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Rice was long known in the East before it was introduced into Egypt and Greece. It is now cultivated extensively in the low lands of tropical and sub-tropical parts of southeastern Asia, Egypt, Japan, China, part of the southern United States and several districts of Europe. There are many varieties in size and form. Those most commonly grown in this country are Honduras, blue rose, early prolific and Japan. Rice is grown principally in the swampy districts of South Carolina, Georgia, Arkansas, Louisiana and Texas. It requires a great deal of water and in many instances it is actually sown in submerged ground and then harrowed in. The ground is kept in a very moist state at all times during the growth and where there is not sufficient rainfall irrigation is necessary. In all districts where rice is grown the land is terraced and ditched so that water may be turned in at any time. Water is furnished by irrigating companies organized for that specific purpose. When it is time for the harvest the water is shut off and the ground allowed to dry so that binders may be run over it. The grain is then cut, bound and shocked in the same manner as wheat, oats and other small grain and allowed to dry for threshing. When threshed, it is sacked, and it is then ready for shipment to warehouses and mills. In this condition it is known as rough rice and is covered with a heavy husk. It is then milled for the purpose of removing this husk and other by-products.

As we are concerned, principally, with the accounting for the milling part of the industry and not with the growing and marketing of the rice in the rough, I shall endeavor to set out in as concise a manner as possible the fundamentals of a system that will give the mill the cost "in the clean." As practically all rice is bought by the mills through buyers in the field direct from the farmer, it is necessary to consider this buying expense as a part of the cost of the rice and not as an operating expense. Therefore, the salaries of buyers and their traveling expenses should be charged to milling expense. As it would be impracticable to prorate these expenses to the various lots purchased, it is necessary to charge them to the milling cost instead of charging them as a part of the cost of rough rice delivered to the mill.

What is commonly termed the milling season begins with September and ends with May, a period of nine months. Since the buyers are, in nearly all cases, hired under contract for twelve months but work only nine, their salaries for the entire twelve months should be apportioned to the nine months of the milling season. Buyers' salaries are handled as a prepaid item and one-ninth of the annual contract is charged out each month to operations. Depreciation of mill machinery, buildings (if owned), rent of buildings (if not owned), insurance on rough-rice stock, mill supplies, overhead expense, etc., should be apportioned to the nine months of the milling season. In fact, all items that run for twelve months which are properly chargeable to the milling department should be taken care of in the nine months of the milling season.

Depreciation might be handled in several different ways but the most equitable would be to make an estimate of the life of the machinery and the number of bags of rice to be milled during that life and to charge depreciation each month on the basis of the number of bags milled. Depreciation would then be taken care of each month on the unit basis, thereby equitably distributing it over the period in proportion to the output. The method most common, however, is the use of a fixed per cent. per annum, based on the cost and the estimated life, usually about 10% per annum. It has been my experience that the accounting of the rice-milling industry has received very little consideration from the management, and in most cases a very crude cost system, if any, is in use.

For the purpose of determining the cost of rough rice laid down in the mill, it is necessary to keep a rough-rice record book, which should be drawn up with vertical columns showing the price paid, the number of bags and barrels purchased, the freight and drayage inward, the commission paid, if any, and all other delivery charges. The various items of cost are then carried out into a total column to show the cost of each lot and the total cost of rough rice purchased. As the rice record then becomes a perpetual inventory record also, the total shown at the end of the month is charged to clean rice and credited to rough rice at the cost price. The rough-rice record then becomes a perpetual inventory record also.

A special form showing the rough-rice lot number, the number of bags of rough rice milled and the mill outturn is filled in by the head miller and returned to the office for record. The mill outturn consists of clean rice, screenings, brewers, bran and polish. What are termed by millers "screenings" are the larger pieces of broken rice while "brewers" are the very fine pieces which are separated from the whole rice during the process of milling by passing through shaker screens. "Bran" is the brown covering just under the husks. "Polish" is the transparent covering next to the grain and is used for feed like the bran. When this form is returned to the office the clean rice takes a new lot number or clean-rice lot number and is so designated on the clean-rice record. This book should be drawn up with vertical columns showing the rough-rice lot number, the number of bags and barrels of rough rice milled, the clean-rice lot number, the number of pockets of clean rice and screenings, the number of bags of brewers, bran and polish and the number of second-hand bags.

The market price of the by-products is used as a basis for determining the amount to be deducted from the cost of rough rice to find the cost of the clean rice. A column is provided for each commodity showing the quantity, price and amount and a column for the total value of the by-products, which is deducted from the cost of rough rice. This gives the cost of clean rice by lot number, exclusive of milling cost. Bear in mind that the cost so far is only the cost of the rough rice less the value of the by-products and to find the actual cost it is still necessary to add the average cost per pocket to mill. To determine the average cost per pocket to mill it is necessary to find only the total milling expense for the period and divide that cost by the number of pockets of clean rice milled. This amount is then added to the cost of rough rice less the value of the by-products, as explained above, by lot number, thereby finding the actual cost of each particular pocket of clean rice. When sales are made, the lot number is shown on the invoice and these invoices are posted opposite the corresponding lot number in the clean-rice record book, thereby making the clean-rice record a perpetual inventory record as well.

