



The University of Georgia

Cooperative Extension Service

College of Agricultural and Environmental Sciences / Athens, Georgia 30602-4356

NOVEMBER 2003



BROILER TIP . . .

ECONOMIC EVALUATION OF PURCHASING PROPANE GAS AS “TANKER” LOADS

Fuel costs comprise 15 to 20% of the total cost of production for a contract broiler grower. During recent years, seasonal supply and demand for propane has caused prices to fluctuate from \$0.65 to \$1.40 per gallon. Unfortunately, during the winter months, both fuel usage and fuel prices typically are at their maximum. This can have a dramatic impact on the grower's economic “bottom line”.

One alternative that some growers in Georgia have used to lower their fuel cost is buying propane gas in large tanker loads. Purchasing propane gas as a tanker load has two main advantages: 1) Purchasing tanker loads negates the \$0.12 per gallon typically charged to deliver smaller loads of propane gas to the farm and 2) a tanker load can be purchased at 5% above pipeline cost. Summing these two benefits can result in a \$0.20 per gallon savings on propane gas.

In order to purchase tanker loads, the following are needed: a permit from the State Fire Marshall, a large (12,000 – 30,000 gallons) propane gas tank, piping and valves for the tank, and proper dirt work at the site where the tank is to be placed on the farm. Used tanks are less expensive than a new tank. Your local propane dealer can often be of assistance in locating a used tank. Tank sizes range from 12,000, 18,000, or 30,000 gallons. A tanker load is approximately 9,000 gallons, and in the summer these tanks should only be filled to about 80% of the maximum capacity. If a 12,000-gallon tank is used, then it would need to be almost empty to receive a full tanker load. Given these restrictions, it is best to purchase either 18,000 or 30,000-gallon tank. The price for a new tank is about \$1.50 to \$1.75 per gallon of tank size. Used tanks usually cost around \$0.65 per gallon of tank size. The cost of the valves and regulators for each house is approximately \$1,400 per house. Pad work for the site of the tank is estimated as \$500. This could be decreased if the grower does the site preparation.

Will purchasing and installing a large tanker propane gas tank pay for itself? The answer to this question is complicated and depends on a variety of factors, but the most important factors are fuel usage per house, the difference in the price of propane purchased in “tanker loads” versus small loads, and the additional facilities investment required to purchase propane in tanker loads. A simplified economic example is presented below, but producers are encouraged to use their own numbers when making this decision.

A producer with four broiler houses is considering purchasing a used (\$0.65 per gallon) 18,000-gallon tank. The total cost for the tank, valves and plumbing, Fire Marshall permit, and site prep is estimated to be \$17,900 for the used tank. Cost savings from purchasing in tanker loads are assumed to be \$0.20 per gallon (fuel savings minus additional operating

PUTTING KNOWLEDGE TO WORK

The University of Georgia and Ft. Valley State College, the U.S. Department of Agriculture and counties of the state cooperating.
The Cooperative Extension service officers educational programs, assistance and materials to all people without regard to race, color, national origin, age, sex or disability
An equal opportunity/affirmative action organization committed to a diverse work force..

costs) including any additional cash expenses by purchasing propane in tanker loads. Table 1 shows the number of years required to pay for the specified propane storage facilities having a used tank for a four-house broiler farm. As shown in the Table 1, if a producer has four houses and each house uses 6,000 gallons per year, it will take 3.7 years to pay for an investment in a used 18,000-gallon tank. If annual fuel consumption were 7,000 gallons, it would take 3.2 years to pay for the investment. Producers with six or eight houses would likely purchase a 30,000-gallon tank to store propane fuel for the poultry houses. A 30,000 gallon used tank requires an investment of \$28,500 for six houses and \$31,300 for eight houses. The payback periods for the used tank ranges from 4.3 to 2.3 years depending on fuel usage with six or eight houses.

The amount of savings one realizes can be dependent when the propane is purchased. Buying when prices are low and having a tank large enough to carry you completely through the high price time of year is the key. Depending on market conditions, savings could be greater than \$0.20 per gallon used in the previous example.

Table 1. Comparison of Payback Period for Used 18,000-Gallon Propane Tank^A

GALLONS USAGE/HOUSE/YEAR	YEARS
5,000	4.5
6,000	3.7
7,000	3.2

^AThese results assume a four- house farm with \$0.20 per gallon savings for tanker load.

Other Considerations & Summary

1. The first step in this process is to contact the State Fire Marshall. The State Fire Marshall will determine the site location, which has to be at least 50 feet from buildings, property lines, or highways.
2. A set of blue prints that include details about the tank and valves must be submitted to the State Fire Marshall and a \$100 fee is required for a special permit.
3. A form must be filled out (can be obtained from your local fire department) which will provide the location of your farm to the local fire department.
4. An insurance form statement is required indicating you have liability coverage. The policy that is required for having a large propane tank is a one million dollar liability coverage policy. Most farms usually have this type of coverage.
5. With a four-house farm, purchasing and setting up an 18,000-gallon used tank will require about 4.5 years to pay for the system. With a six- or eight-house farm, producers can plan on paying for the investments in a 30,000-gallon used tank in 2 to 4 years.
6. The biggest advantage with having a large propane tank is that it provides the producer with more options to purchase propane gas.
7. Producers should use their own cost numbers in making this decision.
8. To help producers decide if buying propane in bulk is beneficial to their operation a computer aid, The Poultry Fuel-Decision-Aid, has been developed. The Poultry Heating Fuel-Decision-Aid (PHFDA) is available online at <http://www.ces.uga.edu/Agriculture/agecon.html> under Computer Decision Aids.

William A. Dozier, III
 William A. Dozier, III
 Extension Poultry Scientist

County Extension Coordinator/Agent

R. Curt Lacy
 Extension Economist Livestock