



Ministry of
Agriculture

Technical Brief for Temporary Field Storage

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Nutrient Management Practices - Technical Report

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AGRICULTURAL WASTE CONTROL REGULATION REVIEW

TECHNICAL BRIEF TEMPORARY FIELD STORAGE

Disclaimer: The information presented in this technical brief has been prepared by Ministry of Agriculture staff and is based on conversations that have occurred during Agriculture Waste Control Regulation consultation sessions with industry and the Ministry of Environment since April 2012. The material is presented as a summary of some of the thoughts expressed at working group meetings with the intention of providing relevant background information. While the brief does offer some suggestions from the Ministry of Agriculture, the information contained herein should not be considered a final product but rather a starting point for further discussion at future meetings.

Attention: The comments and questions in this text box were added in November 2015 following the posting of the second intentions paper in July 2015 to add clarification, to provide further context or to flag parts of the original brief which may not have attracted adequate discussion in the first round of consultation. The comments are not intended to suggest a revision to or to provide a reinterpretation of the material presented in the original brief or what was documented in the applicable meeting minutes.

- Page 5 of the second policy intentions paper refers to additional protective measures for temporary field storage in high risk areas, among them being a reduction of storage duration from the current nine (9) months to seven (7) months. The March 10, 2014 meeting minutes and the original wording in this brief refers to a duration of nine months (or longer if specific crop requirements may warrant). Is the suggested 7 months a workable duration?
- The items below under the heading “Related Additional Considerations or Unresolved Issues” may need further attention.

Note: This brief incorporates suggestions made by the Agricultural Waste Control Regulation review working group as reflected in the notes for the March 10, 2014 meeting.

INTRODUCTION

The option of providing field storage of manure and other agricultural by-products is essential for crop-based enterprises relying on organic nutrients. Field storage by definition is considered temporary and is typically required to allow flexibility in transport of manures and compost materials between a livestock farm of origin and a receiving farm which focuses on growing vegetable or berry crops. Proper storage is required to ensure that runoff and leachate from such storages does not impact surface water and groundwater. Key considerations in the placement of

field storages include elements such as the degree of risk posed by regional or local precipitation amounts, setback distances from watercourses, cover requirements to minimize the potential for generation of contaminated runoff and leachate, the nature of underlying soils, the permeability of the immediate area on which manure is piled, and the presence of underlying unconfined aquifers.

SUMMARY OF CURRENT REGULATION

In paraphrase form, the *Code of Agricultural Practice for Waste Management* outlines the requirements for field storage as shown below:

- solid agricultural waste may be stored on a field for two weeks or less if the waste is used within two weeks and stored in a manner that prevents pollution
- solid agricultural waste may be stored on a field for more than two weeks if the waste is stored no longer than nine months, if it is located at least 30 metres from any watercourse or source of water used for domestic purposes, and stored in a manner that prevents pollution
- berms or other works must be constructed around a field storage area if necessary to prevent escape of waste that causes pollution
- for areas of the province receiving greater than 600 millimetres of precipitation from October through April, field-stored waste (except agricultural vegetation waste) must be covered

CHALLENGES IN CURRENT LEGISLATION

The primary concern which the Ministry of Environment has expressed with respect to wording in present legislation is that prescriptive expectations are not laid out clearly enough. Management of field storages in a manner so as to prevent pollution can be difficult to prove or enforce.

POTENTIAL OPTIONS

Each clause of the existing Code insofar as it applies to field storages should be reviewed to determine whether it should remain in its current form or in a revised form in the new regulation.

An overarching goal as “agreed upon” in industry meetings is that, regardless of whether field storage or solid waste storage on the farm of origin is short-term or longer-term, runoff and leachate must be contained. Violations with respect to storage must be enforceable and measurable. The following bullets summarize points made in discussion and, in some cases, suggest expansion of meeting understandings. It should be recognized that future discussion may result in a number of regulatory options becoming non-regulatory options or some non-regulatory options becoming regulatory ones.

1. **Definitions of Wastes.** Storage requirements should apply to all inputs and by-products defined as solid agricultural “wastes” and include materials such as digestates, compost products, bedding, spoiled feed, silage, and other nutrient-rich materials.

