
Conclusion

Following public consultations on sustainable development of pork production in Québec and at the conclusion of their analysis and deliberations, the Commission found that the industry's growth over the past three decades has elicited numerous incidents of local social conflict, which is mounting in intensity and spreading province-wide. Pork production generates undeniable ecological impacts, primarily due to non-point source pollution, the extent of which is difficult to determine, but whose existence is undeniable. To ensure competitiveness, the pork production industry has steadily increased productivity by adopting new technological innovations. This has led to specialised operations, a significant decrease in their number, and a considerable increase in size. The pork production industry in Québec has successfully kept pace with domestic and international consumer demand by seizing opportunities for growth.

Although pork production does not currently lie within the framework of sustainable development, the Commission does not dismiss it as a possibility. Indeed, in the Commission's view, all production systems or models can contribute to sustainable development. However, to attain this objective, pork production must be the fruit of a collective effort involving the producers themselves, rural residents, elected officials at various levels of government and agencies or institutions concerned. To this end, the pork production industry should pursue the three components of sustainable development, namely: respect for the ecological environment; economic viability; and social harmony. The industry must move forward in keeping with a continuous process of adaptation and innovation in which technical innovations, not strictly at the production level, but also environmental and social innovations, will play a pivotal role. Ensuring sustainability of this production industry will require taking short, medium and long term concrete actions.

At the social level, the pork production industry will be sustainable to the extent it is able to make a dynamic contribution to rural community development and cohesion, changes to operations management and production techniques introduced with adaptability of the surrounding social context as a consideration, and to the extent that transparent information processes and collaborative efforts are implemented to foster social cohesion. Pork production sustainability requires taking into account social expectations related to the ecological environment, animal welfare and public health, as well as recognizance of the producers within the rural area.

Despite the Québec government's efforts to establish an adequate legislative framework integrating pork production development into a more harmonious social

process, the current social discontent demonstrates the deficiency of this solution. The Commission believes that alleviating the considerable tension rife in rural areas (and thereby averting a social crisis), is only possible by modifying the pork production decision-making framework. Moreover, the Commission believes that lifting the moratorium, even outside the limited activity zones, would be socially perilous, until concrete actions are taken in this regard. Consequently, there is a pressing need for action in order to prevent an undue extension of the moratorium or compromise the ability of the pork production industry to compete.

The Commission notably recommends rapid implementation of two measures essential to restoring social peace and social acceptance of pork production. The first is a social/environmental impact analysis process involving public participation on all proposed new hog facilities requiring a certificate of authorization issued by the Minister of the Environment. This process would be applicable to pork production projects not subject to an environmental assessment and review procedure under sections 31.1 et seq. of the *Environment Quality Act*. The Commission also recommends restricting protection against legal proceedings enjoyed by agricultural producers to normally-accepted agricultural practices as regards odours, dust and noise resulting from agricultural activities. To this end, the Commission recommends creating a special decision-making agency to respond to complaints, as well as a mandatory mediation process, whose breakdown would result in a decision imposed by the arbitrator.

The Commission proposed further actions with a view to social harmony and acceptance of pork production in Québec. To this end, while recognizing the importance of promoting and developing land use for agricultural purposes as a priority in rural areas, the Commission believes it is essential that Québec's RCM-specific features be a factor of consideration in land use development in agricultural areas. For this reason, the Commission believes the government must allow the RCM to play an active role with respect to developing and planning agricultural activities on its territory. Municipalities should have more say with respect to planning sites for swine breeding and waste storage facilities, as well as spreading activities, so they can define minimum distance parameters as regards management of odours resulting from agricultural activities (set forth in *Orientations révisées de 2001*), which are specifically-adapted to their territory's features. Furthermore, the Commission views production zoning as an appropriate method for agricultural area development planning and for ensuring harmonious coexistence among the various agricultural area uses.

The Commission believes it is essential that affected populations receive comprehensive, transparent information on public health risks associated with pork production. The Commission found currently-available public health data to be

insufficient in terms of accuracy and scientific evidence to prohibit pork production in Québec, recommend banning it, or propose minimum distance separation standards. For this reason, the Commission notably recommends conducting studies on population exposure levels to atmospheric contaminants in high-density pork production areas, as well as epidemiology research on the impact of air pollution resulting from pork production operations on the health of exposed populations.

