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## Municipal Development Regulations And Agriculture Across Newfoundland and Labrador: A Scoping Review

**Author:** Nicholas Andrew Fairbridge

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# **Municipal Development Regulations and Agriculture Across Newfoundland and Labrador: A Scoping Review**

**Nicholas Andrew Fairbridge**  
Memorial University of Newfoundland  
St. John's, Newfoundland and Labrador, Canada  
[nicholas.fairbridge@med.mun.ca](mailto:nicholas.fairbridge@med.mun.ca)

## **Abstract**

Communities, especially those that are rural and remote, must bolster food security efforts and build a robust food infrastructure to promote health and protect against future supply chain disruption. Global trends suggest jurisdictions should look inward to expand agricultural capacity without expanding the agricultural footprint and climate impact, and yet municipal boundaries can present significant regulatory barriers. This scoping review charted how the municipalities of Newfoundland and Labrador define, zone, and regulate agricultural activities with a focus on how urban agriculture and personal food production was regulated. The review identified extensive regulatory barriers to agriculture resulting from the persistence of outdated standards and conditions. Innovation supported by acceptance of urban agriculture has appeared in communities whose regulations and experiences could guide needed change throughout the province. In conclusion, a regulatory framework is proposed for urban and residential agriculture based on elements already in use within communities that currently define urban agriculture as an accessory use class.

**Keywords:** urban agriculture, municipal regulations, community development, food security

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## **1.0 Introduction**

Newfoundland and Labrador is losing the capacity to grow and raise food. From 2011 to 2016, one-fifth of all farms in Newfoundland and Labrador were closed, and one-quarter of farm operators stopped farming (Statistics Canada, 2017a). Such loss of critical food infrastructure aggravates concerns for food security and human health already under threat from a changing climate (Schnitter & Berry, 2019). The province of Newfoundland and Labrador must reenvision and renegotiate the role of agriculture within municipalities if it is to produce sufficient food while remaining environmentally sustainable (Godfray et al., 2010).

One strategy to counter the loss of capacity would be to clear large sections of land for new farm developments. Newfoundland and Labrador has an abundance of Crown land and in *The Way Forward on Agricultural Sector Work Plan*, Newfoundland and Labrador (2016) self-identified as the only province currently clearing and developing new land for farming. In that plan, multiple avenues were identified to increase and streamline food production and support agricultural expansion into undeveloped wilderness.

However, this strategy will lead to a loss of biodiversity and an increase in greenhouse gas emissions (United Nations Development Program, 2015). This strategy must be put into a global perspective while accepting that communities must produce more food, but without expanding cultivated lands, to avoid a worldwide collapse of biodiversity (Godfray et al., 2010).

The expansive approach to agriculture has not addressed why cultivated lands in Newfoundland and Labrador were abandoned by farmers with land who no longer farm those lands (Statistics Canada, 2017a). Newfoundland and Labrador (2016) did not identify strategies to support urban or residential agriculture in these strategic plans. The plans did not include municipalities as sectoral partners. Community support for food producers and access to local community markets appeared to be a lynchpin issue for local producers since farmers in Newfoundland and Labrador rely on the highest proportion of direct market sales in Canada (Statistics Canada, 2017a). So, pushing farms even farther away from urban communities may not create sustainable farms.

Urban agriculture is an alternative strategy that would make use of underutilized municipal spaces to increase production, address food security and increase the diversity of available foods from within the community (Poulsen et al., 2015; Warren et al., 2015; Martellozzo et al., 2014; Mok et al., 2013).

In this report, all municipal agricultural activities within residential areas will be referred to as urban and residential agriculture regardless of the size of the community. Promoting a local, internal, food supply system can help preserve wilderness areas (Wilhelm & Smith, 2017), bring positive social outcomes to the community (Guitart et al., 2012), and deliver increased yields for their small area as compared to conventional rural vegetable farms (McDougall et al., 2018). Urban agriculture can be more labour intensive (McDougal et al., 2018), but that has not blunted the growing interest in non-profit or personal hobby farms and homesteads (National Gardening Association, 2014; Gregory et al., 2015). Where the release of Crown lands may represent a relatively simple act of political will, the uptake of urban agriculture requires a coordinated renegotiation of community spaces involving municipal leaders, provincial and national partners, and the residents of each community.

