

DRAINAGE AND IRRIGATION

Why should you be concerned?

Producers recognize the value of our water resources to crop production in Manitoba. We must use water resources efficiently and utilize management practices to offset the impacts to crop production due to insufficient or excess water during the growing season.

In Manitoba, growing season precipitation is required for successful crop production. However, this precipitation does not come uniformly and rarely matches the water use demands of a growing crop. As a result, excesses and deficits of moisture are common. These imbalances must be managed through drainage, irrigation and other moisture management techniques.

In some regions of Manitoba, excess water in the field requires drainage measures to facilitate crop production. Earth moving and ditching are common methods for improving surface drainage. Tile drainage may be considered for improving crop production on certain lands where high water tables are the major drainage limitations. Maintaining drains by trenching up to one foot in depth (providing no clay material is removed and there is no impact on anyone else) does not require authorization.

Drainage water can carry nutrients, pesticides or pathogens to surface water. Care must be taken to weigh the economic and ecological implications of draining improvements versus wetland preservation on a site-specific basis before initiating any drainage works.

Manitoba's irrigation water comes from rivers, reservoirs and aquifers. Spring precipitation and snowmelt are often stored and later put to use during the growing season.

Irrigation often requires intensive management, especially on higher valued crops. Irrigation can enhance the potential for leaching and runoff on many soils. Proper scheduling and use of nutrient management plans are essential to protect environmental quality. Water intakes and irrigation pipelines can affect fish and fish habitat if not properly mitigated. Wind erosion potential can be severe on coarse textured soils growing low residue crops. As such, environmental protection is an important aspect of irrigation operation and management.

The increasing demands on limited water resources are encouraging agricultural producers, industry and government to make more efficient use of the water supply in current and future irrigation systems. The continuing goal is to further improve irrigation infrastructure and water use efficiency, while safeguarding the environment.

What can you do?

1. Use this worksheet to assess how effectively your farm manages drainage and irrigation water.
2. Discuss drainage plans with upstream and downstream neighbours. Check with Manitoba Water Stewardship, the rural municipality or conservation district before improving on-farm drainage.
3. Apply for required permits and licences. A Water Rights Licence is required for irrigation use. An Environment Act Licence is required for any irrigation project that withdraws 160 acre-feet (200 dam³) of water or greater per year from a single source.
4. Make sure your land is suitable for irrigation before you develop. Use 1:20,000 soil surveys for assessment.
5. Consider crops that grow well in local conditions, based on available water supplies.

6. Find out how much water is required for your irrigation operations. Use water efficiently and reduce unnecessary losses. Meter your use.
7. Choose equipment that is efficient and keep it in good condition. Repair all leaks.
8. Use appropriate irrigation scheduling methods that are based on soil properties, soil moisture, crop needs and climate information.
9. Contact your local GO Office for additional information and support, or other appropriate agricultural extension specialist.