At the economic level, the pork production industry will be sustainable to the extent the industry's producers remain competitive on domestic and international markets, ensure acceptable remuneration for required resources, absorb supplementary costs incurred by working in an environmentally-sound and socially-acceptable manner. The sector's sustainability also requires that a sufficient number of the industry's operations remain viable for future generations.

The review of the Farm Income Stabilization Insurance Program (FISIP) is an important condition to sustainable development of pork production. The Commission recommends this program, for which compensation is based on production volume, be replaced by an aggregate income insurance plan for agricultural producers, targeting individuals working on family farms or small-scale family farms, i.e. operations requiring not more than four workers. Moreover, the Commission believes the Québec pork industry must continue to meet current consumer demands related to safety and competitive pricing. The industry must also rapidly respond to growing public concerns, especially regarding animal welfare, and animal feed containing genetically-modified ingredients or meat-meal.

At the ecological level, the pork production industry will be sustainable to the extent it can coexist with the natural environment while conserving productivity, diversity, quality and the support capacity of the environment. Industry practices must strike a balance between the needs of production and those of the natural environment, i.e. water, air, soil and biodiversity. The sustainability of the sector also requires an integrated approach. Indeed, respect for the capacity of the environment at the watersheds scale and applying sustainable solutions to problems of surplus solid and liquid manure are essential. Out of concern for fairness, the eco-condition measures aimed at compliance with all environmental statutes and regulations should be quickly applied to ensure that only compliant agricultural operations receive government assistance.

One important element in sustainability and social integration of pork production is promotion of land ownership and thereby, reclamation of solid and liquid manure, which are naturally valuable fertilizers. However, land ownership must never be to the detriment of maintaining an adequate surface of forest cover at the watersheds level.

To address the sustainable development shortcomings of the pork production industry, the Commission proposes a series of measures for including pork production in sustainable development, presented below within three categories, namely: findings; opinions; and recommendations.

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Summary of Findings, Opinions and Recommendations

Pork Production in Québec

- ◆ **Finding 1:** *The Commission found that the term “model” has two meanings: descriptive and normative. In its descriptive sense, pork production in Québec seems to correspond to several different models, depending on the producer’s status - independent or integrated, whether the production is on leased or owned land, and according to the specialisation of production units. However, many new experiences are emerging.*
- ◆ **Finding 2:** *The Commission found that pork production has steadily improved productivity levels by adopting new technological innovations to ensure competitiveness. This development has led to specialised operations, an important decrease in their number and significant increase of their size.*
- ◆ **Finding 3:** *The Commission found that the Québec pork production industry has managed to keep pace with both domestic and international consumer demand by seizing growth opportunities.*
- ◆ **Finding 4:** *The Commission found that pork production generates ecological impacts, primarily attributable to non-point source pollution, the extent of which is difficult to determine but whose existence is undeniable.*
- ◆ **Finding 5:** *The Commission found that changes in the pork production industry over the past thirty years have triggered various local incidents of social conflict - a public issue which is becomingly increasingly intense and province-wide.*

A Sustainable Development Framework for Pork Production

- ◆ **Opinion 1:** *The Commission believes it is impossible to universally or definitively conclude in advance whether more extensive or intensive production would be more sustainable. Determining how to optimize production would require a specific farm-by-farm operational analysis.*

- ◆ **Opinion 2:** *The Commission believes the pork production industry will be sustainable at the ecological level to the extent it is able to coexist with the natural environment while maintaining productivity, diversity, quality and the capacity of the environment to sustain the industry. Industry practices must strike a balance between the needs of production and those of the natural environment, i.e. water, air, soil and biodiversity. The sector's sustainability also requires an integrated approach.*
- ◆ **Opinion 3:** *The Commission believes the pork production industry will be sustainable to the extent it is able to make a dynamic contribution to rural community development and cohesion, changes to operations management and production techniques introduced with adaptability of the surrounding social context as a consideration, and to the extent that transparent information processes and collaborative efforts are implemented to foster social cohesion. Pork production sustainability requires taking into account social expectations related to the ecological environment, animal welfare and public health, as well as recognizance of the producers within the rural area.*
- ◆ **Opinion 4:** *The Commission believes the pork production industry will be sustainable at the economic level to the extent the industry's producers can remain competitive on domestic and international markets, ensure acceptable remuneration for required resources, absorb supplementary costs incurred by working in an ecologically-sound and socially-acceptable manner. The sector's sustainability also requires that a sufficient number of the industry's operations remain viable for future generations.*
- ◆ **Opinion 5:** *The Commission believes all production systems or models can contribute to sustainable development. Making pork production a part of sustainable development should be the fruit of a collective effort involving the producers themselves, rural residents, elected officials at various levels of government and agencies or institutions concerned. To this end, the pork production industry should pursue the three components of sustainable development, namely: respect for the ecological environment; economic viability; and social harmony. The industry must move forward in keeping with a continuous process of adaptation and innovation, in which technical innovations, not strictly at the production level, but also environmental and social innovations, will play a pivotal role.*

