

FARM ODOURS AND NEIGHBOURLY RELATIONS

THIS CHAPTER EXPLORES:

BMPs to minimize odours from manure storages

BMPs to control odours during application

common complaints by non-farming neighbours

BMPs to maintain good relations with neighbours.

To varying degrees, all livestock operations emit manure odours. It's generally accepted that operations with liquid manure systems are more odorous than those with solid manure systems.

In Ontario, more than half of the nuisance complaints regarding agriculture concern odours. Swine facilities tend to receive the greatest number of odour complaints. Dairy operations are typically next on the list. **Odour that is continuous and at excessive levels is atypical of normal farming practices.**

Addressing odour issues is an important component of a nutrient management plan and the management of organic nutrient-waste systems. An odour problem that may arise at a site can potentially attract attention to other environmental problems – real or perceived.

Proactive manure odour control measures will help ward off other neighbourly conflicts.



More non-farm residents are moving to rural areas where large livestock farms operate.

BMPs TO CONTROL ODOURS FROM MANURE STORAGEES		
TECHNIQUE	LIQUID STORAGE CONSIDERATIONS	SOLID STORAGE CONSIDERATIONS
SITING	<ul style="list-style-type: none"> • meet MDS II distance formulas 	<ul style="list-style-type: none"> • meet MDS II distance formulas
PROPER DESIGN	<ul style="list-style-type: none"> • properly size to accommodate expected liquid load • consider two-stage separation 	<ul style="list-style-type: none"> • provide sufficient capacity for solid and liquid portions to avoid untimely spreading • divert roof water away to encourage aerobic conditions in manure pile
LANDSCAPING	<ul style="list-style-type: none"> • keep storage out of main view • plant trees to remove dust and aerosol particulates from air and increase dilution • ensure earthen walls are unaffected by tree roots 	<ul style="list-style-type: none"> • plant trees to act as a visual barrier and provide considerable air movement • design with berms and side slopes to reduce visibility and airflow
NATURAL COVERS	<ul style="list-style-type: none"> • reduce surface area exposure to ambient air • act as biofilters on odours, but can be difficult to keep floating • depending on feed rations, dairy tanks can form a natural “crust”, providing odour control 	<ul style="list-style-type: none"> • don’t apply, but pile shape affects runoff volumes
GEOTEXTILE COVERS	<ul style="list-style-type: none"> • add cost but allow for capture of gases • reduce volume of liquid to be spread 	<ul style="list-style-type: none"> • reduce water content of manure (because of cover) and encourages aerobic conditions • don’t have to deal with runoff
ROOFS	<ul style="list-style-type: none"> • reduce surface area exposure to ambient air • can be a high capital cost 	<ul style="list-style-type: none"> • reduce water content of manure and encourage aerobic conditions • don’t have to deal with runoff
CHEMICAL/BIO ADDITIVES	<ul style="list-style-type: none"> • approach with caution – more failures than successes 	<ul style="list-style-type: none"> • are similar to liquid systems
LIQUID/SOLID SEPARATION	<ul style="list-style-type: none"> • done often in conjunction with aerobic treatment • makes for increased labour and waste streams 	<ul style="list-style-type: none"> • collect liquid runoff from solid systems to encourage aerobic conditions
AERATION	<ul style="list-style-type: none"> • preferably done in conjunction with liquid/solid separation • has high energy demands 	<ul style="list-style-type: none"> • has high energy demands (composting) • can have “short-circuiting” of air flow through pile
AEROBIC TREATMENT (COMPOSTING)	<ul style="list-style-type: none"> • need a very large carbon supply (e.g., straw) liquid to solid 	<ul style="list-style-type: none"> • increase area and equipment required • need to manage leachate
ANAEROBIC TREATMENT (DIGESTION)	<ul style="list-style-type: none"> • are costly to install and maintain – but revenue to convert generated may offset costs 	<ul style="list-style-type: none"> • can mix solid manure with liquid manure and enter into the digester
BIOFILTERS	<ul style="list-style-type: none"> • involve blowing exhaust air from above liquid manure storage through biofilters to reduce odour, N-compounds and organic material • are costly to install and maintain – but revenue generated may offset costs 	<ul style="list-style-type: none"> • not applicable



Changing livestock feedstuffs can reduce manure odours.



Treed shelterbelts can filter odorous gases from manure storages.

BMPS FOR ODOUR CONTROL DURING APPLICATION

Odour control needs particular attention during land application. This is the time when your manure handling practices are most apparent to neighbours. Fairly or otherwise, this may also be the time when your reputation for environmental safety is made – or destroyed.



Incorporate manure immediately following application to reduce odours.

