Section 10.3

Multiple Species Certification

REFERENCED IN THIS SECTION:

	Number/ Identifier	Name	Importance
	STANDARD OPERATING PROCEDURE		
	10.3	Multiple Species Manure Management	Mandatory, if applicable
	RECORDS		
	R-2	Incident Report	Mandatory
	R-4	Monitoring Record	
	FACT SHEET		
	F-8	*Toxoplasma*	–

SECTION 10.3
MULTIPLE SPECIES CERTIFICATION

REQUIREMENTS

1. If cats are kept in the barn or on site, the following measures must be in place:
    a. Personnel must be trained on the additional risk associated with having cats in the barn and the implementation of good production practices to mitigate the risk of toxoplasmosis.
    b. Cats must be vaccinated for rabies.
    c. Only mature and neutered/spayed cats must be allowed in the barn or on-farm feed mill.
    d. Feed carts and feeders must be covered.
    e. A litter box must be present in an area accessible only to cats (and humans) and kept clean.
2. Measures must be implemented that ensure wildlife is kept out of the barn/building and on-farm feed mill.
3. For cattle, other ruminants, horses and other non-avian species:
    a. Those species must be penned separately from pigs, and;
    b. A SOP must be adequately implemented and must include how the manure-management system and/or other cross-contamination areas (e.g. common dock) can mitigate the risk of pathogen cross-contamination due to exposure to the fecal material of other species.
4. For poultry, fowl, and other avian species:
    a. Those species must not be housed in the same rooms as pigs, and;
    b. A SOP must be adequately implemented and include how the ventilation and manure-management system can mitigate the risk of pathogen cross-contamination.

RATIONALE

a. *Toxoplasmosis*

    i. Toxoplasmosis is one of the most significant parasitical diseases in humans living in developed countries, both in term of occurrence and health consequences.
    ii. The main reason why toxoplasmosis is still associated with pigs raised in closed facilities is the presence of cats. Pigs in direct contact with cat feces that contain the "eggs" of this parasite are believed to be the most common source of infection. It is also established in the scientific literature that finisher pigs raised in pasture are at risk of *Toxoplasma* infections (Wallander et al., 2016).
    iii. A significant proportion of infection in humans may occur after consumption of contaminated undercooked meat. This parasite presents a greater risk when immunosuppressed people or pregnant women are exposed for the first time.

b. Domesticated Animals and Wildlife

i. Dogs and cats may be actively infected carriers of many other human pathogens, such as *Salmonella*, and mechanical carriers of swine pathogens (e.g., transmissible gastroenteritis and porcine epidemic diarrhea (PED)).
ii. Other cloven-hooved animals (e.g., cattle) may be carriers of foreign animal diseases and some microbes, such as *E. coli* O157:H7, that are not normally present in pigs.
iii. Other types of wild animals and domesticated birds, such as poultry, can also transmit pathogens to pigs.

GUIDANCE

a. Multiple Species

i. Generally speaking, in closed and well-maintained facilities, pigs harbour minimal contamination of the pathogenic bacteria (except *Salmonella* and *Yersinia enterocolitica*) that have the most significant impact on human health such as *E. coli* O157:H7 (and other shiga toxin–producing *E. coli*), *Campylobacter jejuni* and *Listeria monocytogenes*.
ii. For example, *E. coli* O157:H7, the bacteria that causes the well-known (beef) hamburger disease, is observed almost exclusively in cattle and other ruminants in Canada. It has very rarely been associated with swine and, when it was, it was often because of contact between pigs and live cattle or cattle feces.
iii. Another example is *Campylobacter jejuni*, the most significant food-borne bacteria in terms of impact on human health. It is very commonly observed in poultry and cattle.
iv. Keeping various animal species such as poultry and pigs within the same herd raises the very real concern of the possible emergence of new epidemic strains of influenza. New epidemic strains of human influenza emerge, usually, where poultry and pigs are raised close to each other and when humans are in regular contact with these animals. While it has little impact on food safety, the possibility that new pandemic strains could emerge cannot be ignored.
v. Measures should be implemented to minimize the movement of employees and/or visitors between sections of the barn where different animal species are kept.

b. *Toxoplasma*

i. Although cats are considered by some people to be good rodent-control tools, cats and rodents often carry the same microbes. Therefore, when cats ingest rodents, there is an increased possibility that cats will become positive and shed even more parasites in the environment.
ii. Cats are the definitive host of *Toxoplasma* and may shed the parasites in their feces and contaminate pigs that would otherwise be free.
iii. Cats can carry, without any clinical signs, many microbes that may be harmful for humans, such as *Salmonella* and *Toxoplasma*.
iv. Infections by *Salmonella* and *Toxoplasma* can both be transmitted to humans either directly through contact with feces (employees) or by meat (consumers).
v. Although many people with toxoplasmosis show no symptoms, a significant proportion of infected people will experience clinical signs ranging from a flu-like syndrome to permanent eye diseases or even infant death.
vi. Consult the Fact Sheet F-8 Toxoplasma for more details.

