

## Reduce gasoline storage losses

As energy costs cut deeper into farm profits, farmers are seeking ways to reduce fuel consumption whenever and wherever possible. There are several ways to reduce the amount of fuel wasted in your operation.

One of them is the manner in which fuel is stored, easily overlooked but fairly simple to correct. Fuel-tank color, location, type of filler cap, plus fuel leaks and fuel quality all influence fuel losses.

### Tank Color

Fuel tanks painted a dark color are subject to high evaporation losses. If your storage tank is rusty or dull red, you can cut evaporation losses one-third by painting the tank with white or aluminum paint.

For example, a red fuel storage tank exposed to direct sunlight will lose approximately 10 gallons per month through evaporation, whereas a white tank in the same location will lose about 6 gallons per month.

You can expect to recover the cost of the paint in approximately one year, through gallons of gasoline saved.

It is a common misconception that the law requires all fuel storage tanks to be painted red. Most states in the Northeast have no restrictions on tank color, except for small portable containers. Check on local regulations with your fuel supplier or local fire marshal.

### Tank Location

Shade makes a substantial difference in the amount of fuel that evaporates from a fuel storage tank. Shaded tanks lose 75 percent less fuel than tanks exposed to sunlight.

Intense sun in summer and the lighter grade fuel required for easier engine starts in winter make

evaporation losses a year-round problem.

Tank shading can be provided by a large tree, but in most instances a tree will not provide sufficient shade during winter months.

An open-front shed constructed over fuel tanks is the most effective means to provide shade. The front of the shed should face away from the sun, and openings should be provided below the roof to prevent heated air from being trapped over the tanks.

If properly shaded, tank color has little effect on fuel loss. Buried gasoline tanks, of course, have almost no evaporation losses.

### Filler Caps

You should look critically at the filler cap on your fuel tank.

A pressure-vacuum relief cap will cut evaporation losses in half. This small item may reduce evaporation losses by 40 to 50 gallons per year for a red, unshaded storage tank.

Pressure-vacuum relief caps are designed to open at 2 to 3 psi of pressure or 1/16 psi of vacuum. It is a good practice to closely watch the tank for a few days following installation of such a cap because pressure buildup may cause new leaks to occur.

The nozzle on a gravity-flow tank may be the source of particularly troublesome leaks. A shut-off valve at the tank should eliminate these leaks.

Pressure-vacuum relief caps will not work on fuel pumps designed with an air bleed. Check with the pump supplier to see if it will hold the pressure created by the cap.

### Fuel Leaks

If a fuel storage system leaks a drop of gasoline every 2 minutes, approximately 35 gallons per

year are being lost. That's enough fuel to plant 50 acres of corn!

Examine all connections between the tank outlet and the hose nozzle, as well as the hose itself. Are any of the connections moist or caked with dust? Does the ground indicate fuel leakage from the hose or tank? If so, both fuel and money are being wasted.

Fuel leakage can often be corrected by simply tightening connections. In more stubborn cases, it may be necessary to disassemble the system and apply a thread sealant during reassembly.

Replace cracked or damaged fittings or hoses, and be sure that the fuel filler is clean and sealing properly.

### Fuel Quality

Losses are only one aspect to consider when trying to reduce gasoline evaporation. Nearly as important is the reduction in gasoline quality that occurs with evaporation.

Fuel composition varies depending on the season of the year. Winter-grade gasoline vaporizes more readily than summer-grade. Although the lighter, winter-grade fuel aids in easier starts and more rapid warm-ups during cold weather, the more volatile or lighter components of winter-grade fuel are more easily evaporated during storage.

Under certain storage conditions, fuel delivered as a winter-grade gasoline will, through evaporation of the lighter components, change to the equivalent of a summer-grade gasoline.

As this deterioration occurs, the percent of gum content increases in the gasoline. When such gasoline is used, an engine starts harder and requires more chocking. Also, the gum is deposited in the carburetor, in the intake manifold, on the valves, and lacquer deposits form on the pistons and cylinder walls.

All of these factors cause unfavorable engine operations, excessive engine wear, and excessive fuel consumption.

Above all, take all necessary safety precaution when using, storing, or handling gasoline.

-Locate tanks at least 50 feet from buildings, preferably both downwind and downhill from the buildings.

-Provide a sturdy tank-support stand.

-Label each tank in large letters as to contents, e.g.: GASOLINE, DIESEL.

-Label each tank: FLAMMABLE - KEEP FIRE AND FLAME-AWAY.

-Keep the area around the tank free of weeds, high grass, debris, rubbish and litter.

-Shut off engines when refueling.

-Do not smoke or light matches around fuel.

-Keep a dry chemical extinguisher handy at all times.

### Pumpkin Potpourri

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