If Newfoundland and Labrador is to meet food sustainability production objectives (Newfoundland and Labrador, 2016) without jeopardizing local biodiversity (Wilhelm & Smith, 2017), the province must leverage municipal boundary areas for food production. How municipal regulations promote or limit urban agriculture for food production, whether as personal subsistence practices or small-scale commercial operations, remains generally unexplored as this strategy is absent from provincial strategic plans (Newfoundland and Labrador, 2016).

Identifying existing barriers to local food production could prepare communities to better approach food security based on food production by existing rural farms and also through the advancement of urban and residential agriculture. Municipal development regulations and local by-laws define the relationship between food production and the community, dictating how and where local food can be produced. The purpose of this scoping review was to examine how the incorporated communities within Newfoundland and Labrador define and regulate agriculture within their municipal planning areas.

## **2.0 Methodology**

This review followed the Arksey and O'Malley (2005) scoping review strategy, adapted to municipal regulation documents, comprised of identifying the research question; identifying and selecting relevant articles; charting the data; and collating, summarizing and reporting the results.

### **2.1 Identifying the Research Question**

The review sought to determine, “How is agriculture defined and regulated within the municipal regions of Newfoundland and Labrador?”

### **2.2 Identifying Relevant Materials**

The inclusion criteria for the materials included all incorporated municipal regulations registered under the Urban and Rural Planning Act, 2000, Newfoundland and Labrador, between August and September of 2020. Regulations were accessed through the online registry of the Department of Environment, Climate Change, and Municipalities. No registered municipal regulations were excluded.

### **2.3 Collating, Summarizing, and Reporting the Results**

The standardized structure and language of municipal regulations supported direct frequency analysis and subsequent analysis of common themes emerging in the definition and regulation of agricultural zoning and conditions. The goal of this stage is to compile available information into a narrative account of existing regulations (Arksey & O'Malley, 2005). Thematic analysis was used to examine patterns or themes within the phrasing and elements common from among the regulations (Braun & Clarke, 2006).

## **3.0 Analysis**

The online repository of the Department of Environment, Climate Change, and Municipalities, Newfoundland and Labrador, contained 159 registered municipal development regulations as of August 2020. In reviewing the list against the list of incorporated municipalities, potential omissions were identified. An omission was confirmed through direct correspondence with municipal offices, copies of the outstanding regulations obtained, and the department notified to be updated. In all, 160 municipal regulations were included.

The list of included communities was cross-referenced to Statistics Canada 2016 census data (Statistics Canada, 2017b) to populate summary statistics on the population size, as well as community planning area boundary size and coordinates. The compiled municipal regulations governed permissive agricultural activities for 1.6% of Newfoundland and Labrador, or 5937.4 km<sup>2</sup>. Comparing this coverage against the total area of all service areas and unincorporated communities suggested these regulations cover 72.3% of all inhabited lands within communities of Newfoundland and Labrador. The census data indicated 84.3% of residents of Newfoundland and Labrador live within the compiled regulated municipalities.

Most development regulations (n=113 or 70.6%) identified farm standards for large-scale livestock agriculture that required approval from provincial departments; however, the requirements and process varied considerably between communities. The majority of those citing outside standards required developments comprised of

five or more animal units to obtain provincial approvals but three communities allowed ten animal units without additional oversight. Some municipalities included limits to hobby farms, and one municipality specified hobby farms contained one or less animal units. Not all regulations defined animal units, even when the term was cited to set conditions, while others defined animal units without using the term to set regulations or conditions. Overall, 81.9% (n=131) of regulations offered a definition for an animal unit, but an animal unit was not standardized. Goat units varied from four to seven animals, sheep from four to 24 animals, and one animal unit of chickens could account for 20, 30, 125, 200, 252, 300, 500, or 1000 actual chickens, depending on which municipal boundaries contained the animals. Despite the numerous requirements and conditions cited within regulations, no municipality (n=0 or 0.0%) cited current legislated regulations on food production, such as supply management quota regulations restricting producers to require licenses for over 100 chickens (Chicken Farmers of Newfoundland and Labrador Quota Regulations, 2001).