Striving Towards Socially-acceptable Pork Production

- ◆ **Opinion 6:** *The Commission believes that in agricultural areas, it is important to promote agricultural activities, and their development, as a priority use of soil.*
- ◆ **Finding 6:** *The Commission found that the legislative amendments adopted in the 1996 and 2001 Agricultural Area Land Development Plans did not enable attaining the objective of harmonious coexistence between agricultural and non-agricultural uses in agricultural areas or social peace.*

Through Land Development

- ◆ **Opinion 7:** *The Commission believes land development in Québec's agricultural areas must be carried out in consideration of RCM-specific features.*
- ◆ **Opinion 8:** *The Commission believes there should be greater flexibility in terms of analysing compliance with the Orientations révisées de 2001 to allow municipalities to exercise their authority under the Act respecting land use planning and development to shape more adequate guidelines by taking territorial characteristics into account.*
- ◆ **Opinion 9:** *The Commission believes that developing appropriate territory-specific knowledge tools would facilitate the RCM's role regarding land development in agricultural areas, while providing more solid justification for their proposed adaptations of the Orientations révisées de 2001 within their territory. To this end, the Commission calls upon the relevant Ministries to provide support for RCMs in preparing these tools.*
- ◆ **Recommendation 1:** *The Commission recommends that before issuing notices of non-compliance with the Orientations révisées de 2001, representatives from the ministère des Affaires municipales should meet with RCM officials, regardless of whether their decision is based on a revised or modified development plan or an interim control regulation intended for agricultural areas.*
- ◆ **Opinion 10:** *The Commission believes that consideration and securing of local and regional consensus represents a major stride towards achieving harmonious coexistence between agricultural and non-agricultural activities, in the development of agricultural areas.*

- ◆ **Recommendation 2:** *The Commission recommends integrating a light, public consultation mechanism in the RCM's framework for developing interim control regulations intended for agricultural areas.*
- ◆ **Opinion 11:** *The Commission believes that, should the Minister of Municipal Affairs deem an interim control regulation related to agricultural areas non-compliant with the Orientations révisées de 2001, the RCM should have recourse to an alternative authority.*
- ◆ **Opinion 12:** *The Commission believes that to improve site planning of swine breeding and waste storage facilities as well as spreading activities, municipalities should enjoy greater latitude to make territory-specific adaptations when determining minimum distances related to managing odours resulting from agricultural activities contained in the Orientations révisées de 2001.*
- ◆ **Opinion 13:** *The Commission believes municipalities should have the authority to broaden the definitions of protected buildings, as specified in the parameters for determining minimum distances related to the management of odours in agricultural areas (contained in the Orientations révisées de 2001), to take into account their territory's specific characteristics.*
- ◆ **Recommendation 3:** *The Commission recommends that the parameters for determining minimum distances as regards odours resulting from agricultural activities, contained in the Orientations révisées de 2001, be re-assessed to ensure adequate protection of populations exposed to odours.*
- ◆ **Recommendation 4:** *The Commission recommends that special measures to mitigate the inconveniences due to odours resulting from pork production activities be required when an increase to such activity cannot proceed in adherence to the minimum distances in effect (right to increase recognized under the Act to preserve agricultural land and agricultural activities), and to limit conflict of use in agricultural areas.*
- ◆ **Opinion 14:** *In the Commission's view, distribution of agricultural uses in agricultural area is an excellent means of exercising tighter control of odours resulting from pork production activities. The Commission believes production zoning is an appropriate method for planning agricultural area development. In the opinion of the Commission, this zoning technique is liable to foster attaining the goal of harmonious coexistence among the various agricultural area uses.*
- ◆ **Opinion 15:** *The Commission believes that zoning standards for livestock waste management in agricultural areas, when justified by RCM- or municipal-specific*

features, are liable to improve harmony among the agricultural and non-agricultural uses in agricultural areas.

