

ORGANIC SWINE- CODE OF PRACTICE

PNS/BAFS 371:2023

EXPLANATORY MANUAL



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Organic Swine - Code of Practice (PNS/BAFS 371:2023)

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Reader's Guide

This Explanatory Manual (EM) complements the Philippine National Standard (PNS) Organic Swine - Code of Practice (PNS/BAFS 371:2023). The PNS outlines the recommended practices for organic swine production, including transport, slaughter, packaging, and labeling to ensure organic integrity.

This EM is specifically designed to aid readers in understanding the provisions of the PNS. It is intended for regulatory personnel, extension workers, industry professionals, or individuals interested in organic farming. The creation of EM does not purposely revise or amend the content of the PNS; thus, it provides clarity, insights, and inspiration for the target industry through the addition of images and/or information fitted in the current situation.

The content of this EM mirrors the section numbers of the PNS for easy cross-referencing. Explanatory notes, which provide additional explanations and interpretations of PNS provisions, are included to assist readers. These notes are placed inside yellow boxes to distinguish them from the PNS provisions. Furthermore, photographs, images, illustrations, and examples of anecdotal practices are incorporated to clarify the PNS provisions and offer practical insights. Note that this EM presents the minimum requirements as stated in the PNS and does not include additional regulatory requirements beyond the scope of the PNS.

For more updates and detailed information about the PNS and other knowledge products (KPs), readers are encouraged to visit the DA-BAFS website at www.bafs.da.gov.ph or follow the DA-BAFS Facebook page at www.facebook.com/da.bafs.

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Director's Message



I am pleased to present the Explanatory Manual for the Philippine National Standard (PNS) Organic Swine (PNS/BAFS 371:2023).

In line with our commitment to becoming more customer-oriented, this Explanatory Manual is specifically designed to assist you in better understanding the PNS and implementing its provisions more clearly.

Following the Focus Group Discussions (FGD) with regulatory agencies, we recognized the need to enhance and ensure a consistent understanding of the PNS. The technical terms used tend to be difficult to interpret, leading to varying understanding of the minimum requirements for organic farming. Therefore, we developed this Explanatory Manual to simplify the use and enhance understanding of the PNS.

The Technical Working Group (TWG) has consistently provided support and collaboration, offering significant recommendations that have led to the development of this Explanatory Manual. We aim to make it practical and meaningful, serving as a helpful resource for all regulatory personnel and extension workers in their activities. Our ultimate goal is to transform the PNS document into an empowering tool for all relevant stakeholders. By addressing challenges in implementing our PNS, we hope to create an environment where the PNS is understood, embraced, and effectively adopted.

I extend my sincere gratitude to the TWG for their invaluable contributions to the development of this Explanatory Manual. Together, we strive for a future where the PNS is uniformly adopted and effectively implemented.

MARY GRACE R. MANDIGMA, PFT
Officer-in-Charge, Director

List of Acronyms

AI	Artificial Insemination
ASEAN	Association of Southeast Asian Nation
BAI	Bureau of Animal Industry
FDA	Food and Drugs Administration
GAHP	Good Animal Husbandry Practices
GMO	Genetically Modified Organisms
OMP	Organic Management Plant
LRME	Locally Registered Meat Establishments
NMIS	National Meat Inspection Services
PRRS	Porcine Reproductive and Respiratory Syndrome
WOAH	World Organisation for Animal Health

List of Related Laws and Regulations

DA AO No. 41, series of 2020 (Code of minimum standards for the welfare of pigs)

DA AO No. 19, series of 2010 (Guidelines on Good Hygienic Slaughtering Practices [GHSP] for LRME)

DAR Administrative Order No. 01, S. 2004, also known as “Rules and Regulations Governing the exclusion of Agricultural Lands used for Cattle raising from the Coverage of the Comprehensive Agrarian Reform Program”

Department Circular 1, series of 201,8 also known as “Revised Guidelines for the Official accreditation of Organic Certifying Bodies”

Department Circular 9, series of 202,0 also known as “National list of Permitted Substances for Organic Agriculture”

Republic Act No. 1006,8 also known as the “Organic Agriculture Act of 2010”

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Foreword

The DA-BAFS Technical Services Division (TSD) generated a Priority List for PNS Promotion for 2024 based on established prioritization criteria. The list included the PNS Organic Swine-Code of Practice (PNSBAFS 371:2023). This Standard defines the seed and crop production (including mushrooms), wild harvest (excluding honey), post-harvest, processing, handling, storage, and transport of organic produce and processed products to ensure their organic integrity.

To assist the DA-BAFS regulatory officers, the DA Regional Field Offices, and the DA-NOAP, an EM was developed to provide supplementary material to the standard, further clarify specific PNS texts, and provide more details on the minimum requirements in organic swine production. The TWG, created specifically for the purpose, assisted in completing the EM, given the expressed urgency for this supplementary material to facilitate trade.

