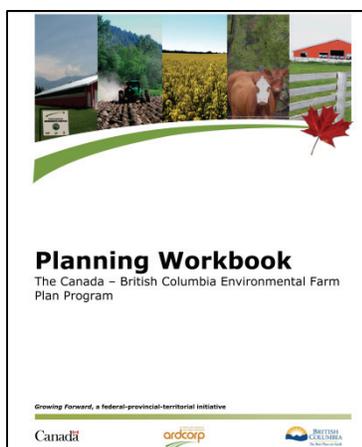




# 1 INTRODUCTION

The long term wellbeing of farms and ranches depends on good quality soil, water, air and other natural resources. In order to preserve these resources good management needs to include protection of the environment. An effective way to accomplish this broad goal is through sound environmental farm planning.

The measures necessary to sustain natural resources over the long term will depend on types of livestock raised, crops grown, farm or ranch locations within the province and on production practices. Practices described in this publication may not be suitable for all producers due to differences in weather, soil and other conditions. Additional measures may be necessary for operations where specified practices described in this publication do not protect the environment adequately. It is in the best interest of producers to determine the necessary environmental precautions for their specific situation.



This Reference Guide provides information on various environmental laws and makes suggestions for environmentally sound practices. It is the primary reference when completing worksheets in the **British Columbia Environmental Farm Plan: Planning Workbook**. This audit and planning process is not a legal requirement; it is a voluntary one to help producers identify areas where environmental improvements should occur on a farm or ranch.

This Reference Guide is intended for **all agricultural producers** in British Columbia. Suggested planning and management practices were developed with the cooperation of the BC Agricultural Council, BC Agriculture and Research Development Corporation, producer associations, and government and non-government agencies. Note that this publication and the companion **Planning Workbook** are designed for use on privately owned farmland. However, the discussions and principles apply to all land used for agricultural production.

## USE OF THIS PUBLICATION

**Publication Format Chapters 2, 3, 4, 5 and 6.** These chapters cover general information on all areas of environmental management related to **farm production** (Farmstead, Livestock, Crops, Pest Management, and Soil Amendments).

**Chapters 7, 8, 9, and 10.** These chapters cover general information on all areas of environmental management related to **resource protection** (Biodiversity, Soil, Water, and Air).

**Chapters 11 and 12.** These chapters cover broad **environmental concepts** within the context of agricultural production (Stewardship Areas and Climate Change).

Each of chapters 2 to 12 has the following format:

- ◆ **a chapter "tab sheet"** lists metric to imperial conversions of all measurements used in the chapter (except Table & Worksheet numbers), and has the chapter contents list on the reverse side
- ◆ an "Introduction" that lists all subsections
- ◆ the **first section in farm production** chapters 2, 3, 4, 5 and 6 that outlines interaction with the environment are highlighted by a green colour bar (e.g., in Chapter 4, in the **Crops and the Environment** section, the relationship and importance of crops in the nutrient cycle is discussed)
- ◆ the **first section in Resource Protection and Environmental Concept** chapters 7, 8, 9, 10, 11 and 12 provides the factors associated with potential Environmental impacts (e.g., in Chapter 9, the **Water Quality and Quantity Factors** sections deals with specific farm practices: for each practice the primary concerns, legislation and beneficial management practices are covered

**Environmental Concerns** – this section highlights the primary environmental concerns associated with the specific practice

**Legislation** – this section has a brief outline of the main legislation pertaining to the practice; this section **must not** be considered to be complete; an outline of other legislation that may also apply is in Appendix A

**Beneficial Management Practices** – this section recommends beneficial management practices that address the environmental concerns that are listed in the above section

**Appendix A.** Lists primary legislation affecting agriculture and the environment. Due to the importance of the *Agricultural Waste Control Regulation* and *Code of Agricultural Practice for Waste Management* it is printed in its entirety in Appendix A. Section 5.