- ◆ **Finding 7:** *The Commission found that simply determining minimum distances between spreading activities and non-agricultural uses in agricultural areas does not always ensure adequate management of the problem of odours resulting from spreading activities associated with pork production.*
- ◆ **Opinion 16:** *The Commission believes that tighter on-site control of spreading activities (e.g.: determining zones where spreading pork production liquid manure is prohibited), would improve harmonious cohabitation in rural areas. Local land features, as specified in the RCM development plan in effect, would serve as the basis to justify use of this zoning technique.*
- ◆ **Opinion 17:** *The Commission believes better dispersion of swine breeding facilities would decrease the cumulative effect in the cross-section zones of odours emanating from buildings and enhance bio-security. To this end, use of quotas, pursuant to the Act respecting land use planning and development, could prove to be a good swine breeding density control technique.*
- ◆ **Recommendation 5:** *The Commission recommends allowing municipalities to fix quotas for swine breeding activities in agricultural areas to the extent permitted by the development plan in effect on the territory.*
- ◆ **Opinion 18:** *The Commission believes buildings and roofs associated with pork production and waste storage facilities that are well-integrated into the landscape are liable to foster harmony in rural communities.*
- ◆ **Opinion 19:** *The Commission believes direct injection or immediate incorporation of waste could be an appropriate solution in some cases to improve on management of odours resulting from spreading.*
- ◆ **Opinion 20:** *The Commission believes a good practices guide should be made available to municipalities, enabling them to provide future promoters with measures for mitigating odours during spreading activities, thereby enhancing community acceptance of their project. The Commission calls upon the relevant Ministries to provide support for the municipalities in developing these tools.*
- ◆ **Recommendation 6:** *The Commission recommends that municipalities enjoy systematic access to inventory data related to agricultural operations on their territory, (other than farm income information), necessary for better agricultural area development planning.*

- ◆ **Recommendation 7:** *The Commission recommends that local municipalities be systematically advised of swine operation projects likely to be implemented on their territory, and if so, the type of process to be undertaken by the promoter beforehand.*
- ◆ **Recommendation 8:** *The Commission recommends making a simplified, popularized version of the agro-environmental fertilization plan available to the public and municipalities, enabling them to complete their agricultural area development mandate.*
- ◆ **Recommendation 9:** *The Commission recommends that local municipalities receive copies of spreading agreements related to cultivated land located within their territory.*

Through Collaborative Efforts of Rural Players

- ◆ **Finding 8:** *The Commission found that the government has resorted in an abusive manner, to the emergency clause as justification for adopting regulatory amendments without a preliminary publication procedure. The Commission found that proceeding in this way has served to aggravate social conflict over agricultural activities, notably, pork production.*
- ◆ **Recommendation 10:** *The Commission recommends improving the distribution and quality of public information regarding pork production projects, especially with respect to requests for certificates of authorization, their delivery as well as to notification of projects directed to the Minister of the Environment, prior to carrying out certain pork production projects.*
- ◆ **Recommendation 11:** *The Commission recommends that the ministère de l'Agriculture, des Pêcheries et de l'Alimentation, in collaboration with the players involved (producers, municipal authorities, interested groups), publicize positive and innovative experiences of collaborative efforts and social acceptance in the pork production sector.*
- ◆ **Recommendation 12:** *The Commission recommends creating a biennial Forum on pork production as part of sustainable development.*
- ◆ **Finding 9:** *The Commission found that the criteria of the environmental assessment and review procedure required for livestock production projects, pursuant to sections 31.1 et seq. of the Environment Quality Act, are such that no pork production project has come under review in the past 25 years, within the scope of this procedure.*
- ◆ **Opinion 21:** *The Commission believes the criteria related to the environmental assessment and review procedure required for livestock production projects should be*

revised to ensure that proposed, large-level swine breeding facilities are subject to this requirement.

