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Bibliography

on the

Preservation of Fruits and Vegetables

in Transit and Storage,

with Annotations.

Contributed by the Library of the Bureau of Markets and Crop Estimates.

Washington, D. C.
Bibliographical Contributions.


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.


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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


Beach, S. A. New York apples in storage. N. Y. Exp. Sta., Bul. 248, 1904, p. 53-152. 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.


Blair, J. C. Fruit storage experiments. Ill. Exp. Sta., Cir. 44, 1902, 15 pp. 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. Cold storage test of peaches at 23 and 32 degrees.


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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."

Cold storage for apples. Ice and Refrig., vol. 48, no. 5, May, 1915, p. 238. Description of a small cold storage for apples to be located near the orchard.

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


Cooper, Madison. Practical cold storage. Chicago, 1905, 600 pp. 2nd ed. 1914, 816 pp. 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."


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Fulton, S. H.  

The cold storage of small fruits.  


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.

Garcia, Fabian.  

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Results of a preliminary test on the keeping qualities of Bartlett pears.

Gourley, J. H.  

Notes on storing apples.  


An experiment to determine the relative value of open and closed packages for the storing of apples. Discussion.

Greene, L.  

Apple storage problems.  


Cold storage for Iowa grown apples.  

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Results of freezing apples on the tree and in cold storage. Picking, packing, time of storage, culture, variety tests.

Hall, F. H.  

Keeping quality of apples.  


Hollings, F.  

Cold storage for fruit.  

Amer. Hort., vol. 5, no. 12, Dec. 1895, p. 150.  

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Conservation through the presence of an inert gas. Excellent for delicate fruits.

Plans and cost of a plant for 4000 cases of fruit.

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A popular discussion of ice cold storage.

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Keeping peaches and other fruits in cold storage and their shipment to New York.

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)

Some suggestions concerning the profit of careful fruit storage in New Jersey. Discussion.

A brief article giving the proper temperatures.

Memorandum respecting cold storage and the utility collecting stations. 295 Ontario Govt., By order Leg. Assem., 1900, p. 1-12, On3 14-16.

Cold storage is advantageous to successful marketing and maintaining trade. The collecting station - erection and control.


Discussion of cold storage.


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.


The results of tests in cold storage using boxes of different kinds of wood.

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


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A summary of data regarding the length of time fruit and vegetables may be kept in cold storage. (French)

Description of fruit storage house at Massachusetts Agricultural College.

Storage tests of the Star apple, avocado, fig, papaya, pineapple, and mango were made at 32 degrees, 36 degrees and 45 degrees.

Experiments on the adaptability of cold storage to various tropical fruit.

A report of experiments with sort fruits at temperatures of 30 and 32 degrees and with apples at 36 degrees.

VEGETABLES.

Concerning the loss in weight and the decay of roots in various forms of storage and packing mediums. Edibility of stored vegetables.

Cold storage of seed potatoes has little advantage over ordinary storage.

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.
No appreciable change takes place after storing for period of four weeks.


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


The results of tests conducted on 22 varieties of grapes to determine which are best for storage. Handling.

Notes on the methods of handling, storing, and curing California lemons and their decay.

A home storage manual for fruits and vegetables.

See also Cold storage, fruits; Handling, fruits.

VEGETABLES.

Suggestions for construction.

Factors governing the successful storage of squash as determined by Prof. W. Stuart of the Vermont Station.

Various types of storages with plans. Special methods for storing different vegetables.

Decays, blanching, handling, storing in trenches, cellars and storage houses.

Harvesting, storing, marketing.

Harvesting, marketing. Construction of storage houses.

Harvesting, grading, marketing. Storage houses.
Field and cellar storage. Directions for storing different kinds of vegetables.

Effects of temperature, aeration, humidity. Pit storage.

Harvesting and storing onions in the Connecticut Valley.

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. 53 pp.
Results of storing in piles shows desirability of having a storage house. (German)

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Requirements, types, plans. The elevator and loading platform.


Suggestions for building a small root cellar on the farm.

Directions for successful storing.


