This article was downloaded by: [Monash University Library]
On: 02 February 2015, At: 03:05
Publisher: Routledge
Informa Ltd Registered in England and Wales Registered Number: 1072954
Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH,
UK

Journal of Geography

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/rjog20>

The Development of the American Rice Industry

Arthur E. Albrecht ^a

^a College of the City of New York

Published online: 13 Feb 2008.

To cite this article: Arthur E. Albrecht (1922) The Development of the American Rice Industry, Journal of Geography, 21:8, 294-299, DOI: [10.1080/00221342208984164](https://doi.org/10.1080/00221342208984164)

To link to this article: <http://dx.doi.org/10.1080/00221342208984164>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is

expressly forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

of land from which the continents project southwards into the ocean. Looking at the globe in this way we see that there is a great contrast between the northern hemisphere and the southern. The northern with its overwhelming preponderance of almost united land must of necessity retain its undoubted importance. There is a northern circular belt of routes connecting those lands to which nothing at all corresponds in the south. The states of the southern hemisphere are correspondingly handicapped.

We may look ahead and imagine what may happen when the coal period is over, when the supply of energy which is at the base of all modern civilization is exhausted. It is obvious that enormous changes must occur. It is possible that other sources of energy may be found or made available, but as far as we can see at present none, neither water power, oil, winds, nor tides, are likely to be able to replace coal. It is at any rate possible that recourse may be had either directly to solar energy or to energy obtained from vegetation, possibly in the form of alcohol. If this is so the regions of the world lying between the tropics, at present of less account must in their turn play an important part on the stage and the great invention of a black pigment for the skin will become an enormous economic asset.

But even if this is so, that does not imply that the older lands will become of no account. Egypt was the first state and Egypt is a state now. Greece and Italy and China have their roots in the past and are important in the present. The newer conditions will be added to the old, the old will be destroyed, the setting of the stage will become ever more complicated. Whether that stage is orderly or disorderly will depend on whether the organization is for working together as do the organs of the body or for offence like the tribes out of which the states developed. Personally I believe it will be the former.

THE DEVELOPMENT OF THE AMERICAN RICE INDUSTRY

ARTHUR E. ALBRECHT

College of the City of New York

The origin of American rice industry may be traced to a gift made by a Madagascan ship captain to a Carolina settler at the end of the seventeenth century. This settler at first attempted its cultivation in the uplands of Carolina. Other settlers to whom the original planter had given a few handfuls of rice found that its cultivation was better adapted to the lowlands where the marshes supplied abundant water

for this new crop. The raising of this crop gradually spread thru the lowlands of Carolinas, Virginia, and Georgia, and in the colonial days, rice came next to tobacco as the most important agricultural product. The industry grew in large proportions in South Carolina, which at one time produced the finest quality of rice grown. Crude methods of cultivation which did not call for rotation of crops and the fertilization of the soil compelled South Carolina to yield its superiority to other sections of the country. Last year South Carolina produced only 102,000 bushels, the average yield being twenty-five bushels per acre, while Louisiana, in the same year, raised slightly less than one-half of this country's crop, and had 700,000 acres in rice with each acre yielding thirty-six bushels. California, on the other hand, had an average yield of sixty bushels per acre but had only 162,000 acres in rice last year.

The following shows the steady increase in the production of rice in this country since 1904.

1904.....	21,000,000 bushels
1910.....	25,000,000 "
1916.....	40,000,000 "
1920.....	54,000,000 "

The fact that the United States is now exporting more rice than it imports is shown by the following table:

Year	Imports in pounds	Exports in pounds	Excess of imports, 1918 and of exports, 1919, 1920
1918	558,048,000	356,202,000	201,846,000
1919	174,596,000	496,576,000	321,980,000
1920	142,951,000	474,761,000	331,810,000

VARIETIES

The varieties of rice most commonly adapted to the Atlantic coast are the Carolina Gold, Carolina White, and Blue Rose. The gold variety is noted for its deep orange husk, long kernel and good yield; the White Carolina rice has a long kernel and a white husk. The Honduras and several Japanese varieties are best adapted to Louisiana, Texas and Arkansas. The Japanese variety is most commonly grown in California. The Honduras type, originally imported from the Honduras, has a long kernel, and the Japanese type, a short thick grain. Among housekeepers the longer grain variety seems to be preferred.