- ◆ **Recommendation 13:** *The Commission recommends implementing a social and environmental impact analysis process involving public participation for all proposed hog operations requiring a certificate of authorization issued by the Minister of the Environment.*
- ◆ **Opinion 22:** *The Commission believes the Minister of the Environment should enjoy discretionary leeway to refuse or authorise, with or without modifications, a pork production project in the light of the results of an environmental and social impact analysis involving public participation and whether they consider it falls within sustainable development.*
- ◆ **Recommendation 14:** *The Commission recommends that for all pork production projects requiring a certificate of authorization issued by him, the Minister of the Environment should mandate a working group to consult with the interested parties, and then establish the terms and conditions for implementing a public, local environmental impact analysis process.*
- ◆ **Recommendation 15:** *The Commission recommends that exemption from legal liability in an action brought against third parties as regards dust, noise or odours resulting from certain agricultural activities be limited to normal agricultural practices. To this end, the Commission recommends creating a special decision-making agency to respond to complaints, as well as a mandatory mediation process, whose breakdown would result in a decision imposed by the arbitrator.*
- ◆ **Opinion 23:** *The Commission believes that collaboration among all players affected by pork production is currently possible and must be fostered at the provincial, regional and local government levels.*
- ◆ **Recommendation 16:** *The Commission recommends designating, within the workings of government, a livestock welfare officer, to further deliberations and action in this regard.*

Public Health as a Consideration

- ◆ **Opinion 24:** *The Commission believes it is time to step up research into identifying sources of water contamination and assessing the associated public health risk.*

- ◆ **Opinion 25:** *The Commission believes that currently-available public health data is insufficient in terms of accuracy and scientific evidence to prohibit pork production in Québec, recommend banning it, or propose minimum distance separation standards.*
- ◆ **Opinion 26:** *The Commission believes the psychosocial distress attributable to social conflict generated by pork production and remonstrations requires changes to the decision-making process making it more readily available to individuals whose living environment it directly affects.*
- ◆ **Opinion 27:** *The Commission believes the potential public health risk justifies immediate intervention in production with a view to reducing sources of atmospheric emissions from buildings and spreading activities.*
- ◆ **Opinion 28:** *The Commission considers it essential to ensure affected populations receive comprehensive and transparent information about public health hazards associated with pork production.*
- ◆ **Recommendation 17:** *The Commission recommends conducting studies on population exposure levels to atmospheric contaminants in high-density pork production areas.*
- ◆ **Recommendation 18:** *The Commission recommends carrying out an epidemiological study on the health impact of air pollution generated by pork production operations on exposed populations.*
- ◆ **Recommendation 19:** *The Commission recommends pursuing research into the occupational health risks for swine operation workers (air quality, risk of acute intoxication or explosion). The Commission also recommends that the ministère de la Santé et des Services sociaux, in collaboration with the Fédération des producteurs de porcs du Québec, the Union des producteurs agricoles, the Commission de la santé et de la sécurité du travail and the ministère de l'Agriculture, des Pêcheries et de l'Alimentation continue efforts to enhance worker awareness regarding these risks.*
- ◆ **Recommendation 20:** *The Commission recommends that the Québec government take the necessary measures towards banning the use of meat and bone meal from hog feed within a reasonable delay.*
- ◆ **Recommendation 21:** *The Commission recommends that the Québec government take the necessary measures towards banning the use of antibiotics as growth promoters in pork production.*

- ◆ **Opinion 29:** *The Commission believes that the ministère de l'Agriculture, des Pêcheries et de l'Alimentation must ensure the necessary control measures of both slaughterhouses and even on-farm slaughterhouses, to guarantee safe meat products.*
- ◆ **Recommendation 22:** *The Commission recommends that the government, collaborate with pork production industry partners, to step up implementation of a pork tracking system.*

Striving Towards Economically-viable Pork Production

- ◆ **Opinion 30:** *The Commission believes it is acceptable for Québec pork production industry growth to keep pace with production world-wide in order to conserve its market share.*
- ◆ **Opinion 31:** *The Commission believes this growth should be brought about through individual or collective private endeavour, as opposed to targeted government promotional efforts.*
- ◆ **Finding 10:** *The Commission found that the Québec pork production industry does not fix pork prices in any market, considering the competitive and open nature of the domestic, North American and global markets and the small scale of Québec's pork industry.*
- ◆ **Recommendation 23:** *The Commission recommends the government be alert to possible impacts of environmental measures on production costs and the industry's economic viability. Consequently, the Commission feels it is relevant to support these new measures with adequate, targeted funding.*

Meeting Consumer Demand

- ◆ **Opinion 32:** *The Commission believes the Québec pork production industry must continue to meet current consumer demand regarding safe food products at competitive prices, and rapidly respond to growing public concerns, notably those related to animal welfare, and genetically-modified or meat-meal components in livestock feed.*
- ◆ **Recommendation 24:** *The Commission recommends that the ministère de l'Agriculture, des Pêcheries et de l'Alimentation and the industry support development*

of specialty items, such as organic products, to fill potentially-significant market niches.

