

## Documentation

### **Total Mixed Ration Cost Analysis Spreadsheet**

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February 14, 2010

#### **Inputs**

The user can enter input values into this spreadsheet in cells with yellow background color.

#### **Labor Cost Including Fringe Benefits**

The value entered is the hourly labor rate paid plus an hourly cost of fringe benefits including but not limited to: Social Security, Medicare, Workman's Compensation Insurance, Health Insurance, Housing Allowance etc. for the worker(s) filling and operating equipment associated with the TMR mixer.

#### **Mixer Power Unit Initial Investment**

Enter the new cost of the power unit for the total mixed ration mixer or the equivalent machine in today's prices. This cost should include discounts, sales tax, delivery and set-up charges etc. If the TMR Mixer is mounted on a truck and is not powered by a tractor, enter the cost of the truck without the mixer here. The cost of the mixer will be entered later.

#### **Percent of Time Mixer Power Unit Used for TMR Mixer**

The tractor used to power the TMR mixer may have other uses on the farm. Enter the percent of time dedicated to the TMR mixer vs other uses. Where the tractor has no other uses or a mixer is truck mounted, enter 100.

#### **Mixer Power Unit Engine Size**

For the tractor/truck used to operate the TMR mixer, enter the maximum PTO horse power (HP) the engine can develop.

#### **Proportion of Mixer Power Unit Engine Capacity Used on Average-Mixing & Feeding**

While operating the TMR mixer, the power unit will be operating in a variety of power levels. Mixing may be one of the highest levels, discharging while driving might be an

intermediate level and transportation of the empty mixer back for a refill may be the lowest level of power use. Using your best judgment, estimate the overall average power use for the power unit as a percentage of the maximum PTO power the engine can develop.

#### **Fuel Cost**

Enter the price per gallon for the fuel used to power the TMR mixer power unit and the front end loader used to fill the TMR mixer.

#### **TMR Mixer Initial Investment**

Enter the new cost of the total mixed ration mixer or the equivalent machine in today's prices. This cost should include discounts, sales tax, delivery and set-up charges etc. If the mixer is truck mounted, do not enter the truck portion of the cost here. That is entered above.

#### **Total Daily TMR Mixer Use**

Enter the total number of hours per day the TMR mixer is used for mixing and delivering rations. If the TMR mixer is used on another farm or enterprise, include those hours here as well. A proportioning percentage for this operation will be requested below.

#### **Percent of Time TMR Mixer Used on This Farm or Enterprise**

The TMR mixer may have uses on other farms or enterprises. If so, enter the percentage allocated to the enterprise being analyzed. Where the TMR mixer has no other uses, enter 100.

#### **Loader Tractor Initial Investment**

Enter the new cost of the tractor and loader used to fill the total mixed ration mixer or the equivalent machine in today's prices. This cost should include discounts, sales tax, delivery and set-up charges etc.

#### **Percent of Time Loader Tractor Used to Fill TMR Mixer**

The tractor used to load the TMR mixer may have other uses on the farm. Enter the percent of time dedicated to the loading of the TMR mixer vs other uses. Where the tractor has no other uses, enter 100.

#### **Loader Tractor Engine Size**

For the tractor used to load the TMR mixer, enter the maximum PTO horse power (HP) the engine can develop.

#### **Proportion of Loader Tractor Engine Capacity Used on Average-Removing Feed & Filling Mixer**

While operating the loader tractor, the tractor engine will be operating in a variety of power levels. Using your best judgment, estimate the overall average power use for the engine as a percentage of the maximum PTO power the engine can develop.

### **Daily Loader Tractor Use for Filling TMR Mixer Only**

Enter the total number of hours per day the loader tractor is used to fill the TMR mixer. If the loader tractor is used in other operations, do Not include those hours here.

### **Interest Rate**

Enter the interest rate on borrowed money.

### **Machine Life**

Machine life is the expected life of the machine before it needs to be replaced. Machines that have more moving parts may have a shorter life than those with fewer moving parts. Machines exposed to corrosive or abrasive environments may have a shorter life than those operated in clean environments.

### **Salvage Value**

When the machine has reached its useful life, it has some value to others or has a scrap value. This is often expressed as a percentage of the original purchase price. Enter the percentage for each machine.

### **Repairs**

Annual repairs can be expressed as a percentage of the initial purchase price. Machines that have more moving parts may have higher repair cost percentages than those with fewer moving parts. Machines exposed to corrosive or abrasive environments may have higher repair cost percentages than those operated in clean environments.

### **Taxes**

In Wisconsin, movable equipment is exempt from property tax. The equipment in this analysis is movable, so zero can be entered here for Wisconsin businesses.

### **Insurance**

Insurance costs can be expressed as a percentage of original purchase cost. Enter the annual cost of insurance expressed as a percentage of the original cost.

### **Results**

The results of the analysis are presented in cells E15-J27 with purple background.

### **Annual Ownership Cost**

The Annual Ownership Costs include the depreciated value of machinery and the net present value of borrowed money along with the Repairs, Taxes and Insurance for each of the machines.

### **Fuel and Lube**

Fuel and Lube is an estimate of the annual cost of fuel and lubrication needed to operate the powered equipment.

### **Labor**

Labor is an estimate of the total annual cost of labor to fill and operate the total mixed ration portion of the operation.

### **Total Annual Cost**

The total annual cost of operating the TMR mixer along with its power unit is in cell G23. The total annual cost of operating the loader tractor is in cell H23. The total annual cost of the whole operation is in cell J23.

### **Total Hourly Cost**

The cost per hour of operation for the TMR mixer and its power unit are presented in cell G26. The cost per hour of operation for the loader tractor are presented in cell H26.