p. 26-35. 1 Ag84F
Harvesting, grading, marketing. Storage houses.

Brown, B. S. Vegetable storage on the farm. Me. Coll. Agr., Ext. Bul. 120, 1918. 15 pp. 275.29 M281B
Field and cellar storage. Directions for storing different kinds of vegetables.

Butler, O. Storage of potatoes. N. H. Exp. Sta., Cir. 20, 1919. 8 pp. 100 N45
Effects of temperature, aeration, humidity. Pit storage.

Cance, A. E. Connecticut Valley onion supply and distribution. Mass. Exp. Sta., Bul. 169, 1916, p. 74-77, 83-97. 100 M38H
Harvesting and storing onions in the Connecticut Valley.

Carpenter, J. W. Sweet potato storage. Miss. Agr. Coll., Ext. Cir. 18, 1917. 16 pp. 275.29 M68C
Construction of a storage house; plans. Harvesting, diggers, grading, hauling, filling the storage house. Care of potatoes during the storage. Storage pits.

Christie, W. Reports of Hedemarken County Experiment Station. 1910. 58 pp. 104 N832
Results of storing in piles shows desirability of having a storage house. (German)

Cole, E. W. Sweet potato curing in Texas. Tex. Dept. Agr., Bul. 49, 1916, p. 10-25. 2 T312B
Harvesting. Plant of the Nabors Fruit Co. at Winnsboro, Tex.; equipment, methods, costs. Illustrations.

Conolly, H. M. Illustrated lecture on sweet potatoes. U. S. Dept. Agr., Syllabus 26, 1917, p. 6-12, 15-18. 1 Ex6Fa
Construction and management of storage house. Harvesting. Diseases.

Dolve, R. M. Potato warehouse plans. N. Dak. Exp. Sta., Bul. 101, 1912, 26 pp. 100 N813
Requirements, types, plans. The elevator and loading platform.

Elliott, J. A. Storage rots of sweet potatoes. Ark. Exp. Sta., Bul. 144, 1918. 16 pp. 100 Ar42
Short description of causes and kinds of disease. Kiln drying, curing. Storage houses and bins - specifications and plans.

Fairfield, W. H. A cheap root cellar. Canada Exp. Farms, Rept. 1914, vol. 2, p. 940. 101 Ex6R
Suggestions for building a small root cellar on the farm.

Fields, J. Storing sweet potatoes. Okla. Exp. Sta., Rept. 1905-1906, p. 36-37. 100 Ok4
Directions for successful storing.

Findlay, H. Practical gardening. New York and London, 1918. p. 228-236. 90 F49
Suggestions for storing late vegetables from the home garden. The storage pit, vegetable cellar, attic storage. Elementary.

Greig, A. R. Silos and root cellars for prairie farms. Brit. Col., Dept. Lands, Forest Br., Bul. 9, 1915, p. 28-34. 99.9 B77B
Storing field roots. Specifications for a root cellar.

Grubb, E. H. Potato culture on irrigated farms of the west. U. S. Dept. Agr., Farm Bul. 386, 1910, p. 9-10. 1 Ag84F
Storage, marketing.

Hayunga, J. Methods of storing cabbage over winter in Holland. Mitteil. Deut. Landw. Gesell., vol. 26, no. 38, 1911, p. 517-520. 18 D48M
Description of a cabbage storage house. (German)

Hoffman, G. P. Bill of materials and building plans for the Clemson sweet potato storage house. Clemson, S. C. Agr. Coll., Ext. Cir. 10, 11, 12, 1918. 4 pp. each. 275.29 So8E
Plans for buildings with a capacity of 2,000, 1,000 and 500 bushels, respectively.

Johnson, S. B. Sweet potato storage. Ariz. Exp. Sta., Rept. 1917, p. 441. 100 Ar4
Results of two tests carried on at Yuma Date Orchard by the Division of Horticulture.

Lance, E. J. Saving sweet potatoes for seed. New South Wales Agr. Gaz., vol. 12, no. 2, 1901, p. 231. 23 N472
Storing in a box with alternate layers of dry sand.

Laughlin, E. V. Potato storage house. Farm Eng., vol. 5, no. 4, 1917, p. 6. 58.8 F224
Plan and specifications for a storage house with a capacity of 25,000 bushels.

Lloyd, J. W. Storage of vegetables for winter use. Ill. Exp. Sta., Cir. 231, 1918. 4 pp. 100 IL6S
Basement, pit and outdoor cellar storage. Elementary.

McCall, F. E. Vegetable storage. S. Dak. St. Coll. Agr., Ext. Cir. 9, 1918. 12 pp. 275.29 So85
The outside cellar, house cellar, storage house, storage pit. The air-cooled cellar, plan of ventilation. Best storage temperatures for various vegetables.

McGinty, R. A. Storing vegetables for home use. Colo. Agr. Coll., Ext. Bul., ser. 1, no. 145, 1918. 3 pp. (Reprint of Ext. Bul., no. 131). Elementary. 275.29 C71E

Macoun, W. T. The potato in Canada. Canada Dept. Agr., Exp. Farms, Bul. 90, 1918, p. 12-14. Cellar and pit storage on a small scale. 101 C33B

Merrill, M. C. Storing vegetables for winter. Utah Exp. Sta., Cir. 26, 1917. 8 pp. Requirements and methods. 100 Ut1

Moore, J. G. How to store vegetables for winter use. Wis. Exp. Sta., Cir. 92, 1917. 8 pp. Directions for storing in cellars and pits. The particular essentials for different vegetables. 100 W75

Mooring, D. C. Sweet potatoes. Okla. Exp. Sta., Cir. 25, 1914, p. 8-12. Harvesting. Directions for storing and building a wooden storage. 100 Ok4

Nesbit, D. M. Sweet potatoes. U. S. Dept. Agr., Farm. Bul. 129, 1901, p. 20-27. Harvesting, shipping, storage, desiccation. 1 Ag84F

Ormsbee, C. O. Storing celery. Market Grow. Jour., vol. 25, no. 9, 1919, p. 178-179. Storage and handling. 6 M34

Partial directions for raising, harvesting and storing onions, squashes, cabbages, as applicable to Maine conditions. Me. Dept. Agr., Quar. Bul., vol. 15, no. 2, 1916, p. 6-7, 11-13, 18-19. Directions for harvesting and storing on a small scale. 2 M28B

Potts, A. T. Growing and storing sweet potatoes. Tex. Agr. Coll., Bul. B-27, 1916, p. 11-16. Harvesting. Plans for storage house. Care in storage. 275.29 T312

Rosa, J. T. Jr. Storing vegetables. Mo. Coll. Agr., Ext. Cir. 53, 1918. 8 pp. Caves, trenches. Methods of storing different vegetables. 275.29 M69C

Schaffnit, E. Winter storage of potatoes. Zeit. Landw. Kammer Brauns., vol. 84, no. 28, Oct. 1915. pp. 245-249. 13 B73

Schribaux, E. A method of storing potatoes. Jour. Agr. Prat., new ser., vol. 7, 1904, p. 214, 215. Description of storing potatoes in pulverized soil or sand. (French) 14 J82

Smith, F. Potatoes. Cultivation, manuring, varieties, storing and seed supply in Bengal. Bengal Dept. Agr., Quar. Jour., vol. 3, no. 1, 1919, p. 8-12. Experiments with storage methods. 22 B43Q

Stahl, J. L. Hints on storing and marketing potatoes. West. Wash. Exp. Sta., Mo. Bul., vol. 4, no. 7, 1916, p. 9-10. Storing seed and market potatoes. 100 W272

Stewart, G. Potato production. Utah Exp. Sta., Cir. 40, 1919, p. 41-54. Digging, grading are factors in storage. Elementary. 100 Ut1

Stuart, W. Potato storage and storage houses. U. S. Dept. Agr., Farm. Bul. 847, 1917. 27 pp. A discussion of factors in potato storage with a presentation in detail of methods of constructing and operating pits, cellars and storage houses. 1 Ag84F

Stuckey, H. P. Sweet potatoes. Ga. Exp. Sta., Bul. 107, 1914, p. 93-99. Fungicides do not prevent decay. Plans and specifications for a storage house. 100 G29S

Suitable storage conditions for certain perishable food products. U. S. Dept. Agr., Bul. 729, 1918, p. 1-6. Valuable information and data with accompanying chart, for managers of storage warehouses, Federal Reserve Banks, and producers of farm products. (Butter, poultry and fish included.) 1 Ag84B

Thompson, H. C. Storing and marketing sweet potatoes. U. S. Dept. Agr., Farm. Bul. 548, 1913. 15 pp. Maturity, careful handling, thorough curing and temperatures. Directions and designs for building a storage. 1 Ag84F

_____ Sweet potato storage. U. S. Dept. Agr., Farm. Bul. 970, 1918. 27 pp. Detailed discussion of factors governing the successful storage of sweet potatoes and methods of construction of pits, cellars and storage. Plans. Specifications. 1 Ag84F

Woodhouse, E. J. Potato storage work in Bihar and Orissa in 1912. Bihar and Orissa Dept. Agr., Jour., vol. I, no. 2, 1913, p. 115-137. Notes on storing under sand to prevent damage from the potato moth. 22 In23

See also, Cold storage; Decays and physiological disturbances, vegetables; Handling, vegetables.

[illegible] Cultivation, [illegible] Bengal. [illegible] 1919, [illegible]

[illegible] potatoes. [illegible]

[illegible] Utah Exp. Sta., Cir. [illegible]

[illegible] U.S.D.A. [illegible] 1917. [illegible]

[illegible] potato [illegible]

[illegible] 1919, [illegible]

[illegible] U.S. Dept. Agr., Bul. 729, 1918, [illegible]

[illegible]

[illegible]

[illegible]

DECAYS AND PHYSIOLOGICAL DISTURBANCES.

FRUITS.

Ames, Adeline — The temperature relations of some fungi causing storage rots. Phytopathology, vol. 5, no. 1, 1915, p. 11-19. 464.8 P56
Showing the temperatures at which storage rot organisms will germinate and grow. Tables.

Brill, H. C. — Copra and coconut oil. Philippine Jour. Sci., sect. A, vol. 12, no. 2, 1917, p. 55-86. 475 P53
Moisture and molds on copra and coconut meat cause loss of weight in transportation. Micro-organisms described. Copra once properly dried does not ordinarily absorb enough moisture to develop growth of mold. Drying methods used in Philippines.

Brooks, Chas. — Some apple diseases and their treatment. N. H. Exp. Sta., Bul. 157, 1912. 15 pp. 100 N45
A general discussion of apple diseases prevalent in orchard and storage.

_____ — Apple rots. Abstract in Phytopathology, vol. 4, no. 6, 1914, p. 403. 464.8 P56
List of fungi which have been isolated from market and storage apples and which are capable of producing rot.

_____ — Apple scald. Abstract in Phytopathology, vol. 6, no. 1, 1916, p. 110-111. 464.8 P56
Experiments indicate that humidity is more important than carbon dioxide in determining the amount of apple scald.

_____ — Apple-scald. U. S. Dept. Agr., Jour. Agr. Research, vol. 16, no. 3, 1919, p. 195-217. 1 Ag84J
A report of studies on the nature and control of apple scald including experiments on the relation of orchard and storage conditions to the development of the disease. Tables and graphs.

_____ — Brown-rot of prunes and cherries in the Pacific Northwest. U. S. Dept. Agr., Bul. 368, 1916. 10 pp. 1 Ag84B
Blossom infection. Suggested spraying schedule.

Brooks, Chas.	Effect of temperature aeration and humidity on Jonathan-spot and scale of apples in storage. U. S. Dept. Agr., Jour. Agr. Research, vol. 11, no. 7, 1917, p. 287-318. Results of laboratory experiments. Fairly mature fruit stored under conditions of good aeration show comparatively little spot or scald.	1 Ag84J
————	Jonathan spot. Abstract in Phytopathology, vol. 7, no. 1, 1917, p. 76. Relation of temperature and humidity in storage to Jonathan spot.	464.8 P56
————	Recent experiments on apple scald. Ice and Refrig., vol. 54, no. 1, Jan. 1918, p. 44-45. A paper read before a meeting of the American Warehousemen's Association with discussion. Experiments made by the Bureau of Plant Industry; methods, relation of various conditions to development of scald.	295.8 Ic2
————	Temperature relations of apple rot fungi. U. S. Dept. Agr., Jour. Agr. Research, vol. 8, no. 4, 1917, p. 139-164. Showing rate of growth of apple rot fungi at various temperatures. Twenty-five graphs.	1 Ag84J
Clinton, G. P.	Apple rots of Illinois. Ill. Exp. Sta., Bul. 69, 1902, p. 189-224. Various fruit rots described. Illustrations.	100 I16S
Cook, Melville T.	The Jonathan spot rot. Phytopathology, vol. 4,no.2, 1914, p. 102-105. Investigation of causes of spot rot carried on by bagging apples on trees at intervals. No conclusions.	464.8 P56
Coons, G. H.	The plant diseases of importance in the transportation of fruits and vegetables. Amer. Railway Perish. Freight Asso., Cir. 473-A, 1918. 59 pp. The relation of plant diseases to transportation. The diseases commonly found in shipments of the various kinds of fruits and vegetables; frost injury. Preparation for successful shipping. Illustrations. Diagrams showing recommended loading plans.	464 C78
Cruess, W. V.	The fermentation organisms of California grapes. Calif. Univ., Pubs. Agr. Sci., vol. 4, no. 1, 1918. 66 pp. Refers largely to wine making.	500 C125AG

