

Chapter 9

Rice Production Economics

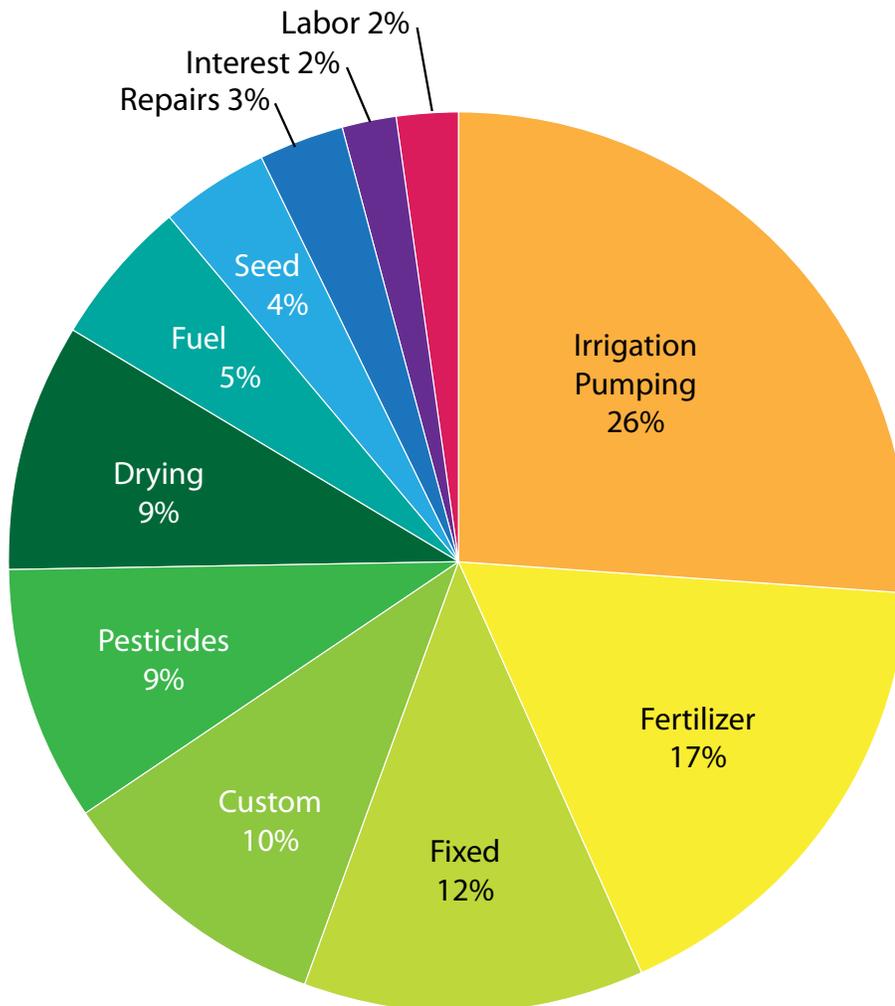
Michael Salassi

Production Costs

Rice is produced in Louisiana under several different types of agronomic production systems. It may be water-seeded by airplane onto a flooded field or drill-seeded by tractor and grain drill on a dry field. It may be produced in a crop rotation, following soybeans, crawfish or some other commodity, or it may be produced following a fallow year. Tillage options include conventional tillage or stale seedbed. Rice variety produced may be conventional, herbicide-resistant or hybrid. Source of irrigation water may

be from a deep well groundwater source or a surface canal source. All of these production system options have a direct impact on rice production costs.

The figure below provides a general percentage breakdown of the major production cost items associated with rice production in Louisiana. Irrigation pumping cost (26%), fertilization cost (17%), fixed equipment costs (12%) and custom charges (10%) comprise the major cost items associated with rice production in Southwest Louisiana. Irrigation pumping costs are generally lower for surface water



sources in Southwest Louisiana and for both water sources in Northeast Louisiana. Total variable production costs for rice in Louisiana are in the range of \$650 to \$750 per planted acre. Total fixed equipment production costs are the range of \$80 to \$100 per acre. In Southwest Louisiana, a portion of the rice acreage is ratoon cropped each year. This second production period following the first crop harvest generally entails application of nitrogen, reflooding the field for a period of time, then draining the field just prior to harvest.

Most of the rice acreage in production in Louisiana is produced on leased land. Share rental arrangements are the most prevalent type of crop lease arrangement being utilized. Under these types of rental arrangements, the producer and the landlord each pay a specified portion of the production expenses. One survey of rice producers in the state indicated that the two most common types of rice share rental arrangements were: (1) an 80/20 arrangement where the grower received 80% of the crop market and government program income and paid all variable production expenses, including irrigation pumping cost, with the exception of 20% of drying expenses paid by the landlord who received 20% of the crop market and government program income and (2) a 60/40 arrangement where the grower received 60% of the crop market and government program income and paid all variable production expenses, excluding irrigation pumping cost and 40% of fertilization, pesticide and drying expenses paid by the landlord who received 40% of the crop market and government program income. Although these two share arrangements are most common, they do not represent the majority of rice share arrangements, as grower-landlord share arrangements for rice can vary greatly. Some rice tracts are leased under a cash rental arrangement. In these cases, the producer generally pays all production expenses and receives 100% of the crop market and government program income. Average rice cash rental rates, based upon the same survey data, and were in the range of \$75 to \$100 per planted acre.

Marketing

Over the past five years, slightly more than half of the rice produced in the United States (54%) is marketed domestically, with the remainder (46%) being exported to foreign countries. The domestic rice market has more than doubled over the past 25 years. Approximately 97% of domestic rice use is for food use, both directly and in processed foods, and industrial uses. Direct food use of rice accounts for more than half of total use. Use of rice in processed foods (package mixes, cereal and rice cakes) accounts for about 18% of total use. The remaining domestic use of rice is used in pet foods and in beer production.

About 70% of rice exported in milled form and the remaining 30% exported as rough rice. Latin America is the primary export market for U.S. rice, representing about one half of total U.S. rice exports. Specific countries which have are top U.S. rice export markets include Mexico, Japan, South Korea, Iraq, Saudi Arabia, Haiti, Canada, Nicaragua, Costa Rica, Honduras and Venezuela. Because such a large portion of U.S. rice production is exported, the global rice market has a significant impact on U.S. domestic price levels. The United States is essentially a price-taker in the world rice market, with Thailand and Vietnam driving world market forces.

Futures contracts for U.S. rough rice are traded on the Chicago Board of Trade (CBOT). The main functions of a futures market are price risk management and price discovery. Price risk can be managed by hedging rough rice contracts on the exchange. Price risk management relates to alternative commodity selling or market strategies, including hedging in the futures market, to reduce exposure to market price volatility. Price discovery is the generation of information about “future” cash market prices through futures markets using basic supply and demand factors.

Hedging provides an opportunity to lock in a rough rice price, as gains or losses in the cash market are usually offset by positions held in the futures mar-

ket. Use of the futures market to manage price risk is available to rice producers, mills, merchandisers, food processors, exporters and importers. The futures market also provides a means of price discovery for the rice industry. Daily quotes of rough rice prices for future delivery serve as predictions of what buyers and sellers in the rice market expect prices to be at that time. The term “basis” refers to the differ-

ence between the local cash price of the commodity and the futures price. The basis can be positive or negative and is influenced by transportation costs and other factors. Contract specifications for the rough rice futures contracts traded on the Chicago Board of Trade are shown in Appendix Tables 3, 4, and 5.