2. **Short-term and Longer-term Storage.** The distinction between a short-term field storage duration of two weeks and a longer-term duration of greater than two weeks should be maintained as is the case in the current Code of Agricultural Practice for Waste Management.
3. **Maximum Duration of Storage.** Maximum length of storage should not exceed nine months as currently stated (the need to store for longer periods should only be recognized if a given volume of stored waste exceeds that needed for current growing season and if it is beneficial to delay use until the following growing season).
4. **General Cover Requirements.** Piles in place for two weeks or less will not have to be covered unless weather forecasts suggest that significant rainfall is expected along with the possibility that runoff or direct discharge into a watercourse is likely. The onus should be on the farm owner receiving the product. Covering of piles for durations greater than two weeks is required in areas receiving greater than 600 millimetres of precipitation annually.
5. **Cover Requirements for Higher Precipitation Areas.** Covering of piles should be required for any field storage from October through February in unfrozen ground conditions and in areas of the province receiving more than 600 millimetres of annual precipitation.
6. **Field Storage on Frozen Ground in Lower Precipitation Areas.** Uncovered storage of field piles on frozen ground in interior regions of province should be permitted where annual precipitation is less than 600 millimetres as long as direct discharge into watercourses, runoff and/or leachate from piles is contained or prevented.
7. **Requirements for Sensitive Aquifers.** For areas overlying sensitive unconfined aquifers with permeable soils, an impermeable base must be incorporated into a field storage area. Collection of leachate and runoff is required.
8. **Setback Requirements.** Setbacks for storages of two weeks or less in duration must be a minimum of 15 metres from any watercourse and 30 metres from any source of water used for domestic purposes. Setbacks for storages of greater than two weeks in duration must be a minimum of 30 metres from any watercourse and 30 metres from any source of water used for domestic purposes. Any discrepancies on definitions and setbacks should be revised to match those specified in the Ministry of Agriculture factsheet entitled *Agricultural Building Setbacks from Watercourses in Farming Areas*.
9. **Penalties.** Provisions for accelerated penalties should be built into the regulation with a first offence typically being a warning and monetary penalties imposed thereafter.

RELATED ADDITIONAL CONSIDERATIONS OR UNRESOLVED ISSUES

The following additional considerations or unresolved issues may not have been covered under the potential options section as noted above, may have been brought up as a related parking lot item in previous meetings with industry, or may have been discussed in other contexts.

1. **Definition of Growing Season.** Definitions should be made to identify actual dates for which the growing season applies and for which specific storage conditions may apply, and should be made with the understanding that rules for permanent storage apply outside this time. The one-page summary prepared by the BC Agriculture Council following the July 10, 2012 meeting mentions that “non-growing season field storage will follow permanent storage rules”. It is not clear how

this differs from general requirements that any storage (permanent or temporary) must not be the source of contaminated runoff or leachate.

2. **Secondary Mitigation Measures.** Other mitigation measures may be incorporated if prevention of contamination can be assured and may include straw cover, separate contaminated runoff and leachate containment, riparian areas or vegetative filters, and diversion of clean runoff.
3. **Mapping for Higher Risk Pollution Potential.** The regulation should include references to maps showing varying degrees of risk potential (if distinctions are to be made on conditions for storage) such as locations of unconfined aquifers, soil type, and precipitation amounts above a given threshold.
4. **Pen Storage of Manure.** The July 10 meeting discussion suggested a consensus that manure storage under open pens should be treated similarly to general field storage restrictions. The issue may have been dealt with adequately in the technical brief on permanent storage.
5. **Manure Tracking.** The importance of the tracking of manure from the farm of origin to the receiving site needs further discussion and whether it should be a requirement in the new regulation. It was suggested in an industry meeting that, if tracking of manures is to be considered at all, it be designed and managed under the umbrella of industry associations and/or the BC Agriculture Council. The purpose of tracking would be two-fold: (1) to allow monitoring of storage or use at a site other than the originating farm, or (2) to confirm, for example, that field storage piles are short-term (less than two weeks) or longer (greater than two weeks) in duration. If pile duration distinctions are to be repealed in the new regulation, the second purpose becomes irrelevant.

REFERENCES

The following references may support potential options identified in the potential options as noted above or may help to identify solutions or resolve issues needing further deliberation.

BC Environmental Farm Plan Reference Guide (5th edition, November 2010)