ODOUR CONTROL DURING APPLICATION		
APPLICATION BMP	BENEFITS	DRAWBACKS
INCREASE USE OF BEDDING	<ul style="list-style-type: none"> • reduces odours when wastes are handled as solids • keeps animals cleaner 	<ul style="list-style-type: none"> • increases labour associated with solid systems and bedding • doesn't apply to liquid systems
INFORM NEIGHBOURS OF YOUR INTENTIONS	<ul style="list-style-type: none"> • shows your concern, improves relations • helps identify times when it may be inappropriate to spread for social reasons 	<ul style="list-style-type: none"> • hard to satisfy everyone • requires planning ahead • may require adjustments of plans
PRE-TILL	<ul style="list-style-type: none"> • increases soil contact and infiltration • reduces odour 	<ul style="list-style-type: none"> • may risk excessive tillage and soil degradation
REDUCE SPREADING FREQUENCY	<ul style="list-style-type: none"> • reduces the time in which there may be odour release from land application 	<ul style="list-style-type: none"> • can have costs associated with providing required storage
REDUCE AMOUNT OF TIME SPENT SPREADING	<ul style="list-style-type: none"> • offers more time for manure to dry 	<ul style="list-style-type: none"> • reduces time in day available for spreading
APPLY IN COOL WEATHER	<ul style="list-style-type: none"> • reduces volatilization 	<ul style="list-style-type: none"> • may reduce opportunities to apply • don't apply to frozen soil
AVOID APPLICATION ON CALM HUMID DAYS, PARTICULARLY IF NOT INCORPORATING	<ul style="list-style-type: none"> • avoids climatic conditions most conducive for odour • preserves nutrients 	<ul style="list-style-type: none"> • may restrict spreading in the summer months when soil conditions are ideal
APPLY WHEN CONDITIONS ARE DRY	<ul style="list-style-type: none"> • reduces anaerobic conditions 	<ul style="list-style-type: none"> • may reduce opportunities to apply
MONITOR WIND DIRECTION WHEN HAULING MANURE TO FIELDS	<ul style="list-style-type: none"> • can take advantage of predominant wind directions to naturally direct odours away from sensitive areas 	<ul style="list-style-type: none"> • may reduce opportunities to apply • unpredictable – wind direction can change during application
AVOID HIGH-TRAJECTORY MANURE-SPREADING EQUIPMENT	<ul style="list-style-type: none"> • reduces air/manure contact • increases control of spread 	<ul style="list-style-type: none"> • may be more expensive and time-consuming with other technologies
USE DRIBBLE BAR APPLICATORS – TO KEEP MANURE CLOSE TO THE GROUND	<ul style="list-style-type: none"> • reduces air contact • applies to no-till systems • can potentially sidedress in row crops 	<ul style="list-style-type: none"> • applies to liquid systems only • offers less effective odour control than injection
INJECT MANURE WITH A CONCENTRATED BAND	<ul style="list-style-type: none"> • prevents contact of manure with air • allows manure to be spread post-emerge in row crops such as corn, increasing period of manure application 	<ul style="list-style-type: none"> • applies to liquid systems only • makes for slower application and requires more horsepower • may increase potential to contaminate tile drain flow at higher application rates
INCORPORATE AS SOON AS POSSIBLE AFTER APPLICATION	<ul style="list-style-type: none"> • reduces air/manure contact • preserves manure N 	<ul style="list-style-type: none"> • can be more challenging for standing crops and in high crop-residue management system

COMPLAINTS FROM NEIGHBOURS

Odours comprise more than half of complaints from farmers' neighbours. Unfortunately, such conflicts are not always handled as constructively as possible. Conflict **can** be prevented: it takes a little know-how, a few skills and techniques, plus the right attitude and philosophy.

Livestock operations generate odours. This is a fact of life. It's unrealistic to expect them to be odour-free. It's equally unrealistic that people will accept excessive odours. Courtesy and understanding within rural communities will help to reduce conflict over the unique qualities of livestock agriculture.

Other topics of complaints include:

- ▶ a not-in-my-back-yard concern (particularly for proposed new operations)
- ▶ violations of environmental, health or safety legislation
- ▶ contraventions of local municipal bylaws
- ▶ whether a particular practice is a "normal farm practice"
- ▶ "nuisance" complaints as listed in the Farming and Food Production Protection Act: noise, dust, vibration, light, smoke and flies (as well as odour).

As a farmer, unfortunately you may be unaware of complaints about your operation. Neighbours often go directly to authorities such as Ministry of the Environment, Ontario Ministry of Agriculture, Food and Rural Affairs' Agricultural Information Contact Centre, or their municipality. This step alone may set a negative tone to the conflict resolution process.