**Appendix B.** Provides climatic and irrigation information.

**Appendix C.** Lists all publications and Internet web site addresses referred to in the text.

**Appendix D.** Lists glossary of terms used, as well as closely related terms.

**Appendix E.** Features a detailed metric to imperial conversion table.

**Index.** Contains an alphabetical list of subject matter with page numbers.

## **Conventions and Definitions**

Commonly used acronyms and styles in this publication are:

- ◆ AGRI for the BC Ministry of Agriculture
- ◆ MOE for the BC Ministry of Environment
- ◆ Italics – identifies a piece of legislation

- ◆ **Bold or Bold** – emphasizes particularly important information
- ◆  – indicates a reference publication (listed in Appendix C.1)
- ◆  – indicates website information (listed in Appendix C.2)
- ◆  – means **go to** the page within this publication for more information
- ◆ e.g., – means “**for example**”, and is not necessarily all inclusive
- ◆ i.e., – means “**that is**”, and is meant to further define a word or phrase
- ◆ in the Beneficial Management Practice sections:
  - “xx m or more (suggested)” – means a distance suggested as a practice
  - “at least xx m (Act or Regulation)” – means a distance required by legislation

**Equations.** These are shown on a pale yellow background within the Worksheets.

**Worksheets.** These are laid out in using a format of “question, calculation, answer,” on a light brown background. Worksheets are filled out as examples – blank Worksheets are available in the Planning Workbook.

**Tables.** These are shown on a light green background. If the information is used in a Worksheet, it is indicated in the right-hand end of the title bar.

**Crops.** Includes all agricultural crops.

**Livestock.** Includes all farmed animals and birds.

**Legislation.** References to legislation in this publication are current at the time of writing. However, legislation and the procedures to obtain permits and approvals will be changing over the next several years. *If in doubt about the currency and validity of given legislation, contact the appropriate environmental agency.*

Distance measurements given in legislation are meant to be horizontal, unless stated as “depth”.

Legislation is identified by either a Canadian or British Columbian flag:



Provincial Legislation



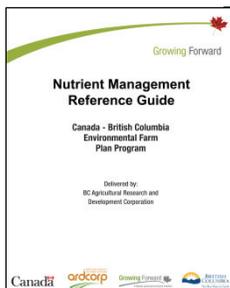
Federal Legislation

**Metric Measurements.** This publication uses metric units **except** in the Water Supply and Irrigation sections where units of water are in US gallons and area is in acres.

Metric measurements are written in abbreviated form. For instance, 30 m means 30 metres, 1 km means 1 kilometre, etc. Conversions for all metric numbers used in each chapter are given on the chapter “tab page” (except Tables & Worksheets).

## Environmental Farm Plans

This publication is to be used by producers as a reference when completing the **Environmental Farm Plan: Planning Workbook**. However, it also directs a producer to specialized **Management Publications**, where appropriate. These management publications are available for subjects such as Grazing, Integrated Pests (IPM), Nutrients, Riparian Areas, Irrigation, Biodiversity and Drainage. These are referred to by means of a note, such as shown below for the **Nutrient Management Reference Guide**.



**Nutrient Management Reference Guide** is a publication that forms part of the **Environmental Farm Plan** series on **Beneficial Management Practices**. Its purpose is to optimize nutrient use and to reduce environmental impacts. The **Nutrient Balance Assessment**, outlined on pages 6-10 to 6-16, will indicate which producers should refer to this publication for further evaluation. It will also be of interest to producers wanting to maximize the value of both manure and inorganic fertilizers. Table 6.8, page 6-16, outlines the basic steps in nutrient management planning.

## Beneficial Management Practices (BMP's)

A beneficial management practice is a farm practice which, from experience, provides environmental protection when used to carry out a particular farm activity. This publication identifies the majority of recommended beneficial management practices for the farm activities discussed. For some practices, information is referred to in separate publications.

All beneficial management practices may not need to be implemented on every farm. Some farms may be following practices, which upon review, may be found to be equal to or better than a suggested beneficial management practices.

Producers not following a prescribed practice in this Reference Guide should evaluate whether implementation of the practice will benefit the environment. Beneficial practices or their equivalents that address significant environmental concerns should be followed. Practices not addressing significant environmental concerns may still be beneficial to both the producer and the environment and may be implemented at the producer's discretion.

## Limitations of this Reference Guide

All portions of this publication will not typically apply to each producer.

It is not recommended to extract portions of this publication without considering the environmental context of the entire operation.

Individuals unfamiliar with agricultural production or resource protection should not attempt to assess a farm operation based on this publication alone. This publication is not a Regulation and is not intended to be adopted into legislation. However, government agencies are encouraged to use its contents when dealing with environmental issues affecting the agricultural industry.

This publication provides advice only and does not constitute or imply approval under any federal or provincial Acts. Contact must be made with the appropriate agency whenever approvals, permits, licences and documentation are required to implement improvements.