Review of the Farm Income Stabilization Insurance Program

- ◆ **Recommendation 25:** *The Commission recommends replacing the current Farm Income Stabilization Insurance Program (ASRA) in pork production industry with an global income insurance plan for agricultural producers, protecting a net maximal income, applicable irrespective of production volume, type or price.*
- ◆ **Recommendation 26:** *The Commission recommends that any income support program for farmers target individuals working on family farms or small-scale family farms, i.e. operations requiring not more than four workers.*
- ◆ **Recommendation 27:** *The Commission recommends that individuals only be eligible for any income support program, even in the case of persons engaged in agricultural activities on behalf of a corporation.*
- ◆ **Recommendation 28:** *The Commission recommends maintaining the current pork marketing system, as it is equitable and efficient.*

Future Generations

- ◆ **Recommendation 29:** *The Commission recommends that the government study the possibility of implementing a fiscal incentive program to attract agricultural capital risk investment, particularly to pork production, with a view to the industry's viability for future generations.*
- ◆ **Opinion 33:** *The Commission believes special attention should be paid to the needs of the future of agriculture, regarding a technical framework liable to foster autonomy and to ensure individuals are treated fairly, irrespective of the manner chosen to meet their needs in this regard.*

Bio-security

- ◆ **Recommendation 30:** *The Commission recommends including bio-security as a factor of consideration when assessing certificates of authorization for erecting new pork production facilities. To this end, the Commission also recommends the Québec government work actively with industry to implement preventive measures.*

- ◆ **Recommendation 31:** *The Commission recommends implementing a sanitary protection zone to minimise the impact on export markets of foreign diseases that could be introduced in Québec or Canadian herds.*

Striving Towards Ecologically-sound Pork Production

Managing Solid and Liquid Manure

- ◆ **Opinion 34:** *The Commission believes it is important for all agricultural players to adopt a comprehensive strategy addressing phosphorus surplus problems on the short term, while averting long-term problems associated with progressively enriched soil.*
- ◆ **Opinion 35:** *The Commission believes that, given the potential environmental hazard posed by surplus phosphorus, the goal to reach a balance in soil phosphorus should be advanced before the 2010 deadline provided for in the Agricultural operations regulation.*
- ◆ **Recommendation 32:** *The Commission recommends amending the Agricultural operations regulation to ensure the agro-environmental fertilization plan and its application follow-up is carried out by a member of the Ordre des agronomes du Québec who is not an owner, associate or shareholder of an agricultural operation contemplated in the agro-environmental fertilization plan and is not cultivating a parcel of land included in such operations.*
- ◆ **Recommendation 33:** *The Commission recommends that the Ministry of the Environment step up control measures of agricultural operations, to verify compliance with environmental regulatory requirements and restore public trust.*
- ◆ **Recommendation 34:** *The Commission recommends that copies of the annually updated phosphorus status report and land leasing and spreading agreements be automatically forwarded to the Ministry of the Environment.*
- ◆ **Recommendation 35:** *The Commission recommends developing information processing tools enabling the Ministry of the Environment to exert tighter control over spreading activities on cultivated land.*
- ◆ **Opinion 36:** *The Commission believes the spreading dates prescribed in the Agricultural operations regulation constitute acceptable guidelines.*

- ◆ **Opinion 37:** *The Commission believes a lack of solid and liquid manure storage facilities should not justify spreading after October 1st.*
- ◆ **Recommendation 36:** *The Commission recommends ensuring organic fertilizer spreading complies with the regulation, by implementing an accreditation process for their operators and equipment.*
- ◆ **Opinion 38:** *The Commission believes that despite adherence to the current phosphorus fertilization standards prescribed in the Agricultural operations regulation, in some sensitive zones organic fertilizer spreading can generate ecological impacts.*
- ◆ **Opinion 39:** *The Commission believes that conserving the quality of agricultural soil will necessitate maintaining or even increasing their organic matter content, through cultivation practices adapted to the environment and priority use of solid and liquid manure.*
- ◆ **Opinion 40:** *The Commission believes organic fertilizer use should be encouraged due to its fertilization value, as well as its ability to enrich the soil and even absorb a portion of the surplus in some regions.*
- ◆ **Recommendation 37:** *The Commission recommends levying a tax on mineral fertilizers in an effort to encourage organic fertilizer use.*
- ◆ **Finding 11:** *The Commission found that considerable gains have been made in Québec pork production operations in the past decade towards limiting waste and modifying its components.*
- ◆ **Opinion 41:** *The Commission believes it is essential to step up efforts to reduce pork production waste and modify components, due to steady herd growth and challenges inherent to managing pork production waste.*
- ◆ **Opinion 42:** *The Commission believes subdividing property in agricultural areas for the purposes of pork production on leased land should be discouraged due to the precarious nature of spreading and lease agreements that threaten the sustainability of pork production and the multi-vocation of rural areas.*
- ◆ **Opinion 43:** *The Commission believes it is important to favour land ownership in agriculture.*
- ◆ **Opinion 44:** *The Commission believes spreading remains the best solution for reclamation of solid and liquid manure.*