Essig, E. O.	Important dried fruit insects in California. Calif. Dept. Agr., Mo. Bul., vol. 9, no. 3, sup., 1920, p. 119-125. Moths and beetles infesting dried fruits. Control measures.	2 C12M
Eustace, H. J.	A destructive apple rot following scab. N. Y. (Geneva) Exp. Sta., Bul. 227, 1902, p. 367-389. Pink mold invades the tissue where the epidermis is broken by scab. Greening especially affected.	100 N48
————	Investigations on some fruit diseases. N. Y. Exp. Sta., Bul. 297, 1908, p. 31-48. Apple and peach rots in storage. Sulphur fumigation. The effect of cold storage on the development of the diseases of apples and peaches. Inoculation experiments; blue mold only, developed and caused decay while held in storage for 2 months at 32 degrees.	100 N48
Fawcett, G. L.	The rot of citrus fruit. Porto Rico Progress, vol. 8, no. 1, Dec. 1914, p. 5-7. Rot from Diplodia Natalensis, its nature and control.	110 P83 (folio)
Fawcett, H. S.	Stem-end rot of citrus fruits. Fla. Exp. Sta., Bul. 107, 1911. 23 pp. Description and control of the disease. A catalog of rots, spots and blemishes on citrus fruits in Florida is contained in the appendix.	100 F66S
Fisher, D. F.	Factors that influence diseases of apples in storage. Better fruit, vol. 14, no. 3, 1919, p. 3-4. A practical discussion valuable to those engaged in commercial handling.	80 B46
Grossenbacher, J. G.	Experiments on the decay of Florida oranges. U.S. Dept. Agr., Bur. Plant Indus., Cir. 124, 1913, p. 17-29. "Ammoniation" and "melanose". Condition of fruit at maturity, a resultant of the amount of moisture during growing season.	1 P69C
Halsted, B. D.	Decay in the apple barrel. Popular Sci., vol. 43, no. 1, 1893, p. 76-84. Pathology of apple rots as understood in 1893.	470 P81
Hawkins, Lou A.	Some effects of the brown-rot fungus upon the composition of the peach. Amer. Jour. Bot., vol. 2, no. 2, Feb. 1915, p. 71-81. The pentosan content remains the same, the acid content increases and the total sugar content decreases.	450 Am36

Link, George K. K. Handbook of the diseases of vegetables occurring under market, storage and transit conditions. U. S. Dept. Agr., Bur. Plant Indus., 1919. 73 pp. Designed primarily to aid inspectors of the Bureau of Markets in the detection of plant diseases on the market. Descriptions of diseases and other disturbances apt to affect vegetables upon arrival in the markets. Illustrated with colored photographs. 1 P6976H

Mansfield, A. B. Ripe-rot of stone-fruits. New Zealand Dept. Agr., Jour. Agr., vol. 12, no. 3, Mar. 1916, p. 214-216. Description and remedies for ripe-rot. 23 N48J

Martin, Geo. W. Brown blotch of the Kieffer pear. Phytopathology, vol. 8, no. 5, May, 1918, p. 234-239. Description. 464.8 P56

_____ Orchard experiment with Jonathan spot rot in 1914. Abstract in Phytopathology, vol. 4, no. 6, 1914, p. 406. Experiments carried on in 1914 show results in harmony with those of 1913 described by Melville T. Cook, in "The Jonathan spot rot." 464.8 P56

Morse, W. J. Arsenate of lead as a fungicide for apple scab. Abstract in Phytopathology, vol. 6, no. 1, 1916, p. 118. Spraying experiments with arsenate of lead gave successful results in four seasons. 464.8 P56

Parker, Wm. B. Control of dried-fruit insects in California. U. S. Dept. Agr., Bul. 235, 1915. 13 pp. The Indian-meal moth and the dried-fruit beetle. Processing the fruit. Sealed packages. 1 Ag84B

Powell, G. Harold. Causes of citrus fruit decay. Calif. Cultivator, vol. 24, no. 15, Apr. 1905, p. 344-345. A preliminary account of the investigations then being carried on by the Bureau of Plant Industry for the control of losses in citrus fruit during transportation and marketing. 6 C12

_____ The decay of oranges while in transit from California. U. S. Dept. Agr., Bur. Plant Indus., Bul. 123, 1908. 74 pp. A summary of investigations conducted on a commercial scale and supplemented by laboratory methods when possible which have involved the handling and inspection of large quantities of oranges through all the operations from the trees in California to the markets in the East. 1 P69B

Reed, H. S.	York spot and York skin-crack. Abstract in Phytopathology, vol. 4, no. 6, 1914, p. 405. Both the spot and the skin crack seem to be most abundant on trees under fifteen years of age.	464.8 P56
Schneider, O.	Investigations on the growth and spread of decay fungi in storage fruit. Landw. Jahrbuch Schweiz, 25, 1911, p. 225-246. Relation of temperatures and ripeness to decays. (German)	17 L23
Smith, C. O.	Sour rot of lemon in California. Phytopathology, vol. 7, no. 1, 1917, p. 37-41. A soft storage decay characterized by a peculiar sour odor. Description, cause.	464.8 P56
Stakman, E. C.	A fruit spot of the Wealthy apple. Phytopathology, vol. 4, no. 4, 1914, p. 333-335. Prevalent in Minnesota. Investigations made but no definite conclusions reached.	464.8 P56
Stevens, F. L.	A destructive strawberry disease. Science, new ser., vol. 30, no. 1017, June, 1914, p. 949-950. Investigations at Hammond, indicate that molds and leaks are caused by the fungi. Botrytis and Rhizopus.	470 Sci2
_____	Some problems of plant pathology in reference to transportation. Phytopathology, vol. 5, no. 2, Apr. 1915, p. 108-110. Pathological problems concerning changes occurring in fruit in transit are important but not widely studied.	464.8 P56
_____	Some new strawberry fungi. Phytopathology, vol. 6, no. 3, 1916, p. 258-267. Descriptions and illustrations.	464.8 P56
Stevens, H. E.	Citrus canker. Fla. Exp. Sta., Bul. 128, 1915, 20 pp. Disease affects bark, leaves and fruit. History, appearance and eradication.	100 F66S
Stevens, N. E.	Some changes produced in strawberry fruits by Rhizopus Nigricans. Phytopathology, vol. 7, no. 3, 1917, p. 178-184. The bio-chemical changes brought about by this fungus on the various constituents of the strawberry.	464.8 P56

Stevens, N. E. The effect of endrot fungus on cranberries. Amer. Jour. Bot., vol. 6, no. 6, 1919, p. 235-241. 450 Am36
A chemical and histological study of the endrot fungus. Illustrations.

_____ Rhizopus rot of strawberries in transit. U. S. Dept. Agr., Bul. 531, 1917, 20 pp. 1 Ag84B
Description of the rot and factors that accelerate or restrict its development in transit.

Turley, H. E. New fruit fungi found on the Chicago market. Science, vol. 50, Oct. 17, 1919, p. 375-376. 470 Sci2
Description of diseases rather than a study of the fungi.

See also Cold storage, fruits; Handling, fruits; Precooling; Ripening and respiration, fruits.

VEGETABLES

A bacterial rot of onions. West Indies Dept. Agr., West Indian Bul., vol. 5, 1904, p. 134-139. 8 W522
Experiments indicate that keeping onions dry is the one important point in the prevention of bacterial rot.

Bailey, F. D. Powdery scab of potatoes in Oregon. Science, vol. 42, Sept. 24, 1915, p. 424-425. 470 Sci2
Short. First appearance of powdery scab west of Rocky Mountains.

Barre, H. W. Sweet potato rots. S. C. Exp. Sta., Rept. 1911, p. 49-51. 100 So8
A report of tests regarding methods of storing sweet potatoes to prevent rots.

Beal, W. H. Storage of sweet potatoes. Rotting of potatoes in storage. U. S. Dept. Agr., Farm Bul. 273, 1906, p. 9-11. 1 Ag84F
Practical measures for preventing storage rots of sweet potatoes as determined at the Alabama, Maine and Vermont Stations.

Berry, James B. Diseases of sweet potatoes. Ga. St. Coll. of Agr., Bul. 161, 1918. 8 pp. 276 G29B
Harvesting. Field diseases and molds. Storage house conditions.

Carpenter, C. W.	Some potato tuber-rots caused by species of Fusarium. U. S. Dept. Agr., Jour. Agr. Research, vol. 5, no. 5, Nov. 1915, p. 183-210. Method of testing. Dry rot, jelly-end rot. Inoculation. Eight plates.	1 Ag84J
Fraser, W. P.	Storage rots of potatoes, and other vegetables. Quebec Soc. Protec. Plants, Rept. 6, 1913-14, p. 50-51. Description of rots common to potatoes in storage; measures for protection.	464.9 Q3
Gussow, H. J.	The storage rots of potatoes. Canada Exp. Farms, Rept. 1913, p. 480-492. Description of potato storage rots due to organisms. Suggestions for proper storage methods.	101 Ex6R
Harter, L. L.	The decay of cabbage in storage. U. S. Dept. Agr., Bur. Plant Indus., Cir. 39, 1909. 8 pp. The results of investigations concerning the decay of cabbage in storage; suggestions for control.	1 P69C
————	Sweet potato diseases. U. S. Dept. Agr., Farm Bul. 1059, 1919, p. 19-21. Description of the five most important storage rots with some suggestions for control.	1 Ag84F
————	Sweet potato storage rots. U. S. Dept. Agr., Jour. Agr. Research, vol. 15, no. 6, p. 337-68. Description of 17 fungi responsible for storage rots in sweet potatoes. Bibliography.	1 Ag84J
Haskell, R. J.	A Fusarium tuber and stem rot of potato. Abstract in Phytopathology, vol. 6, no. 1, 1916, p. 106-107. A virulent stem and tuber rot which affects potatoes in storage.	464.8 P56
————	Potato wilt and tuber rot caused by Fusarium Eumartii. Phytopathology, vol. 6, no. 4, 1916, p. 321-327. Inoculations show that Fusarium Eumartii may cause both a vine wilt and a tuber rot.	464.8 P56
Humbert, J. G.	The neck rot of white onions. Ohio Exp. Sta. Mo. Bul., vol. 1, no. 6, 1916, p. 76-180. Control by sanitation and fumigation.	100 Oh3S

Jamieson, Clara O.	Phoma Destructiva, the cause of a fruit rot of the tomato. U. S. Dept. Agr., Jour. Agr. Research, vol. 4, no. 1, 1915. 20 pp. An active ground parasite of green and ripe tomatoes which causes rot.	1 Ag84J
Link, G. K. K.	A physiological study of two strains of Fusarium in their causal relation to tuber rot and wilt of potato. Botan. Gaz., vol. 62, no. 3, Sept. 1916, p. 169-209. Experimental infection. Habits of growth and carbon sources of the two organisms.	450 B652
Lutman, B. F.	Some observations on ordinary beet scab. Phytopathology, vol. 5, no. 1, 1915, p. 30-34. The beet scab is caused by the same organism as the potato scab.	464.8 P56
McAlpine, D.	Experimental results in their relation to bitter pit. Bitter Pit Investigation (Australia), Rept. 4, 1914-15. 178 pp. A general summary of the bitter pit investigations in Australia including: (1) Development of bitter pit after apples are gathered. (2) Bio-chemical researches on bitter pit. For the most part apples become affected while still on the tree. (3) Cold storage experiments. There are five reports of the Bitter Pit Investigation in which the disease of bitter pit is discussed at some length.	464.06 M11B
Melchers, L. E.	Black spot of pepper. Abstract in Phytopathology, vol. 7, no. 1, 1917, p. 63. Renders fruit unsalable. Sweet peppers are most susceptible than the hot varieties.	464.8 P56
Melhus, I. E.	A Phoma rot of Irish potatoes. Abstract in Phytopathology, vol. 4, no. 1, 1914, p. 41. Studies of blight when celery is stored in carlots at 31 to 32 degrees.	464.8 P56
————	Silver scurf, a disease of the potato. U. S. Dept. Agr., Bur. Plant Indus., Cir. 127, 1913, p. 15-24. Causes disfiguration and abnormal shrinkage.	1 P69C
Munn, M. T.	Neck-rot disease of onions. N. Y. Exp. Sta., Bul. 437, 1917, p. 365-450. Causes, factors favorable to infection, methods of control.	100 N48

Orton, W. A.	Watermelon diseases. U. S. Dept. Agr., Farm Bul. 821, 1917, p. 6-18. Description of rots and their control.	1 Ag84F
Osmun, A. Vincent	Ring-spot of cauliflower. Phytopathology, vol. 5, no. 5, 1915, p. 260-265. Description, causes. No suggestions for control. Affects cabbage also.	464.8 P56
Pethybridge, G. H.	Observations on the cause of the common dry rot of the potato tuber in the British Isles. Roy. Dublin Soc., Sci. Proc., new ser., vol. 15, no. 21, 1917, p. 193-222. Study of fungus causing dry rot.	501 D85
Ramsey, G. B.	Tuber rot in potato shipment. Me. Coll. Agr., Ext. News Letter 95, 1919. Tuber rot prevalent in 1918 crop.	275.29 M281E
Reddick, D.	Decay of celery in storage. Abstract in Phytopathology, vol. 4, no. 1, 1914, p. 45. Report on a late blight disease which causes storage rot in celery.	464.8 P56
Rosenbaum, J.	The origin and spread of tomato fruit rots in transit. Phytopathology, vol. 8, no. 11, 1918, p. 572-580. The conclusion is reached that most tomato rots originate in the field and spread during transit.	464.8 P56
Shapovalov, M.	Effect of temperature on germination and growth of the common potato-scab organism. U. S. Dept. Agr., Jour. Agr. Research, vol. 4, no. 2, May 15, 1915, p. 129-133. Results of experiments on several strains isolated from diseased potatoes from Maine, Vermont and Wisconsin.	1 Ag84J
Sherbakoff, C. D.	Buckeye rot of tomato fruit. Phytopathology, vol. 7, no. 2, 1917, p. 119-129. Description, cause, control.	464.8 P56
Stevens, F. L.	Black spot of onion sets. Ill. Exp. Sta., Bul. 220, 1919, p. 507-32. A study of the three types of black spot which affect onions to the extent of 60 to 80 per cent as shown by examinations in markets and stores. Illustrations.	100 116S

Stewart, F. C. Blackheart and the aeration of potatoes in storage. N. Y. Exp. Sta., Bul. 436, 1917, p. 321-362. Insufficient aeration causes blackheart; size of tuber apparently not important. Experiments to determine how deeply it is safe to pile potatoes. 100 N48

Taubenhaus, J. J. Soil stain and pox, two little known diseases of the sweet potato. Abstract in Phytopathology, vol. 4, no. 6, 1914, p. 405. The soil stain is a disease of the epidermis only. The pox is similar to the scab of white potatoes. 464.8 P56

_____ Studies in the control of storage rots of the sweet potato. Abstract in Phytopathology, vol. 6, no. 1, 1916, p. 106. The necessity of ventilation, fumigation and the use of fungicides. 464.8 P56

_____ Recent studies of some new or little known diseases of the sweet potato. Phytopathology, vol. 4, no. 4, 1914, p. 305-317. Studies on black rot, charcoal rot, Java black rot, stem rot and ring rot. 464.8 P56

Tolaas, A. G. A bacterial disease of cultivated mushrooms. Phytopathology, vol. 5, no. 1, 1915, p. 51-53. Value of mushrooms, not yield, is diminished. 464.8 P56

Walker, J. G. Control of neck rot and Anthracnose of onion sets. Phytapathology, vol. 8, no. 2, 1918, p. 70. Prevention of neck rot by artificial drying. 464.8 P56

Wolf, Frederick A. Fruit rots of egg plant. Abstract in Phytopathology, vol. 4, no. 1, 1914, p. 38. Excretion of fungus, Ascochyta Hortorium, causes disintegration of tissues. 464.8 P56

See also Common storage, vegetables; Transportation.

