

COMMODITY

GRAIN

Description

Wheat, barley, oats and rye are the primary cereal crops grown in British Columbia. Significant production is in place as well for canola as an oilseed, dry field peas as a pulse crop, and forage seeds for both forage and turf purposes. Small amounts of flax, canary seed, mustard, sunflowers, triticale, hemp and soybeans are also produced. About 85%–90% of B.C.'s grain is grown in the Peace River region. The balance of production occurs mostly in the Vanderhoof, Armstrong, Creston and Fraser Valley areas.

Grain is typically planted in the spring and harvested in August and September, although harvesting may extend into October. Some fall seeding of crops is practiced with the seeds remaining dormant until early spring germination. Seedbed preparation involving field cultivation is usually required before seeding. Zero-till direct seeding and minimum tillage systems that greatly reduce the amount of 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 and to promote nitrogen fixation by legume crops. Desiccants are frequently used just before crop maturity as well.

Grain is harvested either by swathing and subsequent combining, or by combining a standing crop directly. A combine is used to separate the kernels of grain which are retained in the machine from the straw and chaff which are blown out the back onto the field. Grain is trucked from the field to granaries for storage until it can be conveniently 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; and freedom from weed seeds, disease and foreign materials. Weather during the growing and harvesting seasons plays a major influence on price and quality. In order 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 *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 market.

Farm Practices of Particular Interest

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

Aircraft Activities

Fixed wing aircraft and helicopters may be used for seeding and for the application of pesticides and fertilizers.

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 and development 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 storages for agricultural wastes, chemical storages 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 *Farm Practices Protection (Right to Farm) Act* stipulates that the farm operation must meet the *Public Health Act*, *Integrated Pest Management Act*, *Environmental Management Act* and the regulations under those Acts. Information on federal and provincial legislation can be found in Appendices B and C.

Acts that pertain to specific farm activities are listed in the Farm Practices section of this reference guide. Local government bylaws may also apply to some farm practices. Acts that are not referenced elsewhere and which may be of special interest to game farm producers include the following.

Federal Legislation

The *Fisheries Act* protects fish and fish habitat.

The *Integrated Pest Management Act* regulates the sale, purchase, storage and use of pesticides.

The *Migratory Birds Convention Act* protects migratory birds.

The *Motor Vehicle Act* protects people travelling on public roads and regulates the movement of farm vehicles and implements on the road.

The *Weed Control Act* places responsibility for the control of noxious weeds on land occupiers and land users.

Local Government Legislation

Local government legislation may include applicable noise bylaws.

Publications

Publications that provide information on grain production include, but are not limited to, the following. Refer to Appendix D for details.

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
Oat Production in Alberta
On-Farm Food Safety
Pedigreed Forage Seed Production
Pulse Production Manual
Sunflower Seed Crops
Winter Wheat Production