- ◆ **Finding 12:** *The Commission found that various solutions, including reorientating operations and treating liquid and solid manure, are possible solutions for the current problem of surplus phosphorus. The most appropriate solution should be chosen on a case-by-case basis, following a cost-benefit analysis of economic, ecological and social factors.*

- ◆ **Recommendation 38:** *The Commission recommends that operations initially established in compliance with regulations then in effect, whose breeding premises are now considered as having surplus phosphorus due to regulatory amendments in recent years, should be offered funding towards the implementation of the most appropriate surplus solution.*

- ◆ **Recommendation 39:** *The Commission recommends that enlargement of existing breeding facilities or establishment of new ones in surplus phosphorus zones, only be permitted by operators who own 100% of the cultivated land necessary for spreading the solid and liquid manure produced. The operation must assume full responsibility for the required investment and not receive any government funding. Treatment should be the producer's choice, for which he should assume full responsibility and not be eligible for government subsidies.*

- ◆ **Recommendation 40:** *The Commission recommends that enlargement of existing breeding facilities or establishment of a new one in zones without surplus phosphorus, only be permitted by operators who own a minimum of cultivated land for spreading the solid and liquid manure, a minimum which should increase proportionally with the scale of operations. The operation must assume full responsibility for the required investment and not receive any government funding.*

- ◆ **Recommendation 41:** *The Commission recommends that the government, in collaboration with the pork production industry, support the development of ecological, technical, economic and social knowledge related to hog breeding on manure. The Commission also recommends that the government support the testing of new hog breeding practices, which they should subsequently evaluate.*

- ◆ **Recommendation 42:** *The Commission recommends more frequent inspections of storage structures near the end of their operational life due to the potential ecological hazard associated with impermeability loss.*

- ◆ **Recommendation 43:** *The Commission recommends increased implementation of existing means for limiting odours emanating from livestock breeding buildings and associated storage facilities, during spreading operations.*

- ◆ **Opinion 45:** *The Commission believes that, given the importance of atmospheric emissions as a pork production issue, the development of breeding and spreading practices likely to curb atmospheric emissions, notably odours, ammonia and greenhouse gas, should be a research and development priority.*
- ◆ **Recommendation 44:** *The Commission recommends stepping up research and development of means to improve solid and liquid manure management. The Commission feels it is necessary to encourage the collective efforts of key players, technology transfer and better diffusion of environmental knowledge.*

Protecting the Ecological Environment

- ◆ **Finding 13:** *The Commission found that commendable efforts have been expended in Québec to assess the quality of drinking water from groundwater sources. Available data show that for a significant proportion of private wells and water supply systems, the quality of drinking water from groundwater sources, in watersheds of intense agricultural activity, is compromised. However, this contamination seems to be localised.*
- ◆ **Opinion 46:** *The Commission believes the Groundwater catchment regulation constitutes a new interesting tool for municipalities to better protect and conserve the quality of drinking water from groundwater sources.*
- ◆ **Opinion 47:** *The Commission believes the voluntary identification of drinking water wells in agricultural areas, undertaken by the l'Union des producteurs agricoles-Estrie, is an important measure which should be applied to agricultural land province-wide.*
- ◆ **Recommendation 45:** *The Commission recommends focusing more attention on fertilizer and pesticide spreading in proximity to wells, and stepping up the Ministry of the Environment's monitoring of these activities to enhance protection of wells and reduce public health risks.*
- ◆ **Recommendation 46:** *The Commission recommends continuing awareness enhancement efforts among owners of private wells, to ensure contamination problems are reported and corrected.*
- ◆ **Recommendation 47:** *The Commission recommends the Ministry of the Environment increase their monitoring of surface water quality in agricultural areas and, especially in major pork production areas.*