DEHYDRATION.

Bioletti, F. T.	Dried wine grapes. Calif. Bd. St. Viticul. Com., Bul. 15, 1919, p. 6-28. An evaporator for wine grapes. Illustrations.	95.9 C12B
_____	Saving raisins by sulfuring. Calif. Exp. Sta., Cir. 211, 1919. 4 pp. Tests at Kearney Experiment Vineyard. Description of sulfuring hood; plans, specifications, illustrations.	100 C12S
Bliss, R. K.	Home fruit and vegetable drying. Iowa St. Coll. Agr., Ext. Bul. 65, 1918. 4 pp. Tables showing preparation, temperature, appearance of dried product. Description of various simple driers for home use. Elementary.	275.2 I09
Brown, F. R.	The drying of prunes. Oreg. Exp. Sta., Crop Pest and Hort. Rept. 1911-1912, p. 51-58. Tunnel and stack dryers. Description of the process.	100 Or3
Caldwell, J. S.	Evaporation of apples. Wash. Exp. Sta., Bul. 131, 1916. 110 pp. Extensive treatment. Types of evaporators, cost of construction, equipment. Grading and packing the dried fruit. Includes a review of literature relating to the subject.	100 W27E
_____	Farm and home drying of fruits and vegetables. U. S. Dept. Agr., Farm. Bul. 984, 1918. 61 pp. A discussion of the possibilities, principles, methods and preparation of fruits and vegetables for drying.	1 Ag84F
Christie, A. W.	The University farm evaporator. Calif. Dept. Agr., Mo. Bul., vol. 9, no. 3, sup., 1920, p. 125-131. Description, ground plan. Facts deduced from experiments in treatment of grapes.	2 C12M
Corbett, L. C.	Raspberries. U. S. Dept. Agr., Farm. Bul. 213, 1905, p. 16-35. Harvesting the crop. Curing raspberries by evaporation and sun drying.	1 Ag84F
Cruess, W. V.	The evaporation of vegetables. Calif. St. Com. Hort., Mo. Bul., vol. 8, no. 3, 1919, p. 93-100. Types of evaporators for commercial and domestic uses.	2 C12M
_____	Evaporators for prune drying. Calif. Exp. Sta., Cir. 213, 1919. 30 pp. Theory of evaporation. Construction and use of various kinds of evaporators for commercial use.	100 C12S

Cruess, W. V.	Types of evaporators. Calif. Dept. Agr., Mo. Bul. vol. 9, no. 3, sup., 1920, p. 104-113. Discussion of principles. General forms: Natural draft, forced draft, distillation.	2 C12M
Dosch, Henry E.	Evaporation of fruits. Calif. Fruit Grow., vol. 19, nos. 8 and 9, Aug. 1896, p. 143, 163. Heat and circulation are the great principles. Economy in labor and fuel. Evaporating prunes, pears, apples.	80 C12
Drying of fruits and vegetables and preservation of vegetables by	fermentation and salting. Ontario Dept. Agr., Cir. 12, 1918. 23 pp. Methods, apparatus and storage for domestic rather than commercial use.	7 On8Ci
Gould, H. P.	Evaporation of apples. U. S. Dept. Agr., Farm. Bul. 291, 1907. 38 pp. Evaporators and appliances. The process of drying. Handling and storing the dried fruit.	1 Ag84F
Howard, G. L. C.	The sun drying of vegetables. Quetta, Fruit Exp. Sta., Bul. 8, 1918. 20 pp. Methods for sun drying vegetables in India and suggestions for application in the United States.	107.5 Q3
Hudson, A. W.	The evaporator and rain-damaged prunes. Calif. Dept. Agr., Mo. Bul., vol. 9, no. 3, sup., 1920, p. 118-119. An evaporator to be used in an emergency, auxiliary to sun-drying operations.	2 C12M
Johnson, M. O.	Drying as a method of food preservation in Hawaii. Hawaii Exp. Sta., Ext. Bul. 7, 1918. 31 pp. Principles of drying. Three methods: Air drying, heated-air drying, vacuum drying. Description of a home-made air drier used in Hawaii. Effect of drying on the banana, sweet potato, Irish potato.	275.29 H31
Kirkpatrick, E. L.	Drying fruits and vegetables in New York State. N. Y. St. Coll. Agr., Cornell Read. Course for Farm, Les. 132, 1918, p. 187-208. Kiln evaporator, tower drier, dehydrator. General directions for preparation, processing and storing various fruits and vegetables.	275.29 N48C

Kraeger, F. O. — Home drying of fruits and vegetables in Washington. Wash. St. Coll., Ext. Serv. Pub., ser. 1, no. 57, 1919. 31 pp. 275.29 W27P
Construction and operation of driers. Special processes. Preparation of various fruits and vegetables. Tables made up from reports of the Weather Bureau show the varying conditions of sunshine, temperature and humidity in different parts of the State in order that their relation to the principles of drying may be studied.

Macfarlane, M. — Preservation of fruits and vegetables for home use. Can. Dept. Agr., Exp. Farms, Bul. 93, 1918, p. 18-20. 101 C33B
Methods, directions and time tables for different vegetables.

Peglion, V. — Potato drying. R. Accad. Lincei, Comitato Sci. Alimen. Pubblicazioni, no. 5, 1918. 11 pp. 389.8 R66
Methods and machinery. (Italian)

Prescott, S. C. — Commercial dehydration. Amer. Acad. Polit. and Social Sci., Annals, vol. 83, no. 172, May 1919, p. 48-69. 280.9 Am34
History of dehydration in America. Systems. Advantages. Reduction in weight and bulk of various vegetables. Nutritive value. Desirability as compared with canned product. Tables.

Preservation of food. — Ohio Agr. Coll., Ext. Bul., vol. 14, no. 1, 1918-19, p. 12-19. 275.29 Oh32
Drying, fermentation, salting. Elementary; home use.

Razous, P. — Theory and practice of industrial drying. 2d. ed. rev., Paris, 1919. 252 pp. 309 R21
Principle of evaporation. Types of hot air driers, heating systems. Commercial drying of a variety of materials including fruit and vegetables. (French)

Rutishauser, J. — Potato drying. Berne, Ferd Wyss, 1918. 51 pp. 75 R93
Potato drying as carried on in Germany. (German)

Showell, H. — Dipping and drying the Sultana. South Aus. Dept. Agr., Jour., vol. 20, no. 8, Mar. 1917, p. 667-671. 23 So84
The fruit, the dip and drying.

Tufts, W. P.	The Oregon tunnel evaporator. Calif. Dept. Agr., Mo. Bul., vol. 9, no. 3, sup., 1920, p. 131-133. Fundamentals, operation. The favorite type for prunes.	2 C12M
Wood, Bessie S.	Drying and brining fruits and vegetables. Ga. Coll. Agr., Bul. 156, vol. 7, no. 1, 1918. 12 pp. Drying: Sun, cookstove, kiln. Brining for domestic use.	276 G29B

See also Common storage, vegetables; Decays and physiological disturbances; Handling, fruits; Packing, packages and grades; Precooling; Transportation.

HANDLING

FRUITS

Ashby, T. H. — How to prevent decay of our citrus fruits. Fla. Agr., vol. 31, no. 39, Sept. 1904, p. 611. Ways of decreasing the enormous losses in the transit of citrus fruit. — 6 F66

Busey, Samuel C. — The gathering, packing, transportation and sale of fresh vegetables and fruits. New York, 1875. 15 pp. Competent inspection and free markets for producers.

Campbell, J. A. — Co-operation, central packing, and cool storage in the fruit industry. New Zealand Dept. Agr., Jour. Agr., vol. 17, no. 6., Dec. 1918, p. 337-344. General discussion of the problems involved in handling fruit from orchard to market. — 23 N48J

Careful handling, precooling, cold storage and transportation investigations. Brit. Col. Dept. Agr., Repts. 8, 9, 1913, 1914, p. 37-38, 84-86. Packing and cutting rhubarb. Shipping strawberries and raspberries. Precooling plant. Cold storage of apples. — 7 B77R

Corbett, L. C. — Color as an indication of the picking maturity of fruits and vegetables. U. S. Dept. Agr., Yearbook 1916, p. 99-106. Results of experiments conducted by the Department of Agriculture. Apples - colored plates showing various stages of maturity; relation to storage period. Tomatoes - conditions determing storage. — 1 Ag84Y

DeOng, E. R. — What hinders dried fruit sales. Calif. St. Com. Hort., Mo. Bul., vol. 8, no. 5, 1919, p. 240-243. Insect infestation of dried fruit. — 2 C12M

Dyer, Francis J. — Improved methods of fruit-handling. Amer. Rev. of Rev., vol. 39, no. 3, 1909, p. 305-310. A survey of handling and precooling investigations and general fruit shipping methods up to 1909. — 110 Am32

Farrington, E. I. — When to pick the fruit. Coun. Life, vol. 32, no.6, Oct. 1917, p. 80. When to pick different varieties for domestic use. — 80 C832

Fawcett, H. S. — Spotting of citrus fruits. Calif. St. Com. Hort., Mo. Bul., vol. 4, no. 9, Sept. 1915, p. 434-435. Careless handling especially during cool, moist weather causes "green spots." — 2 C12M

Franklin, H. J.	Report of the cranberry substation for 1915. Mass. Exp. Sta., Bul. 168, 1916, p. 5-24. Factors affecting the amount of shrinkage of cranberries in storage and in transportation.	100 M38H
————	Report of the cranberry substation for 1916. Mass. Exp. Sta., Bul. 180, 1917, p. 183-239. Results of various methods of hauling and storing cranberries.	100 M38H
Gould, H. P.	Peach growing. New York, 1918. 426 pp. A general treatment of the subject of growing peaches which contains some discussion of picking, packing and transportation.	93 G73
Greene, Laurenz.	Proper handling of frozen apples. Ind. Hort. Soc., Trans. 1917, p. 271-276. Practical experiences show that freezing is not injurious if apples are allowed to thaw slowly. Discussion.	81 In2
Gunderson, A. J.	A trip to the Fort Valley peach district of Georgia. Ill. Hort. Soc., Trans., new ser., vol. 50, 1916, p. 168-171. Picking, packing, marketing. The Georgia Fruit Exchange.	81 I16
Hood, S. C.	A detailed description of a new machine for peeling citrus fruits. U. S. Dept. Agr., Bul. 399, 1916, p. 13-19. Illustrations. Suggestions for operating.	1 Ag84B
Iorns, M. J.	Picking and packing citrus fruits. Porto Rico Exp. Sta., Cir. 8, 1909. 18 pp. Field and packing house operations. Suggestions concerning the processes involved from curing to transportation to market.	100 P83C
Kains, M. G.	Do you know when fruit is ripe? Garden Mag., vol. 28, no. 1, Aug. 1918, p. 17-18. How and when to pick various kinds of fruit.	80 G1612
Lewis, C. I.	Harvesting and preparing prunes for evaporation. Better Fruit, vol. 14, no. 2, 1919. 6 pp. Methods and time of picking, sorting, brown rot infection, grading, dipping, rinsing.	80 B46
Lewis, I. P.	Using an apple sizing machine. Ohio Exp. Sta., Mo. Bul., vol. 4, no. 7, July 1919, p. 221-224. Types. Operation.	100 Oh3S

McKay, A. W. — Citrus fruit handling and storage. Fla. Hort. Soc., Proc. 26th Meet., 1913, p. 30-45. 81 F66
Relation of careful handling to keeping qualities of citrus fruits as seen in Bureau of Plant Industry tests in Florida.

McKinstry, S. — Sorting out frosted oranges and lemons. Sci. Amer., vol. 111, no. 25, Dec. 19, 1914, p. 512. 470 Sci25
Description of a water separator which determines the specific gravity of fruit so that it is possible to pick out the frozen specimens.

Mann, C. W. — The handling of Porto Rican oranges, grape fruit and pineapples. Porto Rico, Insular Exp. Sta., Bul. 7, 1914. 59 pp. 100 P83
Relation of careful handling to the decay in transit of Porto Rican fruits. Twenty-four illustrations.

_____ — The handling and storage of apples. Me. Dept. Agr., Bul., vol. 17, no. 3, 1918, p. 77-81. 2 M28B
General discussion of factors entering into successful marketing.

_____ — Keeping quality of citrus fruit treated to eliminate frosted fruit. Calif. Cultivator, vol. 38, no. 19, 1912, p. 582, 599, 607. 6 C12
A review of the results of using distillate or kerosene oil and of alcohol in separating frosted fruit as regards flavor and decay.

Markell, E. L. — The handling of plant-ripened pineapples. (Unpublished) U. S. Dept. Agr., Bur. Mar. and Crop Est., files.
Maturity and picking. Demonstration of careful handling and proper refrigeration in successfully marketing hard, ripe pineapples.

Mason, A. F. — Harvesting, packing and marketing the apple crop. Pa. St. Coll., Ext. Cir. 50, 1916. 44 pp. 275.29 P38C
Picking - Time, receptacles. Grading - New York Law, methods, machinery. Packing - Houses, packages. Shipping. Storage. Marketing.

Meeking, E. — Report on experiment in picking, packing, handling, cool-storage, and transportation of peaches. Victoria Dept. Agr., Jour., vol. 14, no. 1, 1916, p. 41-55. 23 V66J
Tabulated results of experiment.

