

Farm Practices in B.C. Reference Guide

Strengthening Farming Program



Ministry of
Agriculture
and Food

FACTSHEET

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COMMODITY: GRAIN

Description

The primary grain crops grown in B.C. include cereals such as wheat, barley, oats and rye, oilseeds such as canola, pulses such as dry field peas, and forage seeds used for forage and turf purposes. Small amounts of flax, canary seed, mustard, dry lentils, sunflowers, triticale, hemp seed, grain corn and soybeans are also produced. The large majority (85% – 90%) of B.C.'s grain crops are grown in the Peace River region. The other 10%-15% of production occurs predominantly in the Vanderhoof, Armstrong, Creston, and Fraser Valley areas.

Grain is typically planted in the Spring (April-June) and harvested in the Fall (August-October). Some Fall seeding of crops, mainly winter wheat, is practiced with the crops remaining dormant until early spring. Seedbed preparation involving field cultivation is often required before seeding. Zero-till direct seeding and minimum tillage systems that reduce soil disturbance are increasingly common practices. Most crops are sown using a seed drill, air drill or air seeder.

Fertilizers and pesticides are usually applied with applicators or sprayers as required either before, during, or after seeding. Seed treatments are often required to protect the seed from insect and disease damage or in the case of inoculant, to promote nitrogen fixation by legume crops. Some seeds are purchased with the seed treatment already applied (for example canola), while others require the producer to purchase and apply their own (for example wheat or peas) Desiccants may be used in certain crops just before or at maturity in the Fall to accelerate dry down for harvest.

Grain is harvested either by swathing and subsequent combining, or by combining a standing crop directly (known as "straight cutting"). A combine is used to separate the kernels of grain from the straw and chaff. The grain is retained in the machine, and the others are blown out the back onto the field. Harvested grain is trucked from the field to granaries for storage until it can be transported to an elevator, feed mill, or livestock

operation. In some cases, the grain may be used on the same farm from which it is harvested.

Grain is graded and priced according to its quality, moisture content, freedom from weed seeds, disease and foreign materials. Quality parameters of grain are determined by the Canadian Grain Commission under the *Canada Grain Act*. Weather during the growing and harvesting seasons plays a major influence on price and overall determined quality. To prevent spoilage, farmers must keep the temperature and moisture content of grain within prescribed limits to meet export quality requirements established by the Canadian Grain Commission in compliance with the federal *Seeds Act*. This must be accomplished in a manner that does not affect the grain adversely or its intended end use. A variety of heated air dryers and grain aeration fans are used.

Commercial grain farms are large and highly mechanized operations. Grain farmers use farm equipment such as tractors, cultivators, sprayers, combines, fans, augers and conveyors. On-farm infrastructure may include machinery sheds, grain storage bins, wells, power lines, irrigation lines and chemical and fertilizer storage facilities. Trucks, trailers, and railway cars are used to transport grain to various markets.

Farm Practices of Particular Interest

Practices for specific farm activities can be found in the Farm Practice section of this reference guide. Farm practices of interest to grain production include the following:

Aircraft Activities

Fixed wing aircraft, helicopters, or Unmanned Aerial Vehicles (drones) may be used for scouting of fields, seeding, the application of fertilizers and a select few pesticides.

See also Farm Practice: [Fertilizers and Soil Conditioners](#)
[Pesticides](#)
[Mobile Equipment](#)

Crop Residue

Crop residue may be burned to allow for the planting of a subsequent crop or left on the field to serve as a soil amendment. Grass seed fields are sometimes burned to control disease and insect outbreaks.

See also Farm Practice: [Burning](#)
[Crop Residue Management](#)

Cultivation and Seeding

Cultivation of crops may occur 24 hours per day during seeding and post-harvesting times of the year and may result in dust movement and noise from machinery.

See also Farm Practice: [Cultivation](#)
[Mobile Equipment](#)

Harvesting

Harvesting operations are timed according to the crop development and production cycles. Weather conditions are a primary influence affecting timing of operations. Other harvesting practices requiring the use of machinery include grain transportation and handling activities. Machinery may be operated 24 hours a day.

See also Farm Practice: [Mobile Equipment](#)

On-Farm Grain Storage and Handling

Grain storage and handling requires the use of stationary and/or mobile equipment. Drying fans can operate 24 hours per day throughout the harvest period and beyond.