Milling cost consists of the following items:

Rough-rice warehouse labor,
Mill labor,
Fuel,
Water,
Mill supplies,
Burlap pockets,
Liability insurance,
Stock insurance,
Buyers' salaries,
Provision for idle time of buyers,
Traveling expense of buyers,
Depreciation of machinery,
Depreciation of buildings (if owned),
Rent of buildings (if not owned),
Miscellaneous milling expense,
Prorata of overhead expense.

In order to determine and distribute the cost and overhead expense, it is necessary to keep an invoice or voucher register for recording all purchases of whatever nature. This book also may be ruled for making transfer entries from asset accounts to expense accounts to obviate the necessity of making journal entries and to shorten the work of posting. For instance, insurance is charged to prepaid insurance under the asset section of the general ledger and when the correct amount for the month is determined, it may be charged in the column provided for that purpose and credited to the proper asset account in the general ledger credit column. This record should be ruled with vertical columns to show general ledger items, debit and credit, milling expense, overhead expenses, etc., and these subdivisions may be divided into as many accounts as desired. I have found it more convenient to run each subdivision by a key letter, giving each key letter as many numbers as there are accounts in that particular subdivision. For instance, asset accounts are designated as "A," liability accounts "B," milling-expense accounts "M," etc., and each of these subdivisions is divided by numbers—to illustrate; "A"-1, accounts receivable, "A"-2, rough rice, "A"-3, clean rice, "L"-1, accounts payable, "L"-2, notes payable, and so on through all general-ledger accounts and subdivisions. The general ledger should be tabbed and the accounts run numerically in each subdivision. A general index should be kept available for reference, showing the accounts both by number and by name, thereby giving a cross index to the accounts.

When an invoice is received it is checked for receipt of goods by the receiving clerk, and for price and extensions by someone in the office to whom this work should be designated. Then it is entered in the register, the amount distributed to the proper accounts, and the total carried out to the accounts-payable or vouchers-payable column. This makes the record automatically self-balancing. The columns should be headed with the proper key letter and a space provided in front of the amount for the key letter number. When all invoices for the month have been entered and the record has been balanced, a recapitulation is made by running an adding machine list of all corresponding key letter numbers and is entered below the monthly footings and all postings to the general ledger are made from the recapitulation. This will eliminate numerous postings and a multiplicity of columns.

The general-ledger items are, of course, posted direct item for item. All prepaid items, such as insurance, taxes, mill supplies, advertising supplies, stationery, etc., are charged to asset accounts and as the correct amounts for each month are determined the entry is made in the manner explained above through the columns provided for the purpose, charging the proper operating accounts and crediting the asset accounts through the general-ledger column. All mill supplies, advertising supplies, etc., are issued on requisition from the chief engineer, head miller or the proper clerk and a complete perpetual inventory is kept of supplies on hand and the amounts actually used each month are charged out to the proper operating account. Payrolls are distributed through a cashbook or direct from the payroll itself, which should be drawn up to provide for the proper distribution. If the latter method is used, payroll account would be credited with the total of the payroll and when paid would be charged to payroll account through the cashbook.

There are a few mills that go further than milling and sacking the rice and selling it in bulk. In such cases the rice is run through a special bleaching process and packed into cartons or packages to be sold to the consumer. Where this is done in addition to the regular process of milling, it is necessary to carry a package-rice record similar to the clean-rice record, ruled with vertical columns to show the clean-rice lot number, the number of pockets packed, the cost of clean rice packed, the outturn by cases of the various sizes of cartons or packages, such as ¼ lb., ½ lb., 1 lb., etc. However, where the mill does a bulk-rice business in addition to the package-rice business, the better method would be to charge the packing department with the rice at the price at which it could be purchased in the market. In other words, use the market price of clean rice as a basis for all rice packed, crediting clean-rice account and charging package-rice account with the total for the month, thereby letting the bulk-rice department show whether it is operating at a gain or at a loss. Of course, where business is done both in bulk-rice and package-rice, the overhead expenses would necessarily be apportioned equitably between them. All direct charges are distributed to the proper departments through the invoice register described above. By handling the accounts in the manner described it is possible to make a correct statement of operations each month, an essential in the rice-milling business, which is more or less speculative owing to the vast fluctuation in prices of rice from day to day.

A great deal of the package-rice business is handled by jobbers or brokers on consignment. It is necessary, therefore, to keep a consignment record, ruled to show to whom shipment was made, the number of cases shipped, the cost by lot number, the prepaid freight and other charges. When the jobber or broker makes a sale he sends in an account sale and bills his customer direct or sends in his bill for commission or brokerage and the mill bills the customer. The sale then goes through the books in the regular course of business and the amount is credited against the consignment record, thereby giving the mill a perpetual inventory of rice out on consignment.

It would be impossible to give in this article an outline of the various forms necessary for carrying out the system which I have attempted to describe, but I believe the explanations given are sufficiently clear to give the reader a fair conception of the fundamentals of the system.