Newman, C. C. — A chemical process of peeling peaches. S. Car. Exp. Sta., Bul. 196, 1918. 8 pp. 100 So8
The process, equipment. Plan for vat. Illustrations.

[illegible] and other [illegible] England. U. S. Dept. Agr., Sec. Foreign Mar., Cir. 1, 1895. 2 pp. 1 F75C
Suggestions for harvesting and packing peaches for the English market.

Powell, G. Harold. The decay of oranges while in transit from California. U. S. Dept. Agr., Bur. Plant Indus., Bul. 123, 1908. 79 pp. 1 P69B
The results of investigations covering several years in connection with field and shipping conditions. Charts showing results of careful handling and precooling. This publication covers work that opened a new epoch in fruit transportation.

_____ The handling of fruit for transportation. U. S. Dept. Agr., Yearbook 1905, p. 349-362. 1 Ag84Y
A survey of increased shipments of perishables, causes of decay, early attempts with refrigeration in transit and cooling before shipment.

Ramsey, H. J. Factors governing the successful shipment of red raspberries from the Puyallup Valley. U. S. Dept. Agr., Bul. 274, 1915. 37 pp. 1 Ag84B
Experiments made in the seasons 1911, 1912, 1913, with the handling, precooling and shipping of raspberries. Recommendations.

_____ The handling and shipping of fresh cherries and prunes from the Willamette Valley. U. S. Dept. Agr., Bul. 331, 1916. 28 pp. 1 Ag84B
The results of handling and precooling experiments with sweet cherries and plums during the seasons of 1911 and 1913.

_____ Handling and shipping citrus fruits in the Gulf States. U. S. Dept. Agr., Farm. Bul. 696, 1915. 28 pp. 1 Ag84F
A practical discussion of the subject, covering careful handling, precooling, methods of shipment and cold storage.

_____ Lemon handling. (Unpublished) U. S. Dept. Agr., Bu. Mar. and Crop Est., files.
Extensive handling and storage experiments carried on in California.

Rogers, J. M. A simple and effective method of protecting citrus fruits against stem-end rot. Phytopathology, vol. 7, no. 5, Oct. 1917, p. 361-367. 464.8 P56
Citrus fruits may be protected to a great degree by shellacking the stem-end.

Shamel, A. D. — A humidifier for lemon curing rooms. U. S. Dept. Agr., Bul. 494, 1917. 10 pp. 1 Ag84B
Design and operation of a humidifier.

Sievers, A. F. — A preliminary study of the forced curing of lemons as practiced in California. U. S. Dept. Agr., Bureau of Plant Indus., Bul. 232, 1912. 38 pp. 1 P69B
A report on an investigation made to ascertain the effectiveness and control of factors involved in the forced curing of lemons. The investigation concerns the process rather than the effect of the treatment.

Smith, Edwin. — Methods of fruit picking and handling. Brit. Col. Dept. Agr., Hort. Br., Cir. 27, 1912. 7 pp. 82 B77
Injuries to fruit in harvesting and shipping and the reduction of losses by careful handling.

———— — Methods of handling basket fruits. Canada Dept. Agr., Dairy and Cold Stor. Com., Bul. 52, 1917 13 pp. 44.9 C16B
Methods in use at the Grimsby precooling plants to reduce the cost of handling fruit in and out of the warehouse.

Stokes, F. G. — The dried pear industry. Calif. St. Com. Hort., Mo. Bul., vol. 6, no. 5, 1917, p. 12-19. 2 C12M
Suggestions for handling pears preparatory to drying.

A story about sawdust. World's Work, vol. 28, no. 4, 1914, p. 380. 110 W89
Shipping grapes in sawdust.

Stubenrauch, A. V. — Factors governing the successful shipment of oranges from Florida. U. S. Dept. Agr., Bul. 63, 1914. 50 pp. 1 Ag84B
Results of handling, precooling and shipping investigations lasting seven years.

———— — Fruit handling and precooling investigations. Better Fruit, vol. 7, no. 5, Nov. 1912, p. 59-65. 80 B46
An article with tables showing results of shipping grapes, oranges, raspberries, cherries and prunes.

———— — The handling of deciduous fruits on the Pacific Coast. U. S. Dept. Agr., Yearbook 1909, p. 365-374 1 Ag84Y
Description of harvesting and shipping methods. Precooling.

———— — The relation of handling to decay in California navel oranges; season of 1910-11. U. S. Dept. Agr., Bur. Plant Indus., Bul. 676, 1911. 7 pp. 1 P69B
The relation of mechanical injuries and natural defects to decay, and the effect of washing, brushing, careful handling, and high packing on decay.

Swope, C. A.	Planting, gathering and marketing the cherry. Kans. Hort. Soc., Trans., vol. 34, 1917, p. 80-83. Packing. Marketing; need of organization.	81 K13
Tanner, J. M.	Spraying, harvesting and marketing the peach. Ill. Hort. Soc., Trans., new ser., vol. 51, 1917, p. 384-388. Picking, packing, grading. Discussion.	81 I16
Tenny, Lloyd S.	The decay of Florida oranges while in transit and on the market. U. S. Dept. Agr., Bur. Plant Indus., Cir. 19, 1908. 8 pp. Results of experiments in handling Florida oranges carried on in 1906-1907.	1 P69C
Walker, Ernest.	Suggestions on the storage of apples. Ark. Exp. Sta., Cir. 13, 1911. 4 pp. Handling apples for storage.	100 Ar42
Waugh, Frank A.	Fruit harvesting, storing, marketing. New York, 1914. 224 pp. The fruit market; picking; grading and packing; the fruit package; fruit storage.	93 W358F
Webber, H. J.	A study of the effects of freezes on citrus in California. Calif. Exp. Sta., Bul. 304, 1919, p. 244-321. The freeze of 1913 in California. Changes that take place in frozen oranges and lemons. A test of the efficiency of orchard heating.	100 C12S
Willits, R. L.	Causes of unnecessary decay in lemons. Calif. St. Com. Hort., Mo. Bul., vol. 5, no. 6, 1916, p. 213-216. Handling lemons to avoid decay.	2 C12M
Winslow, R. M.	Careful handling, precooling and cold storage investigations. Brit. Col. Dept. Agr., Rept. 8, 1913, p. 37-38. Investigations concerning handling and storing rhubarb, strawberries, raspberries and apples.	7 B77R
Young, W. J.	Handling apples for storage. Wash. Exp. Sta., Pop. Bul. 72, 1914. 8 pp. Pick fruit when hard ripe and place in storage as soon as possible.	100 W27E
<u>See also</u>	Cold storage, fruits; Common storage, fruits; Transportation.	

VEGETABLES

Brehm, C. E.	Harvesting peas. Coun. Gent. vol. 81, no. 21, 1916, p. 1078. Best methods for harvesting peas.	6 C833
_____	The sweet-corn harvest. Coun. Gent., vol. 81, no. 24, 1916, p. 1198. Some general suggestions for successful harvesting.	6 C833
Butler, O.	Effect of wounds on loss of weight of potatoes. Amer. Soc. Agron., Jour., vol. 11, no. 7, Oct. 1919, p. 304-305. Experiments on uninjured and bruised potatoes stored for 111 days at 8 to 10°C. Tables.	4 Am34P
Carver, Geo. W.	Saving the sweet potato crop. Ala. (Tuskegee) Bul. 10, 1906. 14 pp. Directions for handling sweet potatoes to prevent decay in storage.	100 A115B
Cole, E. W.	Pea curing in Texas. Tex. Dept. Agr., Bul. 18, new ser. 6 pp. Equipment and procedure.	2 T312B
Experiments on the	storage of onions. The Agr. News (Barbados), vol. 10, no. 238, 1911, p. 191. A test on a small scale to determine the value of treating onions with slaked lime, flowers of sulphur, carbon dioxide gas, Bordeaux mixture, 1-1000 corrosive sublimate solution, and sulphur dioxide gas.	8 W525A
Fitch, C. L.	The potato industry of Colorado. Colo. Exp. Sta., Bul. 175, 1910, p. 12-14, 34-42, 45-60. A discussion of all phases of the potato industry in Colorado including quality, protection from frost, diseases. Potato cellar construction and management. Marketing.	100 C71S
Grimes, A. M.	Handling and loading southern new potatoes. U. S. Dept. Agr., Farm Bul. 1050, 1919. 18 pp. "Don'ts" for potato diggers. Grading. Loading the cars.	1 Ag84F
Howard, H. M.	The growing and marketing of squashes, melons and cucumbers. Mass. St. Bd. Agr., Bul. 5 (3 rd ed. rev.), 1918, p. 116-125. General discussion including suggestions for successful harvesting.	2 M38B
Hull, M.	Harvesting sweet potatoes. La. Agr. Coll., Ext. Cir. H-69, 1919. (Mimeographed). Digging. Crates.	275.29 L93H

Hull, M. Sweet potato storage house disinfection. 275.29
La. Agr. Coll., Ext. Cir. H-70, 1919 (Mimeographed). L93H
Application of formaldehyde.

McKay, A. W. The handling and transportation of cantaloupes. 1
U. S. Dept. Agr., Farm Bul. 1145, 1921. 21 pp. Ag84F
(Revision of Mar. Doc. 9 and 10).
Investigations show that careful handling decreases mold and decay in cantaloupes. Beneficial results from picking at proper maturity and from shipping without wrapping.

Macoun, W. T. Digging and storing of potatoes. Canada Dept. Agr., 101
Exp. Farms, Pam. 15. 4 pp. C332
Suggestions for digging potatoes. Temporary and cooperative storage.

Malpeaux, L. Harvesting and storing potatoes. Vie Agr. Rurale, 14
vol. 6, no. 40, Sept. 1916, p. 238-244. V67
Time and methods of harvesting and storing. Directions for proper storage conditions. Comparison of composition of lots stored in pits and in cellars. (French)

Maturity of Cauliflower affects shrinkage. Market Grow. Jour., 6
vol. 24, no. 6, 1919, p. 230. M34
Experiments at Oregon Station to determine the relation of time of cutting to loss in weight.

More, C. T. Commercial handling, grading and marketing of potatoes. U. S. Dept. of Agr., Farm. Bul. 753, 1917. 1
42 pp. Ag84F
Special attention is given to sizing, grading, standardization, containers, brands.

Newman, C. L. Sweet potato experiments. Ark. Exp. Sta., Bul. 72, 100
1902, p. 40-43. Ar42
Treatment for storage.

Pittuck, B. C. Cabbage. Tex. Exp. Sta., Bul. 69, 1903, p. 27-28. 100
Cutting. Packing. Suggestions for ventilating in cars. T31S

Proper lettuce harvesting. Coun. Gent., vol. 81, no. 9, Feb. 26, 6
1916, p. 452. C833
Careless cutting and packing is the cause of much loss.

Round, L. A. Preservation of vegetables by fermentation and salting. U. S. Dept. Agr., Farm. Bul. 881, 1917. 11 pp. 1 Ag84F
Principles, equipment, procedure.

Stewart, F. C. Formaldehyde gas injury to potato tubers. Abstract in Phytopathology, vol. 4, no. 1, 1914, p. 38. Conditions under which fumigation with formaldehyde gas results in injury. Formaldehyde injuries show depressed areas of dead brown tissue. 464.8 P56

Thompson, H. C. Asparagus. U. S. Dept. Agr., Farm. Bul. 829, 1917, p. 9-12. Cutting, packing. 1 Ag84F

Treatment of frozen potatoes. Sci. Amer. Sup., vol. 85, no. 2198, Feb. 16, 1918, p. 99. A drying process not practicable on a commercial scale. 470 Sci25C

Waid, C. W. Muskmelon culture in Michigan. Mich. Exp. Sta., Spec. Bul. 95, 1919, p. 11-13. Harvesting, marketing. General discussion. 100 M58S

Wheeler, Frank. Growing and marketing asparagus. Mass. St. Bd. Agr., Bul. 5 (3rd ed rev.), 1918, p. 159-163. Cutting, length, bunches, tying machines. 2 M38B

Young, Robt. A. The dasheen, a root crop for the Southern States. U. S. Dept. Agr., Bur. Plant Indus., Cir. 127, 1913, p. 31-33. Harvesting, grading, storage. 1 P69C

ICE HOUSE AND COLD STORAGES

Blair, J. C. — Cold storage on the farm. Amer. Agr., vol. 72, nos. 14, 15, Oct. 1903, p. 268-270; 288, 290. Specifications, construction, plans for a cold storage. — 6 Am3

Bonham, C. M. — Precooling and fruit storage investigations. Canada Dept. Agr., Agr. Gaz., vol. 6, no. 2, 1919, p. 141-142. The work at the Grimsby Warehouse in 1918. — 7 C16G

Bowen, John T. — Ice houses and the use of ice on the dairy farm. U. S. Dept. Agr., Farm. Bul. 623, 1915. 24 pp. How to build insulated and uninsulated ice houses. The farmer's ice house - construction, insulation, drainage, waterproofing. Plans. Written especially for the dairy farmer. — 1 Ag84F

Central cold storage warehouse, Chicago. Ice and Refrig., vol. 53, no. 4, Oct. 1917, p. 121-126. A description of one of the most up-to-date cold storage warehouses; capacity 3 million cubic feet. Building, insulation, machinery, refrigeration. Plans, illustrations. — 295.8 Ic2

Cold-air refrigeration plant. Power, vol. 42, no. 20, 1915, p. 674. Description of a model packing house on the Pacific Coast in which refrigeration is accomplished by means of the circulation of cold air through air ducts. — 290.8 P87

Cold storage warehouses. Amer. Asso. Refrig., Proc. 1915, p. 71-83. Report of committee of the National Fire Protection Association on manufacturing risks and special hazards. Location, construction, waterproofing, insulation, refrigeration and fire protection of cold storages. — 295.9 Am3

Corbett, L. C. — Ice houses. U. S. Dept. Agr., Farm. Bul. 475, 1911. 20 pp. Types and construction of ice houses. Relation of the ice supply to fruit storage. — 1 Ag84F

Fruit and vegetable storage structures. Concrete, vol. 11, no. 2, Aug. 1917, p. 37-38.
The possibilities of concrete for fruit and vegetable storage structures. Plans.

Graham, R. R. Ice cold storage on the farm. Ontario Dept. Agr., Bul. 207, 1912. 48 pp. 101 On8B
A good description of ice cold storages for the farm. The storage of ice. Plans.

