

FACT SHEET
BURNING UNWANTED CROP RESIDUE
(STUBBLE BURNING)

Definition:

It is the practice of burning the residue of a crop rather than bailing it for livestock use or working it back into the soil. It has been a part of agricultural practice for many years.

Crop residue refers to the straw, stubble and chaff from any agricultural crop following harvest. The remains of unharvested crop can be included.

Problem:

Although it has been part of agriculture for many years, it is a practice used only by a small percentage of farmers. According to Agriculture Canada crop residue burning is not good farming practice.

Environmental Effects:

Crop residue:

- helps prevent soil erosion
- absorb the energy of raindrops
- binds soil particles and improves soil structure
- protects long term viability of the soil

In spite of its effect on agricultural land this practice has continued as a matter of convenience. Some products, notably flax and canary straw are slow to break down and thus difficult to incorporate back into the soil.

The issue is not just soil management. It impacts on greenhouse gas emissions, safety risks, fire management, reduced visibility on roads, respiratory health, and waste management.

Health Effects:

The crop residue smoke, that is produced, is a health issue for all persons downwind of this activity. We must be aware of both the environmental and the human health effects when crop residues are burned.

All burning creates harmful by-products, resulting in air pollution. It matters not whether oil, gas, wood or stubble is burned, there will be combustion products formed. The difference will be the amount of particles and gases formed.

Oil and gas, for example burn much more cleanly and more closely achieve complete combustion. Stubble burning is a dirty procedure that produces large amounts of fine particles that can be carried for long distances suspended in the wind.

Studies have indicated that short-term exposure to low-level increases in particles in the air is associated with an increase in illness and death, particularly in individuals with heart and lung conditions. Hospital emergency wards see an increase in asthma admissions during the burning season. People with lung conditions, such as asthma and chronic obstructive pulmonary disease (COPD) are more quickly affected by these tiny particles entering their breathing system. Children and the elderly are particularly sensitive. Increased particles in the air as a result of burning can cause:

- Increased use of inhaler medications
- Higher incidence of lung related illness
- Increase in respiratory symptoms such as coughing and shortness of breath
- Decreased lung function
- Increase in emergency department visits

For persons with *ALLERGIES*, smoke in the air can cause annoying symptoms such as sore eyes, sore throat, coughing, nasal and sinus congestion. For those with *MORE SIGNIFICANT LUNG AILMENTS*, these symptoms can turn into serious bouts of shortness of breath, increased medication use and days away from school or work. For these people, one day of smoke in the air can result in a week of respiratory or other health complications

Solution:

There are two approaches that can be used to curb the human health impact. If you must burn then it is critical to *TAKE PRECAUTIONS*.

- Never burn at night. Damp conditions produce more harmful smoke emissions. Temperature changes and calmer conditions often cause smoke retention or poor dispersal. Burn only between 11:00 a.m. and sunset.
- Have adequate fireguard and water supply.
- Burn only when wind conditions allow for quick upward dispersion of smoke. It is imperative that Environment Canada be consulted regarding wind conditions in your area. Smoke should never be allowed to drift over neighboring communities or roads.
- Do not burn across an entire field. A large field, stubble or windrow burn produces more smoke. Piled or baled straw will burn hotter and faster and produce fewer pollutants.

There are *ALTERNATIVES* to burning and one solution is not right for every farming operation.

- Return crop residue into the soil using cropping devices and harrowing
- Bale straw for livestock use.
- Sell excess straw for industrial use such as straw particle board, ethanol production, etc.

What can you do:

Contact your Public health office and provincial agriculture representative and ask if:

- legislation is in place to protect your health with respect to crop residue burning
- enforcement legislation to prohibit indiscriminate burning of crop residues is used
- the province is actively discouraging these practices through education and assistance
- If you have a lung disease or react to stubble burning minimize your contact by staying indoors during burning and keep windows closed;
- arming groups are discouraging their members from using unhealthy burning practices
- farming groups are encouraging controlled burning which addresses weather conditions and impact
- there is continuing, local research on methods of utilizing crop residues for industrial purposes

Remember When You Can't Breathe Nothing Else Matters