See also Farm Practice: [Grain Handling](#)
[Stationary Equipment](#)
[Storage of Farm Supplies and Products](#)

Pesticide Application

Grain production often benefits from the use of pesticides to control insects, diseases and weeds. Applications are timed depending on the weather as well as the growth, development and severity of the pest to be controlled.

See also Farm Practice: [Pesticides](#)
[Pest Management](#)
[Weed Control](#)

Transportation

Grain producers typically own or manage a variety of vehicles making deliveries and hauling products which, in some cases, can occur 24 hours a day. They must, however, supply adequate areas on the farm property to handle the volume, movement, and parking of trucks and other traffic related to the activities and production of the farm.

See also Farm Practice: [Mobile Equipment](#)
[Transportation](#)

Principal and Accessory Buildings

From an operational perspective, principal farm buildings for grain growing enterprises are carried out in conjunction with livestock or forage operations and typically include

granaries, storage bins and tanks, and associated equipment such as conveyors, hot air dryers, and grain aeration fans. Accessory farm buildings may include storage for agricultural wastes, chemical storage and machine sheds for grain seeding and harvesting equipment. If the livestock or forage component of a grain growing operation is included, the numbers and types of principal and accessory buildings are broadened.

From a watercourse protection perspective, however, the definition of principal and accessory buildings may differ. For the purposes of determining applicable setbacks from watercourses and property lines, therefore, local government bylaws or the Guide for Bylaw Development in Farming Areas should be consulted. Building assessments may need to be conducted on a case-by-case basis if the designation of a building as principal or accessory is unclear.

Legislation

Agricultural producers are expected to follow all legislation that pertains to their farming operations. The provincial *Farm Practices Protection (Right to Farm) Act* stipulates that a “farm operation” must meet the *Public Health Act*, *Integrated Pest Management Act*, *Environmental Management Act* and the regulations under those Acts, as well as any land use regulation (amongst other requirements), to be protected from liability in nuisance, from being prevented from conducting that farm operation by court order, and from the application of certain local government bylaws. Local government bylaws may also apply to some farm practices, and farmers affected should contact their relevant local government for more information.

Some of the Acts, regulations, and bylaws that may be relevant to this topic may include the following:

Federal Legislation

The *Fisheries Act* protects fish and fish habitat in ditches, streams, rivers and wetlands and prohibits the discharge of deleterious substances such as fertilizers, manure and pesticides into watercourses frequented by fish, or that may end up in water frequented by fish.

The *Migratory Birds Convention Act* protects migratory birds within Canada, including their nests and eggs, and forbids the release of substances which may harm migratory birds.

Provincial Legislation

The *Food and Agricultural Products Classification Act* Organic Certification Regulations establishes an organic certification program in B.C., overseen by the Certified Organic

Associations of British Columbia. This program allows farmers to obtain certification to demonstrate that the food and agricultural products which they produce or that the practices which they follow in the production and selling of these products are in accordance with prescribed organics standards.

The *Integrated Pest Management Act* regulates all aspects of pesticide sale, storage, use, and transport on public roadways.

The *Motor Vehicle Act* and Motor Vehicle Act Regulation protect people traveling on public roads, in part by regulating hazards – including the operation and movement of farm equipment, implements, vehicles, and animals on public roads. The Act requires that loads must be securely fastened and/or sealed to prevent loss during shipment.

The *Plant Protection Act* and its regulations establish preventative measures, and inspection and treatment programs to mitigate the spread of certain pests, insects or diseases that are destructive to plants.

The *Weed Control Act* and its Weed Control Regulations place the responsibility for control of “noxious weeds” on land “occupiers”.

Publications

Publications that provide information on grain production include the following:

British Columbia Good Agricultural Practices (GAP) Guide
Canola Growers Manual
Creeping Red Fescue Seed Production in the Peace River Region
Fertilizer Guide for the Peace River
Growing Forage Legumes for Seed
Intensive Wheat Management
Lentil Production in Alberta
Manitoba Winter Wheat Production and Management
Red Lentil Management in Alberta
Oat Production in Alberta
Pedigreed Forage Seed Production: Getting Started
Pulse Production Manual
Sunflower Seed Crops
Understanding Pedigreed and Common Seed
Winter Wheat Production