Hansen, H. F. A successful cold storage for apples. Minn. Hort. vol. 44, no. 6, June 1916, p. 243-244. 81 M66
(Published by Minn. Hort. Soc. as Trees, Fruits and Flowers of Minn.)
Directions for building a farm storage.

Large apple storage warehouse. Ice and Refrig., vol. 54, no. 3, March 1918, p. 154-156. 295.8 Ic2
Description of a plant owned by the Winchester Cold Storage Co. of Winchester, Va.
Dimensions - 120 x 200 feet, 5 stories high.
Construction, elevating system, insulation, refrigeration.

Lindvail, N. A. Modern construction of ice and cold storages. Ice, vol. 17, no. 5, Dec. 1915, p. 28-29. 295.8 Ic23
Temperature variation and excess moisture must be overcome.

Mobley, R. H. Apple storage. Refrig. World, vol. 52, no. 1, Jan. 1917, p. 31-33. 295.8 C67
The storage house - construction, insulation, advantages of cork, ventilation, temperature. Precooling. Apples should be picked at maturity.

Reynolds, J. B. Cold storage. Experiments in cold storage of fruit. Ontario Agr. Coll. and Exp. Farm, Rept. 1901, p. 6-11. 101 On8
Results obtained with the Hanrahan system of cold storage. Cold storage experiments with apples and pears.

Rice, Arthur L. Operating variable temperature refrigeration system. Power, vol. 42, no. 21, 1915, p. 709-710. 290.8 P87
Working temperatures varying from 45 to 10° F.

Robertson, J. W. Cold storage. Canada Dept. Agr., Agr. and Dairying Com., Rept. 1897, pt. 5. 87 pp. 7 C16D
Discussion of uses of cold storage with plans for building.

Shipman, R. L. Maintenance of insulation for low temperatures. 290.8
Power, vol. 42, no. 4, 1915, p. 118-119. P87
So-called breathing process of walls is due to changes in barometric pressure and temperature.

Spaulding, R. E. Experimental tests of fireproof and non- 295.8
fireproof ice house construction. C67
Refrig. World, vol. 49, no. 6, June, 1915, p. 43-47.
Practical tests covering a period of two years show that an ice house can be built which is fireproof and practically insulated against meltage. Illustrations.

See also Cold storage; Technology.

PACKING, PACKAGES AND GRADES.

Alderman, W. H.	Packing apples and peaches. W. Va. Exp. Sta., Bul. 139, 1912, p. 277-300. Varieties of apples best adapted to barrel and to box packing. Picking the fruit. Barrel packing, facing, filling, papering; the barrel press. Box packing, wrapping the apples, lining, the bulge, the press, labeling. Packing peaches.	100 W52
Blake, Maurice A.	Packing and shipping peaches in Georgia carriers. N. J. Exp. Sta., Bul. 284, 1915. 48 pp. Requirements of a good shipping package. The proper degree of maturity at which different varieties should be picked for shipping. Packing. Grades.	100 N46S
————	Suggested grades for peaches. N. J. Exp. Sta., Cir. 58, 1916. 8 pp. Basis upon which grades should be established. Definition of "Well colored for the variety."	100 N46S
Buckholder, C. L.	Barrel packing of apples. Purdue Univ., Ext. Bul. 50, 1917. 8 pp. Packing equipment, grading, handling the barreled fruit.	275.29 In2E
Creelman, J. A.	Peach package test. 1915. Canada Dept. Agr., Agr. Gaz., vol. 3, no. 3, 1916, p. 222-225. The advantages of the different kinds of packages as determined by tests in a model packing room at the Grimsby plant.	7 C16G
Downing, F. P.	Berry boxes and fruit baskets. West. Fruit Jobber, vol. 6, no. 4, 1919, p. 15-21 Description of prevailing types of boxes; suggestions.	286.83 W52M
Dyer, W. A.	A new package for apples. Coun. Life, vol. 29, no. 1, Nov. 1915, p. 54, 56. The successful use of bushel corrugated-cardboard cartons.	80 C832
Flack, A. H.	Modern methods of packing apples. Canada Dept. Agr., Fruit Br., Bul. 2, 1917. 62 pp. Very complete information on packing apples in barrels and boxes.	82 C16B

Herron, L. G. Fruit packages in the Middle West. Okla. Exp. Sta., Cir. Inform. 21, 1913. 27 pp. Package types best adapted to apples, peaches and strawberries. 100 Ok4

Holton, John C. The theory and practice of sanitary precautions in grove and packing house operations. Fla. St. Plant Board, Quar. Bul., vol. 2, no. 4, 1918, p. 161-179. Relation of sanitation to decays. Evolution of idea. Disinfection. Comprehensive treatment. 464.9 F662Q

Hull, M. Grading sweet potatoes. La. Agr. Coll., Ext. Cir. H-68, 1919. (Mimeographed). Purpose. Grades. 275.29 L93H

Judson, Lowell B. Picking, packing, and marketing the apples. Idaho Exp. Sta., Bul. 54, 1906. 37 pp. Thorough discussion. Time and devices for picking. Boxes. Packers and packing houses. Plan for nailing press. Fruit growers' organizations. 100 Id1

Lewis, C. I. The physical handling of fruit. Better Fruit, vol. 11, nos. 4, 5, 6, 1916, p. 5-10; 5-6; 10-12. Based on a study of the Pacific Northwest. Harvesting, grading and packing equipment. The three grades adopted in the Northwest. Packing houses. 80 B46

Lloyd, J. W. Marketing the muskmelon. Ill. Exp. Sta., Bul. 124, 1908, p. 295-322. Special consideration of Netted Gem type. The 1/3 bushel Climax basket. Time of picking. Packing shed. Grading. 100 I16S

Markell, Edw. L. The sorting, sizing, packing and storing of fruit. Peninsula Hort. Soc., Trans. 29th Meet., 1916, p. 41-47. A popular paper giving results of storage investigations conducted by the Department of Agriculture. 81 P37

More, C. T. The commercial grading, packing and shipping of cantaloupes. U. S. Dept. Agr., Farm. Bul. 707, 1916. 23 pp. A discussion of all phases of preparing cantaloupes for market. 1 Ag84F

_____	Commercial handling, grading, and marketing of potatoes. U. S. Dept. Agr., Farm. Bul. 753, 1916. 42 pp. Discussion of best methods for handling potatoes from the field to the market.	1 Ag84F
_____	Preparation of strawberries for market. U. S. Dept. Agr., Farm. Bul. 979, 1918. 27 pp. Complete suggestions for handling strawberries from the vine to the car.	1 Ag84F
Palmer, W. R.	Packing Indiana apples. Ind. Exp. Sta., Cir. 39, 1913. 28 pp. The box and barrel. Sizing and packing equipment. Problems in packing.	100 In2P
Quinn, Geo.	Apple packing. South Aus. Dept. Agr., Bul. 98, 1916. 15 pp. Wrapping and padding; the straight and diagonal packs.	23 So84B
Reid, R. T.	Growing and marketing of grapes. West. Wash. Exp. Sta., Mo. Bul., vol. 5, no. 12, 1918, p. 176-177. Repacking is to be avoided.	100 W272
Scott, W. M.	Preliminary report on apple packing houses in the Northwest. U. S. Dept. Agr., Mar. Doc. 4, 1917. 31 pp. Description of packing houses, packing and warehouses.	1 M347
Smith, E.	Cherry package test season of 1915. Canada Dept. Agr., Agr. Gaz., vol. 2, no. 11, Nov. 1915, p. 1050-1054. Description of various packages. Test shipments show that the Climax package is most desirable for sour cherries.	7 C16G
Standard apple packing chart.	Apple grading rules for 1919. Better Fruit, vol. 14, no. 3, 1919, p. 14-15. Illustrations showing placement of apples in standard apple box. Definitions for various grades as considered standard in the Northwest in 1919.	80 B46
Tanner, J. M.	Packing house equipment. Ill. Hort. Soc., Trans., new ser., vol. 50, 1916, p. 189-197. Paper with discussion. Building and machinery for packing houses. General, elementary.	81 I16

Truax, H. E.	U. S. grades for potatoes. U. S. Dept. Agr., Dept. Cir. 96, 1920. 4 pp. Grades recommended by U. S. Department of Agriculture.	1 Ag84D
Tufts, Warren P.	Notes concerning certain California fruit packages. Calif. St. Com. Hort., Mo. Bul., vol. 7, no. 8, 1918, p. 487-488. Historical.	2 C12M
_____	The packing of apples in California. Calif. Exp. Sta., Cir. 178, 1917. 31 pp. Handling apples for packing. Kinds of packs. Detailed instructions for packing a box.	100 C12S
Waid, C. W.	Grading potatoes in the United States. Ontario, Veg. Grow. Assoc., Rept. 1918, p. 36-44. Address delivered in Toronto on the grading system generally accepted by Michigan potato growers, with discussion. Methods.	75.9 On8
White, H. L.	Apple grading and packing. Mass. St. Bd. Agr., Cir. 50 (2nd ed. rev), 1916. 23 pp. The U. S. standard barrel law. The Sulzer Bill. The Massachusetts apple grading law - explanation of requirements and definitions.	2 M38Ci
Wolff, W. H.	The packing of apples in barrels and boxes. N. H. Coll., Ext. Bul. 7, 1916. 32 pp. Detailed treatment of all phases of barrel and box packing. Illustrations.	275.29 N45

See also Common storage; Handling; Transportation.

PITS OR TRENCH STORAGE

Appel, Otto.	Experiments in storing potatoes. Arbeit. Biol. Abtheil. Land-und-forst., vol. 2, no. 3, 1902, p. 373-376. Results of burying in the ground. (German)	410.9 G31
Bechtel, J. R.	How to store celery. Nat. Stockman and Farmer, vol. 43, no. 25, Sept. 20, 1919, p. 686-687. Time and method of placing celery in trenches.	6 N21
Delwiche, E. J.	The culture and storage of root crops. Wis. Exp. Sta., Cir. Inform. 16, 1910, p. 9-11. Harvesting. Constructing a pit.	100 W75
Gardner, J. J.	Harvesting and storing vegetables for home use. Colo. Exp. Sta., Bul. 232, 1917. 7 pp. Directions for storing various vegetables in pits.	100 C71S
Helweg, L.	Winter storage experiments with potatoes. 1913-17. Tidssk. Plant., Vol. 24, no. 3, 1917, p. 436-463. Results of experiments relating to the construction and ventilation of pits.	11 T439
Tompson, H. F.	Boston celery storage methods. Market Grow. Jour., vol. 21, no. 5, 1917, p. 95. Building and managing the pit.	6 M34

See also Common storage.

PRECOOLING.

Cooling peaches before shipping.	Orange Judd Farmer, vol. 37, no. 16, Oct. 1904, p. 359. An article on the work of G. Harold Powell in Georgia.	6 Or1
Cooper, Madison	The precooling of fruit. Cold, vol. 4, no. 10, Aug. 1913, p. 183-189. Description of car and warehouse precooling. Plans.	295.8 C671
Dennis, S. J.	The portable refrigerating plant of the U. S. Department of Agriculture. Amer. Soc. Refrig. Eng., Trans., vol. 4, no. 60, 1908, p. 236-243. Description of car used by the Department of Agriculture in precooling experiments.	295.9 Am32T
_____	The precooling of fruit in the United States. Internat. Cong. Refrig. Indus., 2nd, 1910, Eng. ed., p. 464-486. A paper read before the Second International Refrigeration Congress, Vienna, 1910.	295.9 In82
Faget, Arthur.	Precooling of fruit. Amer. Soc. Refrig. Eng., Trans., vol. 6, no. 84, 1910, p. 95-110. Description of two California precooling plants. Diagrams showing arrangement of valves, ducts and connections for precooling car.	295.9 Am32T
Gay, C. M.	San Bernardino precooling plant. Amer. Soc. Refrig. Eng., Jour., vol. 2, no. 2, 1915, p. 5-20. Paper read before the American Society of Refrigerating Engineers. Detailed description of plant built for Atchison, Topeka and Santa Fe Railroad. Apparatus for precooling takes care of about 150 cars a day. Diagrams and illustrations. (See Jour., vol. 2, no. 4, p. 40-47 for discussion of this paper).	295.9 Am32J
Hughes, J. L.	Fruits - their handling and storage. Amer. Soc. Refrig. Eng., Trans., vol. 9, no. 122, 1913, p. 203-215. Apples and peaches - picking time, methods of precooling.	295.9 Am32T

Killick, V. W.	Precooling California oranges to save millions of dollars annually. Sci. Amer., vol. 115, no. 18, Oct. 28, 1916, p. 387. A description of warehouse precooling in California.	470 Sci25
Pennington, M. E.	A simple ice precooling plant. Amer. Ware. Assoc., Proc. 25th Meet., 1915, p. 266-272. A simple ice precooling plant costing about $800.	297.9 Am32
The precooling of	perishable products. Pub. by Intermittent Vacuum Precooling Corporation. New York, 1913. 35 pp. Value of precooling. The intermittent vacuum process.	295 In8
The precooling plant of the Southern Pacific at Roseville, Cal.	Railway Age Gaz., vol. 48, no. 11, Mar. 1910, p. 725-727 Description of plant and methods of precooling. Diagrams.	288.8 R136
Ramsey, H. J.	The handling and precooling of Florida lettuce and celery. U. S. Dept. Agr., Bul. 601, 1917. 29 pp. Results of careful handling and precooling in shipping tests carried on in 1913-14 and 1914-15; results of storage experiments. Cost of precooling less than that of icing cars during trip. Precooled celery has been successfully stored for 4 weeks.	1 Ag84B
_____	Precooling and handling investigations with oranges and lettuce, Florida season 1913-14. Fla. Hort. Soc., Proc. 27th Meet., 1914, p. 199-210. Address covering careful handling, packing, precooling and shipping tests.	81 F66
Redfearn, B. W.	Methods of precooling perishable goods at loading stations. Railway Age Gaz., vol. 55, no. 13, Sept. 1913, p. 568. Paper presented at the third International Congress of Refrigeration. The "Gay System and Intermittent Vacuum Pre-cooling."	288.8 R136