The good news is that problems can also be avoided. Read on to learn more!

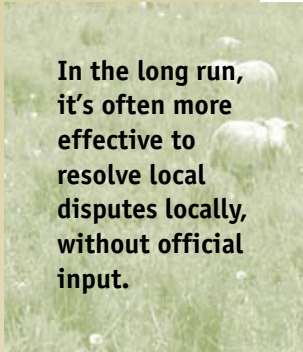
BMPS FOR COMPLAINT AVOIDANCE

The keys to preventing problems are **site planning, careful management** and **fostering good, ongoing communication with your neighbours**.

SITE PLANNING

Considering potential odour concerns during the planning stage will yield an ounce of prevention, e.g.,

- ▶ meet MDS II distance formulas
- ▶ locate storage system and lanes downwind
- ▶ keep storage out of main view
- ▶ plant trees to remove dust and aerosol particulates from air and increase dilution.



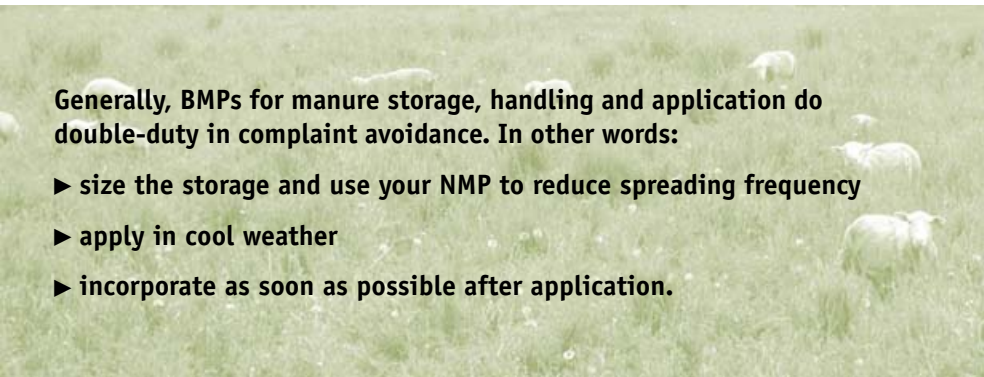
In the long run, it's often more effective to resolve local disputes locally, without official input.

BUILDING RELATIONSHIPS

Get to know your neighbours. Help them feel comfortable enough to talk to you directly about their concern. Simple courtesy will go a long way. This will help avoid third-party involvement. Here are some more ideas for nurturing positive relationships with your neighbours.

- ▶ Try to limit spreading to two or possibly three times a year – the less often odour is noticed, the less likely the concern.
- ▶ Avoid spreading manure on weekends, or the days just before the weekend.
- ▶ Notify neighbours (by telephone and/or through a note in their mailbox) to let them know in advance of your manure spreading plans, so they can plan around the event accordingly if they so wish.
- ▶ Consider conducting a farm tour to help in educating the rural non-farm public on today's farming practices.
- ▶ Participate in and even host special events in the neighbourhood (e.g., a summer barbecue).

With these considerations, many of today's livestock producers are building respect and unity within the rural community.



Generally, BMPs for manure storage, handling and application do double-duty in complaint avoidance. In other words:

- ▶ **size the storage and use your NMP to reduce spreading frequency**
- ▶ **apply in cool weather**
- ▶ **incorporate as soon as possible after application.**

BMPS FOR COMPLAINT RESOLUTION

Despite best intentions, it's not always possible to avoid complaints. When it happens, it can be difficult to accept the criticism, particularly if it comes from someone you don't know or is from someone who is unsympathetic to livestock agriculture.

Before you react defensively, remember: the concern was legitimate enough to the complainant to bring it to your attention. So, hear them out before presenting your perspective.

HOW TO HANDLE A COMPLAINT**DO****DO NOT**

Listen to the concern and try to understand the complainant's perspective.

Become argumentative.

Take the complaint seriously.

Be judgmental.

Ask questions to ensure you understand the concern.

Be defensive.

Consider independent advice if the concern seems unreasonable to you.

Immediately rely on outside help to solve the problem.

Identify common ground on which you can build a mutually satisfactory resolution.

Aggravate an already tenuous situation.

Follow up quickly on addressing a reasonable concern.

Ignore the request or otherwise be complacent.

By handling the complaint in a prompt and responsible manner, you can put an issue to rest quietly and efficiently.

ALTERNATIVE APPROACHES

There are some circumstances where personalities or situations are such that the problem cannot be fully resolved by the main parties. The parties may perceive that the conflict will need to be resolved through other, often more costly, avenues, such as tribunals or the courts of law.

