

B.C. Agricultural Drainage Manual

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Purpose of This Manual

Agricultural drainage is an essential part of farming. Proper decisions in soil and water management will influence the outcome of a farming operation for years to come. This manual was developed with the following purposes in mind:

- Help farmers improve drainage through better soil and water management.
- Assist farmers in identifying drainage problems and find appropriate solutions.
- Provide professionals with design parameters of drainage systems.
- To provide ideas and technical information on proper drainage practices.

How To Use This Manual

The concept behind this manual was to have a “one stop” reference for agricultural drainage in B.C. Realizing this manual would have to be different things to different people, it was designed with different types of readers in mind, from those with no knowledge of drainage to experienced drainage experts. Fundamental principles of soil and water management as well as “self help” guides to improving drainage are found in the first few chapters (Chapters 2 to 7). For people with experience in soil and water management, detailed parameters and techniques to design effective drainage systems can be found in the second part of the manual (Chapters 8 to 11). Individuals with limited knowledge in drainage system design or the basic principles of soil and water management should read the appropriate sections in the first part of the manual (Chapters 2 to 7) and not extract design parameters from this manual.

Preface

This manual is intended as a general reference although specific drainage design criteria are included. It describes generally accepted drainage practices and principles, yet is not meant to be the sole source of information on soil and water management. The reader must use experience and professional judgement when designing proper drainage systems. It is recognised that because of regional variations in soil and climatic conditions, not all parts of this manual will apply to every farm operation.

Drainage is one of the most ancient agricultural practices. Although many new innovations have appeared in the last 50 years, its basic principles have long been known and applied by successful farmers and poets; like this one:

*When land is drained no "high-backs" keep,
But lay it flat and plough it deep;
No shallow work, but break the pan,
The plough-share made when ploughing began.*

*Don't force your acts 'gainst nature's will,
Though drained the land, 'tis clay land still,
with sun to scorch and wind to dry,
Break up the soil and scarify.*

*But when your ground is filled with rain,
Then your labour is worse than vain,
For each footmark, Shod or cloven,
Only stamps the worst of sloven.*

Doggrel Rhymes, 1868.

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Portions of this manual were prepared from information contained in the previous edition of the B.C. Agricultural Manual, 1986 issue, by Ted Van der Gulik, Sietan Chieng and Fraser J. Smith.

Limitation of Liability and User's Responsibility

The primary purpose of the B.C. Drainage Manual is to provide farmers as well as water management professionals and consultants with technical information on the design, installation and maintenance of agricultural drainage systems.

Individual chapters may rely on information that is presented in other chapters of the manual. There is a risk that downloading individual chapters may not present all of the required information in its entirety. A complete bound manual is available from the Irrigation Industry Association of BC.

While every effort has been made to ensure the accuracy and completeness of these materials, additional materials may be required to design and implement more advanced subsurface drainage systems. Advice of appropriate professionals and experts may provide additional local or site information that is not covered in this Guide.

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