Ruddick, J. A.	The Grimsby precooling and experimental fruit storage warehouse. Canada Dept. Agr., Dairy and Cold Stor. Com., Cir. 13, 1915. 8 pp. Methods of handling, fruit rates, and rules of the Grimsby warehouse.	44.9 C16B
Smith, Edwin.	Cherry precooling possibilities. Canada Dept. Agr., Dairy and Cold Stor. Com., Cir. 15, 1915. 3 pp. Results of precooling sour cherries and shipping them by freight.	44.9 C16B
————	The Grimsby precooling and experimental fruit storage warehouse. Canada Dept. Agr., Dairy and Cold Stor. Com., Bul. 47, 1916. 16 pp. Description of Grimsby methods and rates.	44.9 C16B
————	Maturity of fruits for precooled shipments. Canada Dept. Agr., Agr. Gaz., vol. 3, no. 1, 1916, p. 18-20. Based on Department of Agriculture tests. Proper maturity for picking fruits to be precooled.	7 C16G
————	Peach precooling. Canada Dept. Agr., Agr. Gaz., vol. 3, no. 2, Feb. 1916, p. 121-123. Brine tank cars.	7 C16G
Steel, Rufus.	Advantage of precooling fruit for shipping. Better Fruit, vol. 5, no. 2, 1910, p. 65-68. Description of the intermittent vacuum system.	80 B46
Stubenrauch, A.V.	Bartlett pear precooling and storage investigations in the Rogue River Valley. U. S. Dept. Agr., Bur. Plant Indus., Cir. 114, 1913, p. 19-24. Results of investigations made in 1912.	1 P69C
————	Fruit precooling problems. Amer. Soc. Refrig. Eng., Trans., vol. 7, no. 96, 1911, p. 162-179. Paper read before the American Society of Refrigerating Engineers. Suggested construction of cars for precooling; placement of thermometers. Limitations - cooling must be quick and equal. Diagrams and table.	295.9 Am32T
————	The handling and precooling of fruits for transportation. Portland, Ore., 1912. 27 pp. Prevention of decay. Precooling in warehouses and cars.	93 St93

_____ The precooling of fruit. U. S. Dept. Agr., Yearbook 1910, p. 437-448. 1 Ag84Y
The progress and results of investigations made by the Bureau of Plant Industry. The status of the process as used commercially in 1910.

The Winter Park fruit precooling plant. Ice, vol. 17, no. 4, Nov. 1915, p. 19-20. 295.8 Ic23
Description of a plant for precooling citrus fruits at Winter Park, Fla. Illustrations.

See also Cold storage; Handling; Transportation.

PREVENTION OF FREEZING IN TRANSIT.

Bonnar, J. D. Why ice in refrigerators prevents freezing. Sci. Amer., vol. 112, no. 11, March 13, 1915, p. 249. 470 Sci25
The vapor contained in the air of the car is congealed and latent heat is thereby given up which warms the car.

McKay, A. W. Preventing frost damage in transit. Calif. Citrograph, vol. 2, no. 6, Apr. 1917, p. 4-5, 17. 80 C125
The results of experiments made by the U. S. Department of Agriculture.

McPike, Eugene F. Heating cars containing perishable freight. Railway Age Gaz., vol. 51, no. 2, Aug. 1911, p. 323-324. 288.8 R136
Methods used and their effectiveness.

_____ Heating cars for perishable freight. Railway and Eng. Rev., vol. 51, July 8, 1911, p. 607-608.
Deals largely with the charcoal heater.

New heater for refrigerator cars. Ice and Refrig., vol. 38, No. 4, April 1910, p. 293. 295.8 Ic2
Charcoal heater used by Illinois Central Railroad.

Protection of potatoes from cold in transit - Lining and loading cars. U. S. Dept. Agr., Farm. Bul. 1091, 1920. 27 pp. (Revision of Mar. Doc. 17). 1 Ag84F
Explanations and illustrations of methods used in loading the principal types of cars. Results of tests and inspections made by the U. S. Department of Agriculture.

Williams, H. E. Protection of food products from injurious temperatures. U. S. Dept. Agr., Farm. Bul. 125, 1901. 26 pp. 1 Ag84F
A Weather Bureau review on the relations between temperature and transportation, and temperature and storage of food products. Notes on freight cars and storage temperatures.

See also Transportation.

REFERENCES WITH RELATED INTEREST.

Adams, A. B. — Marketing perishable farm products. Columbia Univ., Stud. in Hist. Econ. and Pub. Law, vol. 72, no. 3, 1916, p. 7-180. 280.3 Ad1
Character and significance of the marketing problem. Present system of marketing perishables. Reform of processes and reduction of costs.

Andrews, Frank. — The reduction of waste in marketing. U. S. Dept. Agr., Yearbook 1911, p. 165-176. 1 Ag84Y
Carlot movements - despatch, service and diversions.

Ashby, T. J. — Preservatives in fruit shipping. Queensland Agr. Jour., vol. 13, no. 1, 1903, p. 31. 23 Q33
The use of formaldehyde to prevent decay in cars of citrus fruit.

Baxter, C. W. — Marketing Georgia peaches. Canada Dept. Agr., Fruit Div., Cir. 1, 1915. 7 pp. 82 C16C
Descriptive rather than constructive. The Georgia Fruit Exchange.

Best, Elsdon. — Maori storehouses and kindred structures. New Zealand Dom. Museum, Bul. 5, 1916. 103 pp. 296 B46
Description of the storage places used for food supplies by the Maori people of New Zealand. Historical rather than constructive.

Bowen, John T. — The application of refrigeration to the handling of milk. U. S. Dept. Agr., Bul. 98, 1914. 88 pp. 1 Ag84B
Good description of different methods of refrigeration with useful data on ice and salt mixtures.

California fruits. Garden and Forest, vol. 8, no. 409, Dec. 1895, p. 512. 80 G161
The amount of fruit shipped in 1895; destination, freight rates, and icing charges.

Collins, J. H. — Methods of wholesale distribution of fruits and vegetables on large markets. U. S. Dept. Agr., Bul. 267, 1915. 28 pp. 1 Ag84B
Methods of receiving, terminal distribution and sales.

Deniaffe, - — Experiments on the conservation of potatoes and their loss of weight. Jardin, vol. 21, no. 481, 1907, p. 76-79. 80 J28
Loss about one per cent per month; early table varieties lose most. (French)

Dixon, Geo. D. The movement of perishable traffic and the cost of handling same. Pa. Railroad Sys., Inform. for Employees and the Pub., 1917. 8 pp.
An address before the national league of commission merchants. Freight rates negligible in food prices.

Dodson, W.D.B. Transportation of fruit through the Columbia gateway. Better Fruit, vol. 8, no. 11, May 1914, p. 11-12. 80 B46
The Columbia gateway offers the cheapest route. Possibilities of Panama Canal Shipments.

Dutt, H. L. A new insect pest of stored potatoes. Bihar and Orrissa, Agr. Jour., vol. 1, no. 2, 1913, p. 139-141. 22 In23
A Hemipteran of the family Tingidoe punctures and sucks the sap of potatoes in warehouses.

Fisher, J.W.Jr., Outlets and methods of sale for shippers of fruits and vegetables. U. S. Dept. Agr., Bul. 266, 1915. 28 pp. 1 Ag84B
Available outlets for the producer in marketing fruits and vegetables. Getting in touch with these outlets.

Fuller, Claude. Cold storage as a factor in the spread of insect pests. Natal. Agr. Jour. and Min. Rec., vol. 9, no. 7, 1906, p. 656. 24 N192
Fruit fly maggots remained alive in a torpid condition for 124 days.

Gore, H. C. The cold storage of apple cider. U. S. Dept. Agr., Bur. Chem., Cir. 48, 1910. 13 pp. 1 C42C
Report of investigations made by Bureau of Chemistry.

_____ Studies on fruit juices. U. S. Dept. Agr., Bul. 241, 1915. 19 pp. 1 Ag84B
Methods of preparation for the commercial manufacture of fruit juices.

Grempe, P. M. Utilization of breweries for dehydration. Zeits. Gesam. Brau., vol. 41, nos. 24, 25, 1918, p. 169-171; 175-177. 390.8 Z13
Utilizing the equipment of breweries for drying fruits and vegetables. (German)

Heineman, P. G. Cold storage problems. Popular Sci. Mo., no. 2, Aug. 1912, p. 153-162. 470 P81
Scientific relation of general cold storage practice to the preservation of foods in cold

Hepburn, Joseph — The handling, transportation, and storage of perishable foodstuffs. Jour. Franklin Inst., vol. 172, no. 2, Aug. 1911, p. 172-173. Handling poultry and dairy products. — 470 J82

Horne, F. A. — Uniform and effective cold storage laws. Refrig. World, vol. 49, no. 5, May 1915, p. 35-38. Paper read before the National Food Trades Conference in New York in April, 1915. — 295.8 C67

How refrigerator insulation is made. Sci. Amer., vol. 115, no. 26, Dec. 1916, p. 567. The process of making cork board. — 470 Sci25

Ice and refrigeration blue book. Chicago, 1909. 400 pp. (Sup. to Ice and Refrig.) Tabulation of cold storages and all establishments using mechanical refrigeration in the United States and Canada. — 295 Ic2

Jackson, H. V. — Refrigeration on the homestead. New South Wales Dept. Agr., Farm. Bul. 11 (2d. ed.), 1909. 16 pp. A discussion of small scale refrigeration. The cold storage of fruits and vegetables. — 23 N47F

Jefferson, L. P. — The community market. Mass. Agr. Coll., Ext. Bul. 21, 1918, 22 pp. Benefits to producer and consumer. Limitations. Establishment. Legislative regulations in Massachusetts. Suggested forms for records. — 275.29 M381E

Johnson, Emory R. — Principles of ocean transportation. New York, 1918. 513 pp. The ocean transportation system and service. Organization of ocean carriers. Government aid and regulation. — 289 J632

Kehoe, R. P. — Ice manufacture combined with cold storage. Refrig. World, vol. 49, no. 6, June, 1915, p. 25-26. Ice manufacture more profitable when combined with cold storage. Table. — 295.8 C67

Kent, F. — Cold storage, its advantages and disadvantages. Ice and Refrig., vol. 48, no. 3, March, 1915, p. 135. Paper read before Southern Ice Exchange meeting, Feb. 1915. True information regarding cold storages should be disseminated. — 295.8 Ic2

McDermott, F. A. Utilization of cull citrus fruits. Sci. Amer. sup., vol. 81, no. 2109, June 3, 1916, p. 367-368 Cull fruits sometimes equal 10 per cent. Discussion of problems. Utilization by preserving juice from culls and removing flavoring oil. 470 Sci25C

McElheny, V. K. Jr. The economic value of the auction as a distributor of perishable commodities. Pan Amer. Sci. Cong., Proc. 1915-16, Sect. III, p. 740-748. History of the "auction"; its services and results; increasingly necessary in distribution. 330 P192

McPike, E. F. On the railroad refrigerator service association, its origin and its aims. Paris, 1908. 7 pp. Organized Feb. 5, 1908 to develop a standard code of rules for operating refrigerator, ventilator and heater cars.

Moomaw, C. W. Apple market investigations, 1914-15. U. S. Dept. Agr., Bul. 302, 1915. 35 pp. Report of investigations made by the Office of Markets on commercial apple crop conditions and cold storage movement. 1 Ag84B

Neff, Peter. Cost of refrigeration. Amer. Asso. Refrig., Proc. 1915, p. 85-90. A basis for cold storage rates is seriously needed. Suggested method to start criticism and ascertain facts. Charts and tables. 295.9 Am3

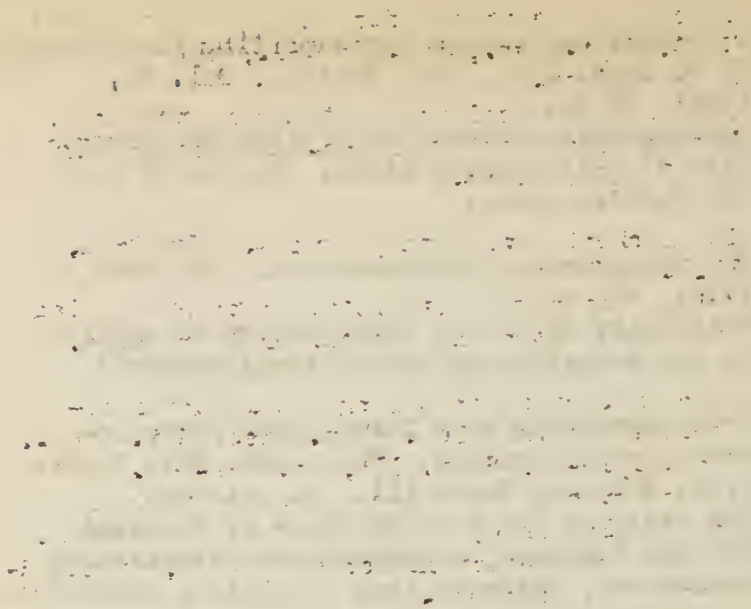
Pennington, M. E. Studies of poultry from the farm to the consumer U. S. Dept. Agr., Bur. Chem., Cir. 64, 1910. 42 pp. A review of scientific work on the application of refrigeration to the handling of poultry and eggs. 1 C42C

Powell, G. Harold. The California lemon industry. Calif. Citrus Protect. League, Bul. 9, 1913. 59 pp. Extent. Distribution. The California Fruit Growers Exchange. The Citrus Protective League. Cost of production and handling. 81 C49

_____ Cooperation in the handling and marketing of fruit. U. S. Dept. Agr., Yearbook 1910, p. 391-406. Principles, types, organization, causes of failure. 1 Ag84Y

_____	The cost of distributing the California citrus fruit crop from the producer to the consumer. West. Fruit Jobber, vol. 1, no. 12, Apr. 1915, p. 23-31. Variations in distributing costs, transportation conditions and retail cost.	286.83 W52M
_____	Italian lemons and their by-products. U. S. Dept. Agr., Bur. Plant Indus., Bul. 160, 1909. 57 pp. The Italian lemon industry - extent, exports to United States. Handling the lemon garden and crop. By-products, preparation of the fruit, manufacture.	1 P69B
Rowley, H. C.	What about fruit below established standard? Calif. St. Com. Hort., Mo. Bul., vol. 6, no. 5, 1917, p. 193-198. Some suggestions for making use of fruit which is of medium quality. Sell it to consumers who understand just what they are buying in order to assist in keeping down high prices.	2 C12M
Schleussner, O.W.	Marketing and distribution of strawberries in 1915. U. S. Dept. Agr., Bul. 477, 1917. 32 pp. The beginning of the market news service; surveys of principal shipping areas.	1 Ag84B
_____	Marketing and distribution of western muskmelons in 1915. U. S. Dept. Agr., Bul. 401, 1916. 38 pp. History of the muskmelon industry, marketing arrangements and distribution in California, Arizona, Nevada and Colorado.	1 Ag84B
Sherman, W. A.	Retail shipments and distribution of fresh tomatoes, 1914. U. S. Dept. Agr., Bul. 290, 1915. 12 pp. Figures showing shipments and distribution. Map. Charts.	1 Ag84B
Sinclair, Angus.	Development of transportation in the United States. U. S. Dept. Agr., Yearbook 1899, p. 643-663. Historic account of the beginning and development of railways.	1 Ag84Y
Transportable refrigerating machine used by General Villa's army.	Ice and Refrig., vol. 47, no. 4, Oct. 1914, p. 123. Description. Especially valuable for hospitals and ambulances.	295.8 Ic2

Ward, Edward, G.,Jr.	Methods and routes for exporting farm products. U. S. Dept. Agr., Bur. Statis., Bul. 29, 1904. 62 pp. Billing instructions and freight contracts. List of fast freight lines. Routes to Gulf and Pacific ports.	1 St2B
Weld, L. D. H.	The marketing of farm products. New York, 1917. 483 pp. Principles of market distribution as applied to the marketing of agricultural products.	280.3 W45M
Wescott, N. P.	Truck marketing on a large scale under co-operative principles. Pan. Amer. Sci. Cong., Proc. 1915-16, Sect. III, p. 341-349. The story of the Eastern Shore of Virginia Produce Exchange, a cooperative association. Management, determination of prices, standardization, government.	330 P192



REFRIGERATOR CARS.

