

To: CanadaGAP Program Participants and Stakeholders

Date: February 18, 2022

Subject: **Reissued Communique: Impact of Catastrophic Flooding on Certification of Affected CanadaGAP Program Participants**

CanadaGAP first issued a communication in December 2021 about recent catastrophic flooding. This communique repeats and adds to the original statement from CanadaGAP.

CanadaGAP-certified companies affected by catastrophic flooding events in 2021 will have a number of issues to consider relative to their food safety certification. Auditors and certification bodies have questions and are seeking guidance on auditing the affected operations, and on the maintenance and renewal of certification going forward. This communique is intended to address those questions and concerns.

As planting gets started for the 2022 growing season in BC, CanadaGAP is re-issuing this communication to remind growers that flooding could introduce new food safety risks (e.g., chemical contaminants in the soil, bacterial growth or chemical residues on equipment that got wet, debris such as glass that was carried into a field that may pose a physical hazard, etc.).

Every operation affected by the catastrophic flooding in 2021 needs to be mindful of these potential risks. Operations should ask questions (note this is not an exhaustive list) such as:

- What was affected by the flooding? Fields? Equipment?
- Could there be bacteria in the soil?
- Could there be chemicals in the soil?
- Could there be physical hazards present?
- Could there be any type of residue on my equipment?

Once these questions have been answered, then the next step would be to understand the risks (e.g., chemicals in the soil could affect product grown in it, equipment I use could potentially affect the product or soil).

The last step is to determine how to fix or mitigate the identified risk. What action needs to be taken? Is soil testing necessary? Could I wash the contaminated equipment? If I walk the field can I collect and remove the debris?

During your CanadaGAP audit at harvest time, the auditor will be looking for evidence that you have considered your potential risks and done your best to ensure that the flooding has not had an impact on your product.

Because of the current lack of information about how to best to mitigate the risks, CanadaGAP is not able to provide detailed guidance to program participants. However, growers will still need to seek expert guidance, recommendations, or advice (e.g., from the provincial ministry, soil consultants, or other qualified sources of expertise) to help understand the potential risks and determine the appropriate mitigation strategies for their operation.

CanadaGAP® is a program developed in Canada to promote Good Agricultural Practices (GAPs) for fruit and vegetable suppliers.

A. Immediate Issues

1. Program participants whose 2021 crop had direct contact with the flood waters should consider that product contaminated and it should be disposed of accordingly. If product is still in the field and appears to be of saleable quality, it should be considered contaminated from a food safety perspective and should NOT be harvested or marketed.
2. The certification body or auditor may be in touch with affected operations to seek assurance that any product exposed to flood waters has been properly disposed of, as a condition of maintaining their certification for the 2021 crop. Program participants should keep documentation of the disposal, which can be provided as evidence to that certification body or auditor if requested.
3. Some operations may have locations or fields both within the flood zone and outside the flood zone. If product is still remaining in the flooded fields, refer to A.1 above. If the product has gone into cold storage, the producer should ensure that any of his or her product remaining in storage is accounted for. If the storage facility was exposed to flood waters, the producer should ensure that any contaminated product belonging to him or her has been properly disposed of. The producer should obtain documentation of the disposal and make it available to the certification body or auditor if needed.

Example: A producer farms two cabbage fields – one field is in the flood zone, the other is not. The producer's CanadaGAP certificate is for "Production of Cabbage". The certificate covers ALL cabbage produced in 2021. Some cabbage grown in the flooded area may still be in the field. The producer should document and be prepared to demonstrate to the certification body that this product was not harvested or marketed. Some of the producer's cabbage may have gone into a storage facility, and the storage was flooded. Since the certificate covers ALL of his or her cabbage, the producer should be prepared to show the certification body or auditor that any cabbage that was contaminated in a flooded storage facility has also been properly disposed of and will not be marketed.

4. Some product storage buildings were flooded or partially breached by flood waters. If product came into contact with or was potentially exposed to flood waters, it should be considered contaminated and disposed of. Storage operators are encouraged to err on the side of caution in determining how many storage containers or how much product to dispose of. Disposal should be documented for review by the certification body or auditor. Any remaining product should be moved out of contaminated storages to minimize exposure to potential contaminants from the seepage of flood waters into the storage environment.

In some cases, flood waters may have breached the storage building but may not have contacted product or storage containers directly (e.g., water may have been contained by culverts or basins beneath the storage facility). Those culverts or basins would be considered contaminated and care should be taken when removing product from storage, either in bulk or in containers, to avoid cross-contamination of product from areas where flood waters collected or moved through the storage building. Operators should recognize that it may be very difficult to move product without potential cross-contamination from areas of the building where flood waters entered. Operators are urged to err on the side of caution and dispose of product that may have potentially been in contact with areas of the building exposed to flood waters. The above considerations should be documented in the operation's risk assessment and/or disposal records.