Many regulations (n=113 or 70.6%) set firm minimal separation distances between enclosures housing 5 or more animal units from neighbouring residential dwellings, but those minimal distances varied from 600 meters to 300 meters, with one community citing 330 meters, while the remaining 37.5% (n=60) of communities did not specify minimal separation distances. In practical terms, a required 600-meter exclusion radius necessitated a barn housing as few as five cows or 20 sheep or 100 chickens to sit in the center of a 144-hectare exclusion zone. A 144-hectare exclusion zone was larger than the total municipal boundary area of seven communities requiring these conditions. One-quarter of all communities in Newfoundland and Labrador might require a new farm to secure approximately 10% of the entire municipal boundary area. The more permissive minimum separation distance of 300 meters required 36 hectares of dedicated land to house as few as 100 chickens. These conditions appeared to effectively inhibit any potential for new farm developments in many communities, even where municipalities otherwise indicated they would permit livestock agriculture. Other financial or economic barriers were identified further, specifically hampering small farms and homesteads. Limitations included regulations that required hobby farms to generate less than 50% of their income from farming or to outright ban home gardeners from selling any produce, even off-site. Limits to rural homesteads were set within seven communities (4.4%) that required a minimal farm lot size ranging from 1 to 6 hectares before a home could be built on-site. The livestock minimal separation distances and other minimal lot size specifications suggest new small farmsteads and family farms would face significant challenges to meet all listed conditions within most municipalities reviewed.

A key finding from the scoping review was that the majority of municipalities (n=136 or 85%) based all agricultural regulations upon a near identical definition for agriculture:

AGRICULTURE means horticulture, fruit growing, grain growing, crop growing, seed growing, dairy farming, bee keeping, the breeding or keeping of animals for food, skins, or fur, the use of land, meadow land, market gardens and nursery grounds and the use of land for woodlands where that use is ancillary to the farming of the land. Agriculture includes primary processing of onsite products (Agriculture Act, 1947).

This working definition within regulations did not distinguish personal use from commercial purposes. Animal husbandry for food or farm use was not separated from crops under this definition or subsequent land use class zoning. Thus, all home gardens, fruiting trees, and flower beds were to conform to agricultural regulations within communities using this definition. The origin of this definition was not cited in any regulation reviewed but could be traced verbatim to the Agriculture Act (1947) of the United Kingdom, indicating that 85% of all municipal regulations within Newfoundland and Labrador used a functional understanding of agriculture that was at least 73 years old at the time of this publication.

A small cluster of communities adopted alternative working definitions of agriculture (n=17 or 10.6%), first appearing in or around 2012. This cluster used similar phrasing and structure to define agriculture, suggesting all were influenced collectively or in series. A subset of seven communities further altered the definition to separate land use classes for agriculture (crops) from agriculture (livestock). Four municipalities drafted unique working definitions of agriculture. Avondale, Marystown, and Paradise adopted terms to distinguish between urban agriculture and commercial agriculture, while St. John's defined livestock agriculture but lacked any working definition or regulations to crop-based agriculture. Either through the base definitions or as additions to schedule C zone conditions, 23.8% of communities (n=38) identified and set conditions to urban or residential agriculture, although terminology was not consistent and might have referred to such activities as hobby, light, recreational, subsistence, traditional, or urban.

The definitions used for agriculture influenced the identified land use classes, which were then used to zone activities as permissive or discretionary. Land uses classes not identified within a zone remained non-conforming. Nearly all communities (n=153 or 96.6%) identified agriculture as permitted within rural zones, although often with further conditions and limitations. Within the more restrictive communities, six zoned all agricultural land use as discretionary even within rural zones and one community did not allow any form of agriculture to be conducted within its boundaries. Concerning residential zones, the majority of communities (n=86 or 53.8%) zoned all agriculture as non-conforming within any subtype of residential zones, while another 14.4% (n=23) indicated discretionary use of agriculture only within mixed residential zones. As these same communities defined agriculture according to the 1947 usage (Agriculture Act, 1947), these regulations prohibit all livestock, but also prohibit all personal home gardens and fruit trees within residential zones. Planting personal gardens and fruit trees throughout most of Newfoundland and Labrador remained non-conforming in residential zones.