There are, however, alternative approaches to resolving disputes that can be less costly and result in solutions that are more readily accepted by both parties. These alternative approaches include:

- negotiation
- mediation
- arbitration
- administrative tribunals.

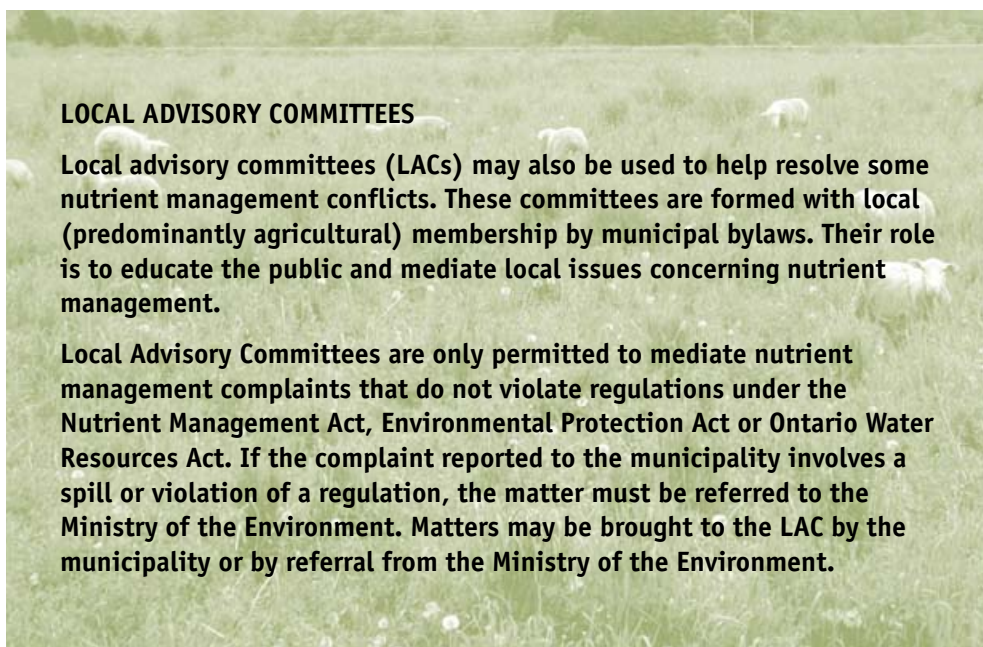
Each approach has its application in a specific set of circumstances and is described briefly in the next chart.

Please note, however, that the opportunity for effective technical input decreases as the method more closely approximates court action – where the focus is on who's right and who's wrong, as opposed to the best remedial measure from a technical perspective.

APPROACH	DESCRIPTION	PROS	CONS
NEGOTIATION	parties meet either directly or through representatives	parties control the process – legal positioning avoided	personality conflicts may cause stalemate
MEDIATION	a neutral third person called a mediator facilitates the process that two or more people follow to arrive at a solution	mediator only assists parties in arriving at their solution – no legal advice given	more costly – may be difficult agreeing upon a suitable mediator
ARBITRATION	a binding process in which a third party decides issues between parties	solution process still within control of the party	arbitrator’s decision is binding on the parties
ADMINISTRATIVE TRIBUNAL	example: the Normal Farm Practices Protection Board	solution arrived at outside of costly court proceedings	more formal procedures – parties have limited control of the process

The Normal Farm Practices Protection Board has legal authority through The Farming and Food Production Protection Act, 1997 (FFPPA). The act was designed to protect normal farm practices to the extent that it is reasonable to do so, even though they may cause some disturbance to nearby residents.

The FFPPA is not carte blanche for agriculture. It is subject to the Environmental Protection Act, the Ontario Water Resources Act, the Pesticides Act and the Health Protection and Promotion Act. Normal farm practices cannot be in violation of these acts. The FFPPA is intended to offer protection to farmers only in the cases where no provincial statute has been breached.



LOCAL ADVISORY COMMITTEES

Local advisory committees (LACs) may also be used to help resolve some nutrient management conflicts. These committees are formed with local (predominantly agricultural) membership by municipal bylaws. Their role is to educate the public and mediate local issues concerning nutrient management.

Local Advisory Committees are only permitted to mediate nutrient management complaints that do not violate regulations under the Nutrient Management Act, Environmental Protection Act or Ontario Water Resources Act. If the complaint reported to the municipality involves a spill or violation of a regulation, the matter must be referred to the Ministry of the Environment. Matters may be brought to the LAC by the municipality or by referral from the Ministry of the Environment.