5. Some greenhouses were flooded or partially breached by flood waters. Depending on the extent of the breach, if production was still underway within the greenhouse, a risk assessment is needed to



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determine whether the risk of contamination or cross-contamination requires the disposal of all product. Producers are encouraged to err on the side of caution. If production was already finished, clean-out should be fully documented including any preventive measures or corrective actions taken to minimize contamination from the flood waters (see A.1 above regarding expert guidance or recommendations). Prior to planting the next crop, greenhouse operators must complete a risk assessment as described in B. below.

B. Preparing for the 2022 Season

The next phase of recovery will involve preparing for planting of crops in 2022. Program participants should consider the following:

1. Many new hazards have been introduced by the flood waters. These include various microbiological, chemical and physical hazards. Some of the potential contaminants include:
 - a. Microbiological: animal waste, human sewage
 - b. Chemical: agricultural chemicals, fuel, diesel, medicated feed, etc.
 - c. Physical: glass, wood shards, pieces of metal, etc.

Note: It should not be assumed that the volume of flood water or rain water is adequate to dilute potential contaminants to reduce chemical hazards to an acceptable level. Science would need to be done to corroborate that assumption.

Other factors that should be considered as part of the risk assessment include:

- Crop type (annual or perennial; whether the crop grows close to the ground, above ground or underground, etc.)
 - For potential microbiological hazards such as *E.coli* 0157:H7 in raw animal manure, an interval of 120 days between application (in this case, presence of flood waters containing raw manure) and harvest is sufficient to achieve die-off of potential pathogens
 - Adjacent areas where potential contamination has come from. Examples include: septic beds, industrial contaminants, livestock farms, other horticultural farms, etc.
 - Water sources (ponds, dug-outs, ditches, wells, points, etc.)
 - Adequate drainage – mitigating of the risk of pooling or standing water
 - Soil assessment and potential testing for contaminants
2. For food safety recertification in 2022, each operation affected by flooding will be expected to have completed an operation-specific risk assessment of the potential hazards on their site(s) prior to planting. The risk assessment **must be** based on expert advice, guidance or recommendations. Potential sources of expert advice could include:
 - a. Provincial government (Ministry of Agriculture, Ministry of Environment, Public Health, etc.)
 - b. Federal government (AAFC, CFIA, Environment Canada, Health Canada, Public Safety, etc.)
 - c. Academic expertise (e.g., soil scientists, agronomic experts, environmental scientists, food safety scientists, microbiologists, etc.)
 - d. Consultants with bona fide expertise (e.g., environmental consultants with relevant experience)
 - e. Guidance or recommendations issued by a committee or task force of relevant experts
 - f. Industry associations working with qualified experts to generate recommendations for their specific sector.
 3. Currently, relevant expertise and guidance for industry on mitigating the effects of catastrophic flooding and post-disaster remediation are a work in progress. It could take some time for



recommendations to be developed. Governments, academia and other experts are working on this and making efforts to assemble the appropriate expertise and to conduct the required science to support any forthcoming recommendations. Food safety consultants may not have adequate expertise to assist with recommendations, although they may be able to help with determining elements to consider in a risk assessment.

4. The operation's risk assessment as well as any preventive measures or corrective actions taken prior to planting must be documented by the program participant, so that the information can be reviewed by the auditor during the 2022 audit.
5. Soil and water testing may be needed. CanadaGAP does not have the required expertise to set out protocols for appropriate testing. Refer to item B.1 above for potential sources of expert guidance.
6. Currently there is a prohibition in the CanadaGAP Food Safety Manuals against planting in production sites where biosolids have been applied in the past. Because the flood waters could have been contaminated with human sewage, CanadaGAP certification bodies and auditors will be instructed not to enforce this prohibition for production sites affected by catastrophic flooding in 2021. The prohibition for flooded areas will be waived starting in 2022 and will be in place indefinitely for areas affected by this year's flood events. For growers of perennial crops who will not be returning to full production for several years and who will not need CanadaGAP certification in the interim, this prohibition will continue to be waived once they come back into production with a marketable crop.

C. Do the CanadaGAP Food Safety Manuals address catastrophic events like flooding?

The CanadaGAP Food Safety Manuals already contain requirements around production site assessment, storage of product, packaging materials, and agronomic inputs, etc. They also identify the need to document any preventive measures and corrective actions taken. All of those requirements still apply, in addition to the expectations stated in sections A. and B. above. CanadaGAP also provides an appendix to the manuals (Appendix W. Flooding) that may contain helpful resources to assist with your risk assessment.

If you have any questions, please call the CanadaGAP office at 613-829-4711 or send us an email at info@canadagap.ca.