Recently a new variety of rice known as Caloro has been found to be well adapted to both new and old land in California. Experi-

ments have shown that it has outyielded from eight to thirty per cent of all the standard varieties of rice grown in California.

METHODS OF CULTIVATION

Rice must be grown in those regions having a tropical or sub-tropical climate and where water is abundant and easily available.

Before or just after planting, the soil must be flooded but within a few days the water must be drawn off in order to allow the seeds to germinate. A month or two later the fields are again flooded for a period of six to seven weeks. During this period the water must be renewed at least once a week to prevent stagnation and troublesome water weeds from taking root. At the end of the flooding period the water is finally drained off and the grain allowed to ripen.

Rice is generally ready to be harvested six months after planting. After it has been harvested it must be dried out before it can be threshed.

THE MILLING PROCESS

It is customary for farmers who have grown rice to thresh it themselves. The threshed product is straw colored and is known as "rough rice" which is generally sold to mills. Before the rough rice is ready to be milled, it passes thru machines which remove foreign material, light weight grains, and also beards and stems from the rice grain. The product is now known as "cleaned rough rice."

The actual milling process begins with the placing of the rice thru a hulling machine which removes the "shell" or "paddy," leaving a brown cuticle on the rice grain. This product is known as "brown rice." Altho an extensive campaign has been carried on to induce consumers to buy rice in this form, the results have not been very marked as only a fractional part for immediate consumption is re-tailed in this form.

The "brown rice" which goes thru a further process is put thru a large rapidly revolving upright cylindrical barrel lined with sheep skin for the purpose of removing its brown coating. In this process, some of the grains are broken and the rice must therefore be screened to separate the whole grains from the smaller particles. The whole grain sold after this process is known as uncoated white rice. Some rice, however, is again run thru a revolving barrel known as a tumbler, which contains a very small amount of glucose and talc. The resulting product is known as coated rice or polished rice. Altho some people are violently opposed to polished rice, rice dealers assert that it

is not injurious as only a small amount of harmless coating is added which for the most part is washed off before cooking. The broken particles are screened into several grades of broken rice, the lowest grade of which is known as brewers' rice and was formerly sold to brewers. During the war much of this rice was ground down as rice flour and starch.

THE MARKETING OF RICE

Most of the rice after being threshed by the individual farmer is either sold by him or by the cooperative association to which he belongs to the rice mills of the neighborhood. After the rice has been thru the mills, it may be sold thru three different channels: rice dealers, wholesale grocers, or thru a chain store system. Whole grain rice is generally packed in 100-pound bags and sold in large lots to rice dealers or wholesale grocers. Most of the rice sold in cartons is packed in the city of ultimate sale. The greater part of the rice consumed in New York City comes by way of steamship from Louisiana.

Rice dealers generally re-sell the rice to wholesale grocers who either dispose of the rice to retail stores or to chain store systems. Only wholesalers and chain stores functioning on an extensive scale buy direct from rice mills.

In order to facilitate the contact between sellers and buyers on the New York City market, a rice exchange has been organized and is managed under the general direction of Mr. Walter J. Moses at 90 Wall Street. At the present time the exchange maintains a large room in this building where buyers may examine samples of rice and make arrangements with rice growers, millers and dealers concerning its sale. It is the plan of the rice exchange to expand its scope in such a way as to ultimately function in a way similar to that of the produce exchanges.

RICE PRICES

A study of the rice prices shows that wholesale prices reached their peak in New York City in 1919 when the price was $14 \frac{1}{5}$ cents per pound. In that year the average retail price reached the high mark of $16 \frac{9}{10}$ cents per pound. By December 1, 1920 the wholesale price declined to $8 \frac{1}{2}$ cents per pound and the average retail price to $12 \frac{3}{4}$ cents per pound.

The following table gives the wholesale and retail rice prices in New York City since 1913.