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DECAYS AND PHYSIOLOGICAL DISTURBANCES.

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Ames, Adeline
Showing the temperatures at which storage rot organisms will germinate and grow. Tables.

Brill, H. C.
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.
A general discussion of apple diseases prevalent in orchard and storage.

List of fungi which have been isolated from market and storage apples and which are capable of producing rot.

Experiments indicate that humidity is more important than carbon dioxide in determining the amount of apple scald.

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Blossom infection. Suggested spraying schedule.


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<td>Porto Rico Progress, vol. 8, no. 1, Dec. 1914, p. 5-7.</td>
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<td>&quot;Ammoniation&quot; and &quot;melanose&quot;. Condition of fruit at maturity, a resultant of the amount of moisture during growing season.</td>
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<td>Popular Sci., vol. 43, no. 1, 1893, p. 76-84.</td>
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<td>The pentosan content remains the same, the acid content increases and the total sugar content decreases.</td>
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Inoculation. Eight plates.

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The results of investigations concerning the decay of cabbage in storage; suggestions for control.

Haskell, R. J.  
A virulent stem and tuber rot which affects potatoes in storage.

Inoculations show that Fusarium Eumartii may cause both a vine wilt and a tuber rot.

Humbert, J. G.  
Control by sanitation and fumigation.


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Home fruit and vegetable drying.  Iowa St.  
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of dried product.  Description of various simple driers for home use.  Elementary.  
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Extensive treatment.  Types of evaporators, cost  
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the dried fruit.  Includes a review of literature relating to the subject.  
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The University farm evaporator.  Calif. Dept.  
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See also Common storage, vegetables; Decays and physiological disturbances; Handling, fruits; Packing, packages and grades; Precooling; Transportation.
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Hood, S. C.  
Illustrations. Suggestions for operating.  

Iorns, M. J.  
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Lewis, I. P.  
Types, Operation.
Relation of careful handling to keeping qualities of citrus fruits as seen in Bureau of Plant Industry tests in Florida.  

Description of a water separator which determines the specific gravity of fruit so that it is possible to pick out the frozen specimens.  

Relation of careful handling to the decay in transit of Porto Rican fruits. Twenty-four illustrations.  

General discussion of factors entering into successful marketing.  

A review of the results of using distillate or kerosene oil and of alcohol in separating frosted fruit as regards flavor and decay.  

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Maturity and picking. Demonstration of careful handling and proper refrigeration in successfully marketing hard, ripe pineapples.  


Tabulated results of experiment.  

The process, equipment. Plan for vat. Illustrations.
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.

Experiments made in the seasons 1911, 1912, 1913, with the handling, precooling and shipping of raspberries. Recommendations.

The results of handling and precooling experiments with sweet cherries and plums during the seasons of 1911 and 1913.

A practical discussion of the subject, covering careful handling, precooling, methods of shipment and cold storage.

Extensive handling and storage experiments carried on in California.

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Methods in use at the Grimsby precooling plants to reduce the cost of handling fruit in and out of the warehouse.

Stokes, F. G. 
Suggestions for handling pears preparatory to drying.

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Stubenrauch, A. V.  
Results of handling, precooling and shipping investigations lasting seven years.

Fruit handling and precooling investigations.  
An article with tables showing results of shipping grapes, oranges, raspberries, cherries and prunes.

The handling of deciduous fruits on the Pacific Coast.  
Description of harvesting and shipping methods. Precooling.

The relation of handling to decay in California navel oranges; season of 1910-11.  
The relation of mechanical injuries and natural defects to decay, and the effect of washing, brushing, careful handling, and high packing on decay.
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Winslow, R. M.  
Investigations concerning handling and storing rhubarb, strawberries, raspberries and apples.

Young, W. J.  
Pick fruit when hard ripe and place in storage as soon as possible.

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Cold storage, fruits; Common storage, fruits; Transportation.
Best methods for harvesting peas.

Some general suggestions for successful harvesting.

Directions for handling sweet potatoes to prevent decay in storage.

Equipment and procedure.

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