



British Columbia Application Risk Management (BC ARM) Pilot Project: Questions and Answers

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The Manure Spreading Advisory (MSA) Committee is proposing to pilot a risk assessment system called ‘ARM’ for manure application. The system was developed in Whatcom County, WA. The objective of this pilot project in the B.C. Lower Mainland is to demonstrate the use of the ARM system as an educational tool and as a potential recordkeeping tool for farmers. If farmers in this pilot project use ARM successfully and find it worthwhile, the MSA Committee will recommend expanding the use of the ARM system to more producers with lessons learned from the pilot.

ARM fits with the purpose of the MSA Committee: to provide guidance to farmers in south coastal B.C. about environmentally responsible manure spreading and management.

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1. What is ARM (Application Risk Management)?

The ARM was developed by Whatcom Conservation District, with support from the U.S. Environmental Protection Agency, as a risk assessment tool for farmers to enable them to move away from fixed dates for manure spreading. ARM enables manure spreading when specific soil, weather, and crop conditions allow for best use of manure with minimal environmental risks.

2. Why might farmers be interested in ARM?

The ARM system gives the producer a record of due diligence, showing environmental risks may be low on a given field at a given time, even if they are generally high for the region. Using ARM has also been shown to benefit forage production and water quality when recommendations are followed.

3. Does completing an ARM risk assessment mean that manure can or should be spread on dry, clear days in January?

It depends on the result of the risk assessment. The risk assessment might indicate low risk in January on fields that are generally well-drained and have low potential for runoff. For example, in Whatcom County less than 20% of the fields might be eligible to receive manure in January based on soil type, if all other factors of the risk assessment (e.g., weather forecast, soil moisture, crop cover) align to give a low risk. However, the other 80% of the fields would be ineligible regardless of the other factors.

4. If manure spreading can happen earlier in the year, then less storage is needed, right?

No. ARM provides no excuse to have inadequate manure storage, nor would ARM give any reason to increase manure application rates. For the minority of fields that have low

runoff potential in the winter, the ARM system suggests starting and ending the manure spreading 'season' earlier, which results in better use of the manure nutrients in certain cases.

5. How would ARM differ from the process that is currently in place in B.C.?

In B.C., there are no fixed dates for manure spreading. Manure Spreading Advisories give generic guidance to producers about when spreading manure would be recommended in the South Coast of B.C., based on regional and seasonal weather conditions. In contrast, ARM assessments evaluate risks specific to a field at specific times.

6. How ARM assessments and Nutrient Management Plans (NMP) related?

ARM focuses on when and where nutrients are applied, whereas an NMP focuses on application rates. ARM considers risks days in advance, whereas an NMP considers risks and crop nutrient needs perhaps a year or more in advance, so both (ARM & NMP) are important.

7. What is the MSA Committee asking of cooperators in the pilot project?

The Manure Spreading Advisory Committee will be looking for up to 10 farmers – perhaps more as the pilot progresses – in the Lower Mainland of B.C. who may want to apply manure as a nutrient source to fertilize crops and meet the following criteria:

1) Have a current Environmental Farm Plan and Nutrient Management Plan.

<https://www.bcac.bc.ca/ardcorp/program/environmental-farm-plan-program>

2) Be willing to have Ministry of Agriculture staff, working with Whatcom Conservation District staff, create a map that shows each field's potential for runoff and leaching. The evaluation would happen in winter 2015-2016. This would happen only once, and it would take

about 1 hour, depending on how many fields there are and how large they are.

3) Be willing to send your ARM assessment to the Ministry of Agriculture for review 24 to 72 hours before each manure application (except for the period from April 1 to August 31 when no submission is expected).

8. How long does it take to complete an ARM risk assessment?

In Whatcom County, producers take no more than 5 minutes to complete each risk assessment (Step 3, Question 7). One of the objectives of the pilot is to evaluate and improve the time that ARM takes and make it easy to use for producers in B.C.

9. What will the Ministry of Agriculture do with the information collected during the pilot?

Within 24 hours (including non-business days) of receiving an ARM assessment, the Ministry will confirm whether the farmer entered data correctly into the ARM assessment checklist. Decisions to apply nutrients (manure) will be, as always, the farmer's. It is important to understand that all regulations must still be followed.

Any information that could be used to identify an individual will be shared only within the Manure Spreading Advisory Committee, unless there is consent from the individual cooperator.

10. What would be a successful pilot project for ARM?

It would be successful if the cooperators find ARM worthwhile and all stakeholders understand that ARM may optimize manure use in certain circumstances, while still having adequate manure storage. The hope is that ARM will provide farmers with the flexibility and accountability to do their jobs as environmental regulations and codes of practice evolve.

11. If all goes well with the pilot, then what?

In the long term, if cooperators and regulatory authorities find the ARM risk assessment worthwhile, the hope is that all farmers in the B.C. South Coast would use the ARM tool before each manure application, but without submitting an ARM assessment before each application. The Ministry of Environment and other regulatory authorities would retain their discretion to investigate potential incidents of non-compliance with regulations, and farmers would have the option to use their ARM records to explain their actions.

12. What evidence is there that ARM works?

Experimental research in the last 4 years has demonstrated that ARM recommendations work in Washington State. It involved water monitoring of surface runoff and belowground leaching events after manure applications. As geographic conditions in the Lower Fraser Valley and Washington are similar, so it is reasonable to consider that the results from ARM could apply here as well.

The pilot project will include a review of the scientific research conducted on ARM in Whatcom Conservation District and its applicability to B.C. As more research is conducted, ARM may evolve to reflect the best available knowledge.

13. What will happen if a farmer or a contractor spreads manure if his ARM assessment suggests the risks are *low or acceptable* and a discharge of manure into a watercourse or pollution occurs?

This scenario could happen. For example, a forecast of dry weather may turn out to be wrong, and heavy rains occur, causing manure to run off from a field. ARM does not relieve a farmer of any existing obligations or responsibilities. In the event of an inspection by the Ministry of Environment, the regulatory authorities would take into account documentation of due diligence by the farmer.

Ministry of Environment would also expect to see that actions were taken to prevent or stop the runoff.

14. What will happen if a farmer or a contractor spreads manure if his ARM assessment suggests the risks are *high* and a discharge of manure into a watercourse or pollution occurs?

A “high” risk at any time would mean that manure application is not recommended. Doing the ARM assessment would not leave a farmer in a worse position than if no assessment was done, since unawareness is not an excuse for non-compliance. Farmers are encouraged to have contingency plans to avoid the situation described in the question, and it is expected that any extenuating circumstances would be considered in a follow-up inspection.

15. How will ARM fit with regulations or codes of practice?

It is possible that there will be fixed calendar dates for manure spreading in B.C. at some point. As in Washington State, a real-time risk

assessment like ARM could be used if a farmer can demonstrate that nutrients will likely be used by the crop and the environmental risk is low in the winter or ‘shoulder seasons’ despite the high overall seasonal risk.

16. Where can I get more information and updates about ARM?

Background information about ARM in Washington State can be found at <http://www.whatcomcd.org/arm>.

Recorded presentation on ARM: <https://www.youtube.com/watch?v=QypcPcPqEvs>

Pilot project updates will be posted on the BC Government’s “Manure Spreading Advisory” webpage.

17. Who do I contact about the ARM pilot in B.C.?

Call the Ministry of Agriculture at 604-556-3001 or 1-888-221-7141 and ask to speak with someone about “manure spreading.”



FOR FURTHER INFORMATION CONTACT

Phone: 604.556.3001
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