A further 20.6% (n=33) of the communities reviewed zoned agriculture in residential areas as a discretionary land use class. However, discretionary use often further set limiting conditions such as to only allow personal gardens and greenhouses. A small minority of 6.9% (n=11) of communities zoned crop-based agriculture as permitted within residential zones, but restricted livestock-based agriculture as non-conforming or discretionary with strict conditions. Only six communities (3.8%) set permissive zoning and conditions for both livestock- and crop-based agriculture within residential areas. Of those, only the communities of Aquaforte, Bay Roberts, and Harbour Main-Chapel's Cove-Lakeview (n=3 or 1.9%) were fully permissive to residential agriculture without further conditions and limitations to these activities. However, the regulations in Bay Robert's indicated this unconditional allowance was only permitted "were reasonable" which implies some degree of discretionary

limits and that perhaps Aquaforte and Harbour Main-Chapel's Cove-Lakeview remain the only uncontested communities for urban and residential agriculture. Even then, zoning an agricultural land use class as permitted was not sufficient for residents to begin agricultural activities. The working definition of land development within many regulations specified that any change to land use class, including changes in intensity of use, was considered a land development that would require a permit.

The city of St. John's was considered unique with stand-alone by-laws as *Animal Control Regulations* (2008). These regulations were 'species neutral' as they permitted any domestic animals kept under conditions that satisfied those regulations in any zone. However, one potential irregularity was that the St. John's development regulations defined agriculture-livestock as a regulated and non-conforming land use class "including any creature kept for the production of food, wool, skins, or fur" and did not distinguish personal from commercial operations (City of St. John's, amendment 2002). Agriculture-livestock activities were permitted only in rural zones and remain non-conforming within all residential zones. Residents of St. John's were allowed to keep backyard chickens, goats, or sheep under the animal control regulations; however, keeping the same animals for eggs, milk, wool, or skins remained in violation of the development zoning regulations in residential areas. While crop-agriculture was not identified and regulated under the St. John's development regulation, neither was it explicitly permitted as a land use class or accessory use class. As written, the St. John's regulatory framework was permissive in practice but at risk to future regulatory challenges due to the noted gaps and discrepancies.

Four communities offered an entirely different regulatory framework for urban or residential agriculture. Bay Roberts, Grand-Falls Windsor, Spaniard's Bay, and Bishop's Falls established elements of small-scale or urban agriculture as accessory use to residential land use classes. Accessory use classes modified permitted land use classes to provide blanket approval to all identified activities deemed incidental to the primary use. These communities were among the only incorporated municipalities of Newfoundland and Labrador, which clearly identified that a resident could grow their own food without a permit. Yet even within this short list, half limited accessory use to only gardens and greenhouses or to low-density residential zones.

#### **4.0 Discussion**

The scoping review indicated that new farms within municipal boundaries and most residents of Newfoundland and Labrador seeking to grow or raise their own food might face considerable regulatory barriers. Even within rural or agricultural zones, small and modernized farmstead developments could face considerable restraints in most communities through lot-size restrictions generally based on outdated farm practice standards. Any and all forms of residential agriculture remain non-conforming in the majority of incorporated communities of Newfoundland and Labrador. Most communities may not enforce the current regulations to limit personal gardens and homesteading, but these regulations pose a risk to personal food security as they could be enforced at any point in time. Where the large majority of all residents of Newfoundland and Labrador are restricted from practicing home horticulture or grow any plant from seed according to these regulations, the

widespread practice of home gardening may represent one of the largest undocumented acts of mass civil disobedience.