The "A.B.C." system of transit refrigeration. Railway Rev., vol. 60, no. 9, Mar. 3, 1917, p. 305-306.
The loading space of a car may be more fully utilized by the use of the A.B.C., that is, the automatic brine circulation system of refrigeration.

Armour, J. Ogden. The packers, the private car lines and the people. Philadelphia, 1906. 380 pp. 50 Ar5
The first use of refrigerator cars. The organization of private car lines and the functions they have performed.

The California fruit-supply in New York. Garden and Forest, vol. 6, no. 295, Oct. 1893, p. 432-433. 80 G161
Historical. The experiment of bringing California fruit to New York was first tried in 1868. Description of fruits, refrigeration in transit, carloads, cost of freight ($400) and refrigeration ($200), time in transit, and early auction companies.

Central of New Jersey Ice Car. Railway Age Gaz., vol. 52, no. 23, June 7, 1912, p. 1239-1241. 288.8 R136
Description and illustrations.

Collins, L. W. Ventilation in transit. (Unpublished). U. S. Dept. Agr., Bur. Mar. and Crop Est., files.
Description of modern systems of refrigerator car ventilation with results of tests in transit.

Dennis, S. J. Temperatures of fruits and vegetables in transit in refrigerator cars. Amer. Soc. Refrig. Eng., Jour., vol. 2, no. 3, 1915, p. 16-22. 295.9 Am32J
Under present systems of refrigeration, temperatures in different parts of the same load may vary 30 degrees. Need of further insulation and more adequate ventilation.

Elevator used for icing refrigerator cars. Popular Mechan., vol. 24, no. 1, July 1915, p. 112. 291.8 P81
Description of a portable elevator truck for conveying ice to car bunkers.

Express refrigerator cars for the Chicago, Milwaukee and Puget Sound Railway. Railway and Eng. Rev., vol. 51, no. 24, June 17, 1911, p. 531.
Design. Ice bunker illustrated.

Icing cars on the Illinois Central. Railway and Eng. Rev., vol. 41, no. 36, Sept. 7, 1901, p. 588.
Methods described and illustrated.

Icing stations on the Burlington. Railway Age Gaz., vol. 47, no. 14, Oct. 1, 1909, p. 580. 288.8 R136
Methods of operation.

Important features in refrigerator car design. Railway Age Gaz., vol. 56, no. 5, Jan. 30, 1914, p. 215-221. 288.8 R136
Discussion of various devices, with illustrations.

Improved devices for refrigerator cars. Railway and Eng. Rev., vol. 42, no. 17, Apr. 26, 1902, p. 342.
Description of the Jennings collapsible ice tank made to fold in the end of the car.

Leeds, J. S. Organization for handling refrigeration transportation. Railway Age Gaz., vol. 55, no. 13, Sept. 26, 1913, p. 569-571. 288.8 R136
A paper read before the Congress of Refrigeration.

Linofelt flax fiber insulation for refrigerator cars. Railway Age Gaz., vol. 50, no. 8, Mar. 3, 1911, p. 374. 288.8 R136
Processes described.

Marchis, L. Production of low temperatures and refrigeration. Translation in Smithsonian Inst., Rept. 1909, p. 207-224. 500 Sm6Rf
Ammonia absorption as a means of refrigeration in transit as tested in Russia was much more expensive than ice refrigeration.

Needed improvements in the transportation of perishable fruits. A refrigeration problem. Eng. News, vol. 55, no. 1, Jan. 4, 1906, p. 20-21. 290.8 En34
Based on a paper read by G. Harold Powell before the American Society of Refrigerating Engineers. The fundamental problems in stabilizing The American fruit industry as seen in 1906.

Pennington, M. E. The refrigeration of dressed poultry in transit. U. S. Dept. Agr., Bul. 17, 1913. 35 pp. Relation of refrigerator car temperatures to carriage of dressed poultry. Refrigerator car construction. 1 Ag84B

Pennsylvania railroad refrigerator cars. Railway Age Gaz., vol. 62, no. 5, Feb. 2, 1917, p. 179-180. Description. Designed especially for milk and cream. 288.8 R136

Powell, G.Harold The transportation of fruit in refrigeration. Calif. Fruit Grower, vol. 33, nos. 919, 920, Jan. 1906, p. 1, 3, 5. A paper presented before the American Society of Refrigerating Engineers discussing conditions of refrigerator cars. 80 C12

Railways ice company car icing plant. Ice and Refrig., vol. 49, no. 2, Aug. 1915, p. 72-75. Description of a car icing plant at Argentine, Kans. What can be accomplished by adding an exhaust steam absorption refrigerating machine. 295.8 Ic2

Refrigeration in railway cars. Railway Age, vol. 35, no. 9, Feb. 27, 1903, p. 294. Amonia refrigeration as used by the Danish State Railway.

Refrigeration by railways. Railway Age Gaz., vol. 50, no. 20, May 19, 1911, p. 1159. Methods described. 288.8 R136

Refrigerator car. Ice and Refrig., vol. 53, no. 5, Nov. 1917, p. 204. Specifications of a patent for a refrigerator car. 295.8 Ic2

Refrigerator cars. Railway Age Gaz., vol. 50, no. 24e, June 21, 1911, p. 1607-1608. Report of committee of the Master Car Builders' Association. Various types mentioned. Discussion. 288.8 R136

Refrigerator cars for the Baltimore and Ohio. Railway Age Gaz., vol. 63, no. 22, Nov. 30, 1917, p. 981-984. Special features described. Insulation. Plans. 288.8 R136

Refrigerator cars for the Michigan Central. Railway Age, vol. 64, no. 11, Mar. 15, 1918, p. 561 - 564. Design and insulation.

Refrigerator cars for the Pacific Fruit Express Co. Railway Rev., vol. 60, no. 21, May 26, 1917, p. 721-723.
Dimensions. The underframe, floor racks and ice bunkers. Arrangement of insulation.

Refrigerator cars for the Santa Fe. Railway Age Gaz., vol. 60, no. 7, Feb. 18, 1916, p. 294-297. 288.8 R136
Special features are the ventilators, drain attachments, and application of the insulation.

Rutledge, R. M. Status of the American Fruit trade. Better Fruit, vol. 9, no. 1, July 1914, p. 9. 80 B46
Historical influence of the refrigerator car. Bananas were first imported into the United States in 1804.

The "siphon" system of refrigeration. Railway Age, vol. 33, no. 2, Jan. 10, 1902, p. 52-53.
A detailed description of the Bohn "siphon" system. Diagrams.

Smith, Edwin Insulation test. (Unpublished). U. S. Dept. Agr., Bur. Mar. and Crop Est., files.
Tests made in the Northwest, 1917-18.

_____ The use of brine tank refrigerator cars for fruit shipment. Canada Dept. Agr., Dairy and Cold Stor. Com., Bul. 50, 1917. 15 pp. 44.9 C16B
Temperature records, with discussions of methods of loading and operating.

The Tiffany refrigerator car. Railroad Gaz., vol. 9, July 13, 1877, p. 311.
Description and illustration.

Transportation of fresh meats and fruits, etc. through long distances. Sci. Amer., vol. 23, no. 20, Nov. 12, 1870, p. 312. 470 Sci25
A description of the Davis refrigerator car. Historial value.

Union Fibre Co., Insulation of railway equipment. Winona, Minn., 1912. 110 pp.
A short story of the evolution of the refrigerator car in the United States.

The use of brine tank refrigerator cars for fruit shipment. Canada Dept. Agr., Agr. Gaz., vol. 4, no. 2, Feb. 1917, p. 110-114. 7 C16G
Proper method of use to insure satisfactory results.

Wells, L. D. H. Private freight cars and American railways. Columbia Univ., Stud. in Hist. Econ. and Law, vol. 31, no. 1, 1908. 185 pp. 289 W45

A complete history of early attempts at refrigeration for transportation, the development of the refrigerator car, and the private car companies. Costs of refrigerator cars, average mileage per year, and earnings.

See also Transportation.

RIPENING AND RESPIRATION

FRUITS

Bigelow, W. D.	Studies on apples. U. S. Dept. Agr., Bur. Chem., Bul. 94, 1905. 100 pp. Chemical analysis of apples during ripening and storage, showing changes in sugar, acid, starch, and pectose contents. Charts and plates.	1 C42B
————	Studies on peaches. U. S. Dept. Agr., Bur. Chem., Bul. 97, 1905. 32 pp. Changes in chemical composition during growth and ripening. Effect of storage on the composition of peaches. Tables.	1 C42B
Bioletti, F. T.	Changes in chemical composition of grapes during ripening. Univ. Calif., Pubs. Agr. Sci., vol. 3, no. 6, 1918, p. 103-130. Chemical analysis and factors affecting rapid ripening. Tables and charts. Bibliography.	500 C125Ag
Cardiff, I. D.	Twenty-sixth annual report of the Agricultural Experiment Station at the State College of Washington, 1916. Wash. Exp. Sta., Bul. 136, 1917, p. 42-44. Experiments on the relation of soil moisture to the keeping quality of Jonathan apples.	100 W27E
Cruess, W. V.	Preliminary observations on the ripening of Bartlett pears. Calif. St. Com. Hort., Mo. Bul., vol. 5, no. 12, 1916, p. 425-429. Data on tests made to ascertain whether a chemical test could be applied to determine the proper ripeness of Bartlett pears for shipment.	2 C12M
Gore, H. C.	Studies on fruit respiration. U. S. Dept. Agr., Bur. Chem., Bul. 142, 1911. 40 pp. Results of experiments concerning the effect of temperature on the respiration of fruits; the effect of picking on the rate of evolution of carbon dioxide by peaches; and the rate of accumulation of heat in the respiration of fruits.	1 C42B
Hill, G. R., Jr.	The relation of ventilation to the respiration of fruits. Abstract in Sci., new ser., vol. 37, no. 949, Mar. 7, 1913, p. 378. A study of various fruits when subjected to gases; probable relationship between scald and respiration.	470 Sci2

_____	Respiration of fruits and growing plant tissues in certain gases, with reference to ventilation and fruit storage. N. Y. (Cornell) Exp. Sta., Bul. 330, 1913, p. 377-408. A review of literature on the subject. The results of experiments with the respiration of various fruits under aerobic and anaerobic conditions.	100 N48C
Langworthy, C. F.	Some results obtained in studying ripening bananas with the respiration calorimeter. U. S. Dept. Agr., Yearbook 1912, p. 293-308. A study of the changes which take place in ripening and after ripening in order to determine the principles underlying the successful handling of fruits.	1 Ag84Y
Morse, Fred W.	The respiration of apples and its relation to their keeping. N. H. Exp. Sta., Bul. 135, 1908, p. 85-92. Description of apparatus used. The rate of chemical change and ripening in cold storage, as compared with cellar storage and summer temperatures.	100 N45
Neidig, R. E.	Factors involved in the ripening of fruits. Idaho Exp. Sta., Bul. 104, 1918, p. 22-25. Carbohydrate changes taking place in ripening apples. A summary of the work done by the department of chemistry at the Idaho Experiment Station during 1917.	100 Id1
Otto, R.	The changes in the chemical composition of apples by storing. Gartenflora, vol. 50, 1901 p. 318-321. Discussion of changes in starch, sugar and acid content of apples in cellar storage. (German)	80 G19
The physiology of	ripening. Jour. Hort. and Agr., vol. 20, no. 4, Oct. 1916, p. 87-88. Ripening fruits take in oxygen and give out carbon dioxide.	7 J82J
Prescott, Albert	The chemistry of fruit ripening. Pop. Sci. Mo. vol. 12, Feb. 1878, p. 460, 473. Description of changes in fruits. "The sweetness of fruit has but slight correspondence with its proportion of sugar."	470 P81

Shamel, A. D. Some observations upon the relation of humidity to the ripening and storage of fruits. Calif. St. Com. Hort., Mo. Bul., vol. 6, no. 2, 1917, p. 39-41. 2 C12M
Results of experiments on lemons and pears conducted in a lemon packing house at Corona, Calif.

Snyder, W. P. Chemical and physical changes in apples during the ripening and storage period. Ind. Hort. Soc., Trans. 1916, p. 408-411. 81 In2
Transformation of starch into sucrose.

