**Gasoline and COVID-19**

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 With fears over COVID-19 keeping a significant part of the U.S. population close to home, families are catching up on home improvement projects and learning to be “farmers” and “carpenters” again. Some of the busiest places in town are the “big box” or home improvement stores. Sales of paint, treated lumber, and outdoor power equipment such as mowers, tillers, chain saws, and weed trimmers are booming. The limited supply of and high prices for vegetable plants further suggest that one of the positive side effects of COVID-19 has been the renewed interest in growing our own food. My daughter sold nearly all her crop of Belted Galloway calves to folks wanting to raise their own beef. We were asked if we had chickens for sale that were already laying eggs, and even our patches of asparagus and rhubarb have drawn interest.

 This enthusiasm to be a little more self-sufficient, however, has reintroduced some hazards that were once quite familiar to our grandparents, but simply new to many people today. This became apparent to me when I observed a young man filling two plastic milk jugs with gasoline and setting them in the passenger compartment of his mini-van. There was a clear warning on the self-service pump to: “USE ONLY APPROVED CONTAINERS” but no added instructions regarding what constituted an “APPROVED CONTAINER.” During another stop to refuel, a passenger in a car on the other side of the island was sitting with her window open smoking a cigarette. She then flicked the butt out across to my side of the island, that rolled to a stop at my feet as I refueled. Not only was this lady likely unaware of how her smoking habit increased the risk of becoming a COVID-19 patient, but in both cases, neither person recognized the hazards of gasoline and the risk of ending up in a burn center (and taking me with them).

 Gasoline, when vaporized, contains several times the explosive force of dynamite. That’s why one gallon of it can propel a 4,000 pound car 20-30 miles. Carrying a gallon of gasoline in the back seat of your car or van is like driving around with a hand grenade rolling around on the floor.

 Gasoline readily vaporizes at 0ﹾF. One gallon of liquid gasoline can fill a 250 gallon space with explosive vapors. Cold gasoline pumped from an underground storage tank, placed in a tightly closed container, and transported in a hot vehicle can become a bomb, or at least cause leakage of both liquid and vapors that can be easily ignited by a smoker or static electricity.

 Once “safely” home with the gasoline, the home owner faces a whole new set of potential hazards. Storage in hot places near ignition sources such as a water heater or furnace, refueling hot engines on mowers, tillers, and chainsaws, and inappropriately using gasoline as a solvent to clean brushes or remove grease, or as an accelerant to start a fire or burn brush all present risks of fire, explosion, and severe burns.

 Jane Allsup, an Iowa farm wife, shared with me recently how her 10 year old son Christopher tried to rekindle their fire pit from a fire the night before using gasoline. It was early morning and he went out to probably extend the good times he had experienced around the fire. He brought out the standard red plastic container and poured some of its contents on the smoldering fire. The vapors were ignited, causing the container to rupture into a ball of fire. Christopher was burned over 90% of his body and died later from his injuries.

 According to the American Burn Association, an estimated 13-15,000 people are treated annually from gasoline-related burns. My concern is that the general lack of knowledge regarding the hazards of gasoline, the expanded use of outdoor power equipment, and the resulting need to handle small quantities of gasoline will increase this number. Jane Allsup has been promoting several suggestions that she hopes will prevent others from experiencing what her family has gone through. These include:

* Don’t store gasoline in the house or garage
* Always store gasoline in a cool, well-ventilated area
* Keep it away from any source of heat or sparks such as water heaters, furnaces, electric motors, or car engines (or the smoker at the fuel pump)
* Have a Class B fire extinguisher located where fuel is stored
* Consider replacing your old plastic gasoline container with one equipped with a flame arrestor
* Always keep gasoline out of reach of children

Thank you Jane for sharing your story and helping promote safe use of gasoline.

For more information contact Bill Field, Professor, at field@purdue.edu or at 765-494-1191.