AUDIT QUESTIONS

Q#	Audit Questions and Interpretations	Verification			
		Compliant	NC-Minor	NC-Major	N/A
Q10.3.1	If cats are kept in the barn or on site, verify whether the following measures have been implemented: a. Personnel have received training on the additional risks associated with having cats in the barn or on site and on implementing good production practices to mitigate the risk of toxoplasmosis. b. Cats (part of the site population) have been vaccinated for rabies and vaccine certificates are available to demonstrate this. c. Only mature and neutered cats (part of the site population) are allowed in the barn or in the on-farm feed mill. There is proof that cats have been neutered or spayed (invoice, certificate). d. Feed carts and feeders are covered. e. A cat litter is located in an area accessible only to cats (and people) and is kept clean.	Full and partial validation: › R-B: Training Record › observation (full validation only) › invoice, certificate verification › interview			
	Have the following measures been implemented if cats are kept in the barn or on site:				
	a. Have personnel received training on the additional risks associated with having cats in the barn or on site and on implementing good production practices to mitigate the risk of toxoplasmosis?	☐	▨	☐	☐
	b. Have the cats been vaccinated for rabies?	☐	▨	☐	☐
	c. Are only mature and neutered cats allowed in the barn and near the on-farm feed mill?	☐	▨	☐	☐
	d. Are feed carts and feeders covered?	☐	▨	☐	☐
	e. Is the cat litter located in an area accessible only to cats (and people) and kept clean?	☐	▨	☐	☐
Q10.3.2	Verify whether measures that ensure wildlife is kept out of the barn/ building and on-farm feed mill have been implemented. Examples: a. doors b. fences in doors c. wire fence or screens in windows.	Full and partial validation: › observation (full validation only) › interview			
	Have measures ensuring that wildlife is kept out of the barn/ building and the on-farm feed mill been implemented?	☐	▨	☐	☐

Q#	Audit Questions and Interpretations	Verification			
		Compliant	NC-Minor	NC-Major	N/A
Q10.3.3	If cattle, other ruminants, horses and other non-avian species are kept in the same barn/ building verify that: a. these species are penned separately from pigs b. a Multiple Species Manure Management SOP (SOP 10.3) has been implemented that includes how the manure-management system can mitigate the cross-contamination of pathogens. Types of measures in place: a. Verify that a different manure management system is in place for each species. b. Describe how you mitigate the risk of other species feces contaminating the pig pen.	Full and partial validation: › SOP 10.3: Multiple Species Manure Management › observation (full validation only) › interview (for question 10.3.3 b)			
	For cattle, other ruminants, horses and other non-avian species:				
	a. Are cattle, other ruminants, horses and other non-avian species penned separately from pigs?	☐	☒	☐	☐
	b. Has a Multiple Species Manure Management SOP (SOP 10.3) that includes how the manure-management system can mitigate the cross-contamination of pathogens been adequately implemented?	☐	☒	☐	☐
Q10.3.4	If poultry and other avian species are kept in the same barn/building, verify that: a. poultry and other avian species are housed in a room that is separate from the pigs, and b. a Multiple Species Manure Management SOP (SOP 10.3) that includes how the ventilation and manure-management system can mitigate the cross-contamination of pathogens has been adequately implemented. Types of measures in place: a. The ventilation system is separate for each species. b. A different manure-management system is in place for each species.	Full and partial validation: › SOP 10.3: Multiple Species Manure Management › observation (full validation only) › interview (for question 10.3.4 b)			
	For poultry and other avian species:				
	a. Are poultry and other avian species housed in a room that is separate from the pigs?	☐	☒	☐	☐
	b. Has an Multiple Species Manure Management SOP (SOP 10.3) that includes how the ventilation and manure-management systems can mitigate the cross-contamination of pathogens been adequately implemented?	☐	☒	☐	☐

N/A = not applicable; SOP = standard operating procedure.

LEVELS OF COMPLIANCE – EXAMPLES

COMPLIANT

- All appropriate measures for keeping cats in the barn are being followed.
- A Multiple Species Manure Management SOP (SOP 10.3) is in place if other species are kept in the same barn.

MINOR NON-COMPLIANCE

- Not applicable.

MAJOR NON-COMPLIANCE Timeline: 60 days

- Appropriate measures for keeping cats in the barn are not being followed.
- Other species are being kept in the same barn and Multiple Species Manure Management SOP (SOP 10.3) is not in place.