- ◆ **Recommendation 48:** *The Commission recommends increasing awareness enhancement among farmers and agronomists regarding the importance of protecting aquatic habitats.*
- ◆ **Recommendation 49:** *The Commission recommends taking measures to ensure farmers quickly undertake stabilization work in areas sensitive to water erosion along waterways, in proximity to spreading activities, so as to maximize the effectiveness of riparian strips.*
- ◆ **Opinion 48:** *The Commission believes riparian buffer strips foster adequate protection of waterways.*
- ◆ **Recommendation 50:** *The Commission recommends efforts be taken to determine the necessary dimensions of protective riparian buffer strips for providing adequate protection of waterways and river environments.*
- ◆ **Opinion 49:** *The Commission believes the Ministry of the Environment must take the necessary measures to ensure application of the Policy for Protecting Lakeshores, Riverbanks, Littoral Zones and and Floodplains in agricultural areas.*
- ◆ **Opinion 50:** *The Commission believes establishing riparian strips specifically adapted to environmental features is essential to adequately protect waterways.*
- ◆ **Recommendation 51:** *The Commission recommends that RCMs and local municipalities be supported in playing a key role with respect to establishing and maintaining riparian buffer strips in agricultural areas.*
- ◆ **Recommendation 52:** *The Commission recommends correcting a current deficiency as regards protection of waterways whose total runoff area is 2 m² or less.*
- ◆ **Recommendation 53:** *The Commission recommends that the government place more importance on recognized preventive measures of non-point source pollution currently under the responsibility of a program called Prime-Vert. Compliance with environmental regulation, in the absence of an erosion monitoring measure, entails a risk that the water quality protection objectives will not be attained.*
- ◆ **Recommendation 54:** *The Commission recommends implementing a complementary assistance program to Prime-Vert, with a view to encourage farmers to develop and maintain adequate protection strips to conserve water quality and biodiversity. This program should be focused on identified priority locations and wasted uses of agricultural soil as well as developing and maintaining buffer strips.*

- ◆ **Finding 14:** *The Commission found accelerated deforestation in some Québec agricultural regions in recent years, and is concerned about potential environmental impacts.*
- ◆ **Opinion 51:** *The Commission believes favouring land ownership should never be to the detriment of maintaining an adequate surface of forest cover as regards watersheds, due to the essential role played by woodland at the ecological, economic, social and cultural levels.*
- ◆ **Recommendation 55:** *The Commission recommends that the government ensure municipalities can provide an adequate framework for deforestation and take the relevant necessary actions.*
- ◆ **Recommendation 56:** *The Commission recommends prompt application of the eco-condition measures aimed at compliance with all environmental statutes and regulations to ensure that only compliant agricultural operations receive government assistance.*
- ◆ **Opinion 52:** *The Commission believes that, out of concern for fairness, the government must not support operations that contravene any environmental statute or regulation.*
- ◆ **Recommendation 57:** *The Commission recommends using incentive programs to encourage good agro-environmental practices among agricultural operations in an effort to attain objectives beyond regulatory environmental requirements.*
- ◆ **Recommendation 58:** *The Commission recommends that the Ministry of the Environment move quickly to develop a series of indicators designed to evaluate the agricultural biophysical and social environments and the environmental impact of agricultural activities, in addition to the existing compliance indicators regarding the Agricultural operations regulation.*

A Farm-by-Farm Approach Regarding Watersheds

- ◆ **Opinion 53:** *The Commission believes managing agricultural activities at the watershed level is essential to respect the capacity to support the environment, establish use priorities, attain water quality objectives and adequately manage fertilizing substance surplus.*
- ◆ **Opinion 54:** *The Commission believes the risks to public and livestock health justify setting maximum species-specific cumulative density levels (for all species) based on the distinct features of each watershed.*

Conclusion

The Commission believes changing the decision-making framework related to pork production is essential in order to alleviate the spiralling tension in rural areas and thus, avert a social crisis. Moreover, the Commission believes that lifting the moratorium, even outside the limited activity zones, would be socially perilous, until concrete actions are taken in this regard. Consequently, there is a pressing need for action in order to prevent an undue extension of the moratorium or compromise the ability of the pork production industry to compete.

The Commission recommends prompt implementation of these measures, which they feel are essential to restoring social peace and social acceptance of pork production operations, especially recommendation 13.