NEW YORK CITY RICE PRICES

	Wholesale Prices on Dec. 1, per lb. ¹	Retail Prices on Dec. 15 ²	Margin
1913	5¼ c	8 c	2¾ c
1914	5¾ c	8¼ c	2½ c
1915	5¼ c	9½ c	3 ¹⁹ / ₂₀ c
1916	5½ c	9½ c	3 ⁹ / ₁₀ c
1917	9 c	11 ⁷ / ₁₀ c	2 ⁷ / ₁₀ c
1918	10¾ c	13 ⁹ / ₁₀ c	3 ³ / ₂₀ c
1919	14½ c	16 ⁹ / ₁₀ c	2 ⁷ / ₁₀ c
1920	8½ c	12¾ c	4 ¹ / ₁₀ c

¹ Wholesale prices from U. S. Department of Agriculture

² Retail prices from U. S. Bureau of Labor Statistics

The spread between the wholesale price and the retail price in New York City has varied from 2½ cents in December, 1914 to 4¹/₁₀ cents in December, 1920. In December, 1919, the spread was only 2⁷/₁₀ cents altho higher wholesale and higher retail prices prevailed. In other words, in 1920, wholesale prices declined more rapidly than retail prices.

CONSUMPTION

Figures of the United States Department of Agriculture show that the consumption of rice is increasing in this country. Seven years ago we were consuming only nine pounds of rice, but at the present time our national per capita consumption is eleven pounds. It is interesting to contrast our eleven pounds per capita consumption with that of Japan where 324 pounds is estimated to be the per capita consumption and with India where 262 pounds is the average consumption per person.

In northern homes the use of rice is not so extensive as in the South where rice is produced. The reason for its lesser consumption in the North may in part be attributed to unfamiliarity on the part of housewives with its many possible uses.

RICE AS A FOOD

Among dietetians rice is recognized essentially as a carbohydrate. The white or polished rice contains more carbohydrates than the brown rice but less minerals, water, proteid, and fat. When cooked in four quarts of water, a cup of rice more than triples in bulk, each grain remaining separate. One cup of rice cooked in a double boiler will absorb one quart of milk.

It is a food that is easily digestible and can be used in many ways. It may be used for any meal. It can be served as a breakfast food with

milk and makes an excellent basis for soups, salads, and desserts. It may also be used as a vegetable. Like other cereals, it is comparatively cheap and is recommended by the United States Department of Agriculture as an economical means to supplement and extend the flavor of the more expensive foods.

A REVIEW THAT WAS A NEW VIEW

HARRIET SMITH

Sam Houston Normal College, Huntsville, Texas.

A SOCIALIZED LESSON ON THE NEW EUROPE

It is a happy teacher who can come to the end of recitation periods with the pupils clamoring to go on, and who knows that the issues involved are well worth while. What follows is the sketch of the working out of a problem that filled a series of five such recitation periods last spring.¹

The lesson was planned to serve two very different groups. It illustrates the neat correlation possible between the work of a normal school and its observation school. This lesson was undertaken primarily to illustrate to a teacher training group one type of review, and to serve, when mimeographed and in their hands, as the basis for a written report which was to take the place of the conventional type of term examination. The particular problem was chosen because it offered a good review to the sixth grade class just finishing their study of Europe.

The interest of both groups was finely sustained thru the series of periods. For the sixth grade it was, I believe, sufficiently vital to form the basis of permanent interest in the race map of Europe, the divisions of Europe into political units, and the effect of such divisions on the people living there. For the normal school students it was that and more; it showed them thoroly socialized, democratic conditions in grade work, conditions which they could surely duplicate in their teaching, and it substituted a likable, practical test for the barbaric quiz which might have been perpetrated.

The work was planned to cover five school periods. As a matter of fact, the interest of the pupils carried the preparation and the discussion past the periods allotted to the solving of the problem. A week is time enough for the work, and shorter time may be used.

¹ The recitation, stenographically reported and mimeographed, may be obtained by addressing The Department of Geography, Sam Houston Normal College, Huntsville, Texas.