Thatcher, R. W. Enzymes of apples and their relation to the ripening process. U. S. Dept. Agr., Jour. Agr. Research vol. 5, no. 3, 1915, p. 103-116. 1 Ag84J
Investigations made to discover the possibility of slowing up the ripening of fruits by means other than cold storage. Different gases were used.

VEGETABLES

Appleman, C. O. Changes in potatoes during storage. Md. Exp. Sta., Bul. 167, 1912, p. 327-334. 100 M36S
The relation of temperature to starch and sugar transformations; studies on respiration, loss of weight and freezing.

Bitting, K. G. Deterioration in asparagus. Nat. Canners Asso., Bul. 11, 1917. 18 pp. 286.83 N21
Changes taking place in cut asparagus. Relates especially to preparation for canning

Hasselbring, Heinrich. Effect of different oxygen pressures on carbohydrate metabolism of sweet potatoes. U. S. Dept. Agr., Jour. Agr. Research, vol. 14, no. 7, 1918, p. 273-284. 1 Ag84J
Oxygen is not necessary for the formation of cane sugar in sweet potatoes. Apparently cane sugar is stable in relation to the respiratory processes of sweet potatoes.

_____ Physiological changes in sweet potatoes during storage. U. S. Dept. Agr., Jour. Agr. Research, vol. 3, no. 4, 1905, p. 331-342. 1 Ag84J
Experimental methods. Changes in moisture and starch contents. Bibliography.

Hasselbring, Heinrich.	Respiration experiments with sweet potatoes. U. S. Dept. Agr., Jour. Agr. Research, vol. 5, no. 12, 1915, p. 509-517. A description of experiments made to determine whether or not there is a correlation between the sugar content and respiratory activity of sweet potatoes.	1 Ag84J
Hill, G. R. Jr.	The relation of ventilation to the keeping qualities of fruits and vegetables. Wash. Univ. (St. Louis), Studies, vol. 1, pt. 1, 1913, p. 46-64. Data on lettuce storage and ventilation.	500 Sa22
Shiver, F. S.	Sweet potato. S. C. Exp. Sta., Bul. 63, 1901, p. 6-37. The effect of storing upon composition with analysis for water content, sugar and starch at different times during the season. Methods of storage.	100 So8

STANDARDIZATION.

Ashley, G. W.	Evolution of standardization. Benefits of standardization to the grower. The opinion of railroad companies on standardization. Calif. St. Com. Hort., Mo. Bul., vol. 7, nos. 1, 2, 1918, p. 38-40, 42-46. These papers read before the California State Fruit Growers' Convention in 1917.	2 C12M
Chace, E. M.	Standards of maturity for the Washington navel orange. Calif. St. Com. Hort., Mo. Bul., vol. 6, no. 8, 1917, p. 325-30. A discussion of the relative merits of different standards for judging maturity. The sliding scale as a substitute for the 8 to 1 test.	2 C12M
Cook, S. J.	Standardization of vegetables. Pan Amer. Sci. Cong., Proc. 1915-16, Sect. III., vol. 3, p. 475-479. Fundamental principles and essential factors in standardization.	330 P192
Jaffa, M. E.	Standards for sulphurous acid content of dried fruits. Calif. Dept. Agr., Mo. Bul., vol. 9, no. 3, 1920, p. 113-116. Discussion of sulphuring from commercial and nutritional points of view.	2 C12M
The standardization of fresh fruit packing law.	Calif. St. Com. Hort., Mo. Bul., vol. 5, no. 11, 1916, p. 414-416. (Also in Laws of Calif., 1915, Chap. 659). The test of the law.	2 C12M
Tate, A. W.	Apple standardization. Calif. St. Com. Hort., Mo. Bul., vol. 6, no. 8, 1917, p. 332-334. An explanation of the Standard Apple Act of 1917.	2 C12M

TECHNOLOGY

Biquard, R.	The efficiency of various methods of insulating refrigerated rooms. Internat. Cong. Refrig., 2nd, 1910, Eng. ed., p. 206-218. Experiments on thermal conductivity.	295.9 In82
Corbett, L. C.	Cold storage. W. Va. Exp. Sta., Bul. 74, 1901, p. 51-80. A plan for building a cold storage with discussion of possible returns. The cold storage of apples and chestnuts.	100 W52
Cosgrove, J. J.	Sanitary refrigeration and ice making. Pittsburg, 1914. 6 pp. General principles of refrigeration, data on compression and absorption systems; types of machinery; auxiliary apparatus. "A general outline of the theory and practice of mechanical refrigeration without giving explanation of technical problems."	295 C82
Galpin, H. T.	Cold storage. Soc. Chem. Ind., Jour., vol. 22, no. 6, Mar. 1903, p. 346-348. A technical account of the use of different brines for producing cold.	382 M31
Hastings, M. M.	A cold-storage evaporimeter. U. S. Dept. Agr., Bur. Animal Indus., Cir. 149, 1909. 8 pp. A practical apparatus for determining the humidity in storage houses.	1 An5C
Insulation for cold stores.	Refrig. World, vol. 48, no. 2, Aug. 1914, p. 72. As used in the National Ice and Cold Storage Co. of Columbus, Ohio.	295.8 C67
Neff, Peter.	Practical use of thermometers in refrigerating plants. Power, vol. 42, no. 12, 1915, p. 417-418. Thermometers are not so generally used as is desirable.	290.8 P87
Reynolds, J. B.	Cold storage experiments. Ontario Agr. Coll. and Exp. Farm, Rept. 1900, p. 3-7. Observations on the consumption of ice in an ice refrigerator and in an ice cold storage. Diagrams.	101 On8

Siebel, J. E.	Compend of mechanical refrigeration. Chicago, 1911, (8th ed.). 596 pp. A comprehensive digest of general engineering and thermodynamics with many tables, formulae and notes for the use of those dealing with refrigeration.	295 Sil Ed.8

TRANSPORTATION

American apple exports. Garden and Forest, vol. 7, no. 324, May, 1894, p. 182-183. 80 C161
The demands of the export apple business; varieties; English supplies; preparation and shipment. Historical.

Bird, H. S. Loading American Grapes. U. S. Dept. Agr., Mar. Doc. 14, 1918. 28 pp. 1 M347
Illustrations and instructions for loading grapes according to types of packages. Crushing causes great losses.

Burlington conserves foodstuffs and prevents claims. Railway Age Gaz., vol. 63, no. 26, Dec. 1917, p. 1186-1187. 288.8 R136
Inspection at points of origin.

A cool truck. Pastoral Rev., vol. 27, no. 10, Oct. 16, 1917, p. 998. 23 Au75
Description of a car for fast fruit traffic constructed in Junin, Argentina.

Craig, John Shipment of perishable fruits to England. Canada Exp. Farms, Rept. 1895, p. 75. 101 Ex6R
Notes on a shipment of perishable fruit to England which was unsuccessful because of insufficient icing.

Culp, J. M. Perishable goods. Berne, 1910. 84 pp. (Reprint from Internat. Railway Cong., Ques. 16) 295 C89P
A long and interesting article on suitable measures for developing the traffic in perishables, together with a history and a review of present methods.

Gas process unsuccessful. Calif. Fruit Grower, vol. 19, no. 9, Aug. 1896, p. 165. 80 C12
Carbonic acid gas process of fruit shipment unsuccessful. In two carlot shipments the fruit was unsalable.

Hawbaker, C. C. Marketing berries and cherries by parcel post. U. S. Dept. Agr., Bul. 688, 1918. 17 pp. 1 Ag84B
Containers, Regulations of Post Office department.

How Wells Fargo handles fruit in California. Wells-Fargo Messenger, vol. 1, no. 12, Aug. 1913, p. 191-193. 286.8 W46
Loading and transferring. Illustrations.

Leeds, J. S. Refrigeration of citrus fruits in transit from California. Internat. Cong. Refrig. Indus., 1st, vol. 3, 1908, p. 602-612. 295.9 In82
Handling the refrigerator car service in shipping from California.

Macoun, W. T. Shipment of apples to Glasgow in cold storage. Canada Exp. Farms, Rept. 1903, p. 93-94. 101 Ex6R
One hundred bushel boxes of autumn apples shipped at a good profit.

McPike, Eugene F. Transportation of perishable commodities - need of co-operation of shippers with carriers. Ill. Cen. Mag., vol. 4, Jan. 1916, p. 58-61.
Careful packing, loading and billing on the part of the shipper expedites the handling of perishable products.

Meeker, Claude American fruit in England. U. S. Consular Rept., vol. 46, no. 170, Nov. 1894, p. 399-402. 157.7 C76
Remarks on overripe condition of fruits upon arrival in England; prices. Harvesting before complete maturity and cold storage suggested as remedies. Historical value.

Munger, H. E. Marketing Colorado cabbage. Colo. Agr. Coll., Ext. Bul., ser. 1, no. 163-A, 1919, p. 10-31. 100 C71S
Explanation of "market terms". Loading, proper storage facilities, suggestions for distribution, grading. The marketing problems of 1918.

The potato with best methods of loading. N. Y. Central Lines, Agr. Dept. 14 pp. (Reprint of part of Amer. Asso. of Refrig., Com. Ry. and SS Refrig., Bul. 3.) 75 N
Extracts from railroad rules concerning perishable fruits. Illustrations and explanations of some storage diseases of potatoes; formulae for disinfection. Proper methods of loading illustrated. Prevention of freezing in transit.

Powell, G. Harold. Problems surrounding the shipping of fruit. Better Fruit, vol. 5, no. 3, Sept. 1910, p. 25-31, 74-77. 80 B46
A rather complete discussion of the transportation of fruit - diseases, packing, storage.

Railroad ice houses. Eng. Record, vol. 70, no. 19, Nov. 7, 1914, p. 512-513. 290.8 En36
Notes from a committee report presented at a convention of the American Railway Bridge and Building Association.

Ramsey, H. J.	Heavy loading of freight cars in the transportation of Northwestern apples. U. S. Dept. Agr., Mar. Doc. 13, 1918. 23 pp. Recommendations concerning temperatures, ventilation, bracing and handling of heavily loaded cars deducted from an investigation of the car shortage of 1917-18.	1 M347
————	Transportation of horticultural products. Stan. Cyclopedia of Hort., vol. 6, 1917, p. 3367-3371. Methods of handling, precooling, refrigeration and prevention of freezing in transit.	90 C99S
Raukin, J. O.	Marketing Nebraska potatoes. Nebr. Exp. Sta., Cir. 9, 1919. 29 pp. When, where and how Nebraska potatoes are sold. Grading. Loading the cars. Inspection. Care in transit.	100 N27
Reducing the cost	of food distribution. Amer. Acad. Polit. and Social Sci., Annals, vol. 50, no. 139, Nov. 1913. 272 pp. More efficient distribution and conservation. Lower costs through middlemen and retailing, municipal markets, farm credits and advertising, cooperation. Elements in a constructive program.	280.3 Am3
Reynolds, J. B.	Shipment of fruit to Winnipeg. Ontario Agr. Coll., Bul. 139, 1905. 24 pp. Discussion of maturity of peaches, pears and plums for long distance shipment.	101 On8B
Ridley, V. W.	Factors in transportation of strawberries from the Ozark region. U. S. Dept. Agr., Mar. Doc. 8, 1918. 10 pp. Temperatures in transit with and without ice; loading instructions. Decay can largely be prevented by immediate cooling to 46 to 50 degrees F.	1 M347
Robertson, J. W.	Fruit shipments to Britain. Ontario Fruit Grow. Asso., Rept. 33rd Meet., 1901, p. 63-75. Observations on methods of cold storage in transportation. Discussion.	82 On8
Ruddick, J. A.	Trial shipments of peaches in 1910. Canada Dept. Agr., Dairy and Cold Stor. Com., Bul 27, 1911. 38 pp. Shipping peaches to Great Britain, picking, packing, pre-cooling, inspection, temperature on railroad and steamer. Conclusions.	44.9 C16B

Secrist, C. M. Facilities for replenishing ice for refrigeration in transit. Railway Age Gaz., vol. 55, no. 13, Sept., 1913, p. 568. 288.8 R136
How to minimize loss and delay.

Stubenrauch, A. V. The relation of the transportation and storage of fruits and vegetables to the conservation of these food supplies. Jour. Sociologic Med., vol. 16, no. 6, Dec. 1915, p. 360-382. 50 J82
Necessity of refrigerator transportation, precooling, causes of decay. Importance of systematic distribution of fruit crops.

Suggestions to growers and shippers of fruits and vegetables as to the best methods of preparation, loading, stowing, stripping and bracing for safe transportation. Amer. Asso. Refrig., Com. Railway, and S. S. Refrig., Bul. 3, 1916, 31 pp. 259.9 Am31B
Some extracts from railroad rules. Billing instructions. Illustrations showing methods of loading.

Taylor, W. A. Fruit and vegetable storage and shipment experiments of the U. S. Department of Agriculture. Va. Hort. Soc., Rept. 1901, p. 17-29. 81 V81
Handling Bartlett and Kieffer pears, late peaches, and sweet potatoes for shipment to the English market. Discussion.

Thayer, Paul Sending apples by parcel post. Ohio Exp. Sta., Mo. Bul., vol. 1, no. 12, Dec. 1916, p. 377-382. 100 Oh3S
Results of experiments made by the Horticultural Department from 1913 to 1916. Types of packages, methods of packing and trial shipments.

Transportation of perishable freight. Railway Age Gaz., vol. 48, no. 9, Mar. 1910, p. 448. 288.8 R136
Discussion of measures for developing perishable freight traffic.

Welsh, F. S. Factors in transporting New York peaches. N. Y. Central Lines, Agr. Dept. 15 pp. 280.3 N488F
Descriptions of load arrangements. Illustrations. Refrigeration, - charts showing relation of salted ice to refrigeration.

White, Gordon C. Improved transportation service for perishable products. Pan Amer. Sci. Cong., Proc. 1915-16, Sect. III, p. 400-425. 330 P192
A review of all phases of transporting perishable products. Refrigerator cars - description, insulation. Precooling. Protection against freezing. Special market trains. Bibliography.

White, Gordon C.	Perishable terminals. Railway Age Gaz., vol. 63, no. 25, Dec. 1917, p. 116. Need for terminals for storing perishable freight.	288.8 R136

See also Handling; Prevention of freezing in transit; Refrigerator cars.