A key theme exemplified throughout the review was that the development regulation of Newfoundland and Labrador cited outdated standards that set conditions to agriculture not attainable to farmsteads within the municipal boundary. The oldest set of regulations were adopted in 1984 and remains without revision, but even the majority of more recent documents still regulated agriculture based on definitions of agriculture that pre-dated confederation (Agriculture Act, 1947). Often-cited conditions and limitations to livestock operations, such as minimal separation distances, may have been derived from environmental guidelines for commercial producers (Newfoundland and Labrador Department of Fisheries, Forestry and Agriculture, 2002a and 2002b). These formulae were adapted from the Manure Management Guidelines for New Brunswick (1996), but the formulae and guidelines vary between provinces. The same general formulae undergo review and updates every five years in Ontario as husbandry and manure practices advance (Crinklaw et al., 2016), and those current guidelines would return ~50% smaller minimal separation distances than similar operations within Newfoundland and Labrador (Newfoundland and Labrador Department of Fisheries, Forestry and Agriculture, 2002a and 2002b). However, no municipal development regulations directly cited the minimal separation distance formulae, and few refer to any guidelines. The majority of regulations dictate absolute minimum separation distances that far exceed livestock operation guidelines for smaller operations. Even if the municipalities were to follow the recommended guidelines, the smallest available bracket considered in those guides was for up to 100 standard animal units, permissive of 50,000 broiler chickens or 600 hogs, and were not intended to regulate small farmsteads (Newfoundland and Labrador Department of Fisheries, Forestry and Agriculture, 2002a and 2002b). The guidelines were never intended to use the non-standard animal units currently employed by multiple municipalities, where a 100-chicken operation would require a regulated 300- to 600-meter separation barrier meant for 50,000 birds. A large majority of municipal regulations required strict agricultural conditions that are not reflective of current best-practice guidelines.

Consistent with a functional and regulatory definition of agriculture from 1947, municipal regulations of Newfoundland and Labrador remained largely unaligned to current national or provincial agricultural and environmental strategic plans, initiatives, and relevant legislation. Critically, the terms and definitions of farm practices protected under the Newfoundland and Labrador Farm Practices Protection Act (2001) were generally not reflected in agricultural definitions of municipal regulations. This Act was meant to protect food producers and specifically included protection from municipal regulations, so long as agricultural best-practices were followed. However, most municipal regulations redefined their own acceptable farm practices based on outdated standards. Multiple municipalities dictated that farm operations and practices were discretionary so long as they not be considered a nuisance, which exemplified the exact circumstance that the Farm Practices Protection Act (2001) was meant to prohibit.

Yet, pockets of innovation were identified that advanced communities toward food security and sustainability. Some communities reformed the working definition of agriculture to distinguish personal or small-scale use from commercial operations and moved to separate livestock regulations from horticultural regulations. While



these changes advanced the field, this review could not reasonably assess whether these changes were evidence-based, involved expert panel input, or were aligned to other regulatory frameworks. A gap remained between municipal terms and the terminology of provincial agricultural regulation and legislation (Chicken Farmers of Newfoundland and Labrador Quota Regulations, 2001; Farm Practices Protection Act, 2001).

The reassessment and designation of urban agriculture as an accessory use class should be considered a significant innovation. This change simplified the regulatory framework, brought residents' incidental activities into compliance by default, and reduced local administrative burden to both citizens and councils through eliminating permit applications and review of land use class changes. Amending regulations to consider urban and residential agriculture as accessory use may promote local food infrastructure and indirectly stimulate green industry through the reduction of regulatory barriers and facilitation of local skills and interests.

Urban and residential agriculture as accessory use may also alleviate an inherent conflict between municipal and agricultural interests: taxation. Conventional and expansive agricultural developments may represent a real or perceived opportunity cost threat to the municipal tax base and future municipal budgets, as large tracts of low-value land become unavailable for high-value residential or commercial development. Conventional agricultural operations in Newfoundland and Labrador may also apply under the Real Property Tax Exemption Program for Agriculture to be assessed and made exempt to municipal property taxation (Municipalities Act, 1999; Newfoundland and Labrador Department of Fisheries, Forestry, and Agriculture, n.d.), which represents a revenue loss to the municipality. As these factors could influence local councils' decisions to permit an agricultural development, further research may be warranted to investigate what impact on council decisions these real or perceived financial barriers have on future agricultural developments and the general state of farm operation decline in Newfoundland and Labrador (Statistics Canada, 2017a).

Economic indicators suggest urban agriculture increased surrounding property values (Voicu & Been, 2008). Residential agricultural pursuits may grow into subsidiary home businesses which could then become subject to municipal business tax (Municipalities Act, 1999). As urban and residential agriculture layers onto existing developments, the real property density and tax base remain. Accessory use urban agriculture may stimulate municipal revenue through novel agricultural activities otherwise considered non-compliant and would allow small-scale operators to generate new value from land with minimal opportunity cost (Ackerman et al., 2013). However, multiple municipalities identified in this review had implemented specific blocks to urban agri-business that might suggest councils lack a willingness, and potentially the resources, to monitor and regulate the distinction between personal uses and home-business uses. As of this publication, Newfoundland and Labrador was the only province without a sole proprietor/partnership business registry (Government of Canada, 2017). Without the support of such a registry, local municipalities may lack the means to identify and appropriately regulate small-scale commercial activities. This small-business gap may have driven prohibitive conditions as a maladapted means to regulate home-business activities. This conflict might be avoided if municipalities could directly realize benefits, as tax revenue, to supporting home business growth through an integrated registry. Understanding councils' motivations, what resources they access

for guiding information, and the conditions leading to restrictive agricultural regulations represent avenues for future studies that may inform further recommendations and approaches.

## **5.0 Recommendations and Considerations**

The following are offered as an initial set of considerations towards addressing the gaps and inconsistencies identified through this review. This list should be further refined through a community-engaged process.

1. All municipal regulations referencing external agricultural legislation or best-practice standards should be amended to be forward-compatible. Agricultural practices should meet or exceed current best-practice guidelines and satisfy all relevant national and provincial legislation, regulations and policy; appropriate phrasing to that intent should be sufficient.
2. All municipal regulations regarding agricultural nuisance restrictions and conditions currently contradicting the Farm Practices Protection Act (2001) should be repealed or amended to reflect the protections and limitations under the Act.
3. All municipal regulations limiting agricultural land use classes, structures, and activities based on outdated practice standards or standards not evidenced-based should be repealed. Individual councils require guidance on how to administer agricultural best-practices and standards. This guidance must be accessible yet comprehensive, designed to meet municipal needs, and regularly reviewed and updated.
  - a. A joint provincial initiative could be established to develop clear guidelines for municipalities on these issues. Membership could include engagement with municipal councils, community and agricultural researchers, agricultural and homesteading associations, and all relevant departments and agencies.
  - b. The Department of Environment, Climate Change and Municipalities should establish standardized terminology, definitions, and animal units to be used in all municipal regulations that are registered with the department.
  - c. The Department of Fisheries, Forestry and Agriculture should consider an environmental scan of current minimal separation distance formulae and other environmental agricultural guidelines, establish a means for regular review and update of guidelines, and develop guidelines for small-scale urban and residential livestock agriculture and homesteading.
4. Agriculture land use (crop) could be amended, defined and redesignated as an accessory use class onto all residential, commercial, mixed, and other equivalent zone uses within all municipal development regulations of Newfoundland and Labrador.
  - a. Any conditions set to limit the adoption of food production should be evidence-based.

5. Agriculture land use (livestock) could be considered by all councils and residents to be amended, defined, and redesignated as an accessory use class onto all residential, commercial mixed, and other equivalent zone uses within all municipal development regulations of Newfoundland and Labrador.
  - a. All municipalities not including agriculture land use (livestock) as an accessory use class should establish an urban and residential agriculture (livestock) land use class to be zoned to at least discretionary within all residential, commercial, mixed, and other equivalent zones.
  - b. Any conditions set to limit the adoption of food production should be evidence-based.
6. Municipalities could consider establishing an Agricultural Practices Experts' Panel, reporting to the Council of the Whole, to advance the interests of local food production and agricultural best-practices.
  - a. The panel could review agricultural development applications, complaints, and concerns relating to nuisance animals, noise, odours, and other issues from agricultural activities and determine appropriate best-practices, and generally promote responsible local food production.
  - b. A template document for use as Terms of Reference for an Agricultural Practices Experts' Panel is made available within supplementary materials.
7. Newfoundland and Labrador should consider implementing a sole proprietor/partnership business registry integrated to all municipal permit approvals, other licenses, and municipal business tax processes.

## **6.0 Conclusions**

Municipalities of Newfoundland and Labrador carried outdated agricultural regulations that limited both commercial and personal food production. The functional definitions, conditions, and restrictions to agricultural operations, particularly the identified barriers to urban and residential agriculture, could hamper efforts to promote food security and food equity throughout the province. A few communities were identified as change-leaders who had redefined agriculture or renegotiated the role of residential agriculture within their communities. The characteristics charted in this scoping review provided a proposed roadmap to regulatory amendments based on innovations already in use within some municipalities. If widely adopted, accessory use urban agriculture and the removal of outdated restrictions would create a substantially more permissive regulatory framework for agriculture within municipal boundaries.

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