To draft this EM, a series of meetings and writeshop were conducted. The photographs and other relevant information gathered were incorporated into the supplementary material. The TWG discussed and finalized the draft over a period of one year (March 2024 to March 2025) before it was submitted to DA-BAFS for final editing, proofreading, and layout. The draft EM was also subjected to a pre-testing activity to gather insights from the target users/implementers of the PNS before it was published in its final form.

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Section 1

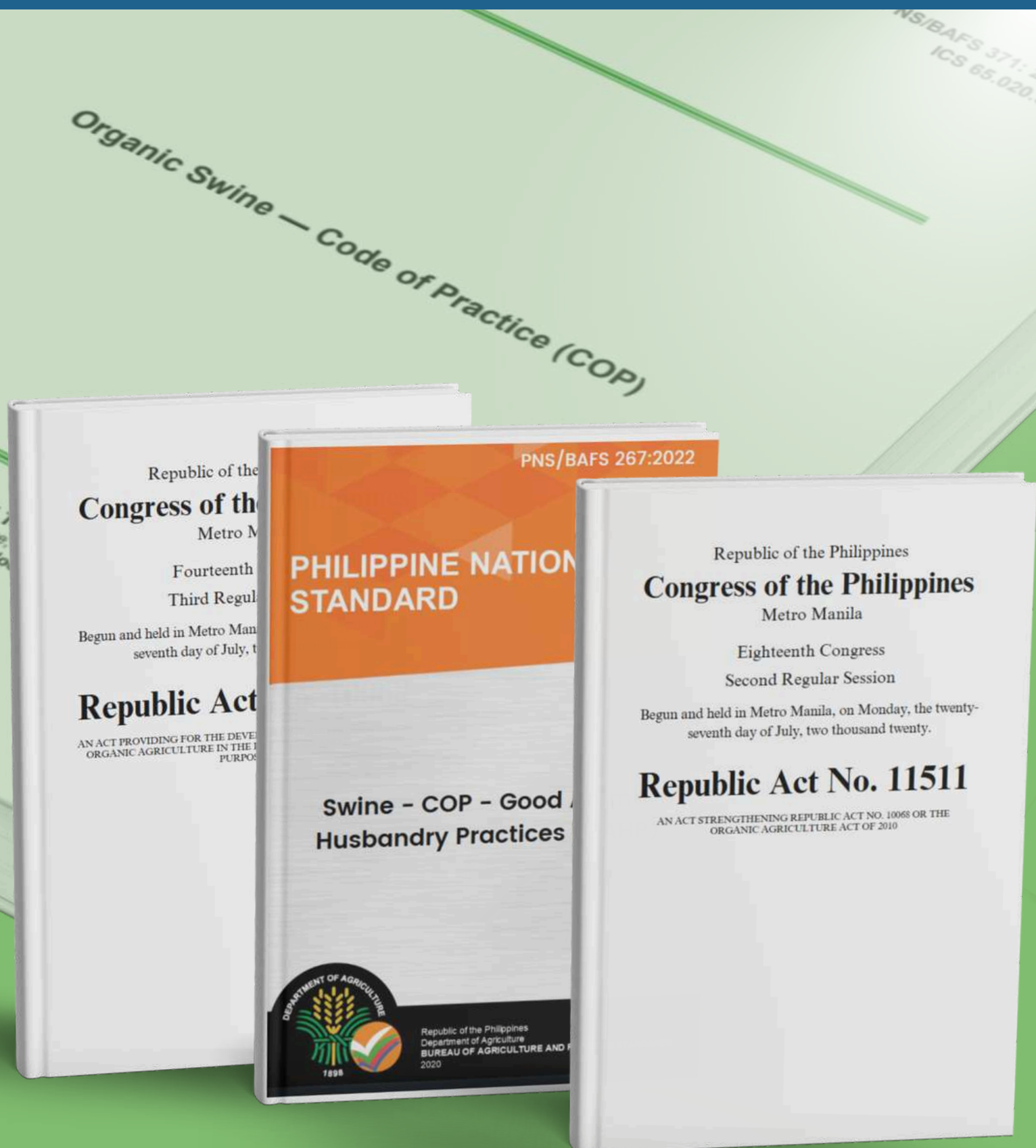
Scope



1 Scope

This Standard establishes the recommended practices for the organic production of swine including transport, slaughter, packaging, and labeling to ensure organic integrity.

Normative References



2 Normative References

The following documents are referred to in the text in such a way that some or all their contents constitute the requirements of this document. The latest edition of the referenced documents (including any amendments) applies:

An act amending certain sections of Republic Act (RA) No. 8485, otherwise known as “The animal welfare act of 1998” (RA No. 10631). (2012). https://lawphil.net/statutes/repacts/ra2013/ra_10631_2013.html

An act amending the RA No. 10068 or the Organic Agriculture Act of 2010 (RA No. 11511). (2020). <https://www.officialgazette.gov.ph/downloads/2020/12dec/20201223-RA-11511-RRD.pdf>

An act providing for the development and promotion of organic agriculture in the Philippines and for other purposes (RA No. 10068). (2010). <https://www.officialgazette.gov.ph/2010/04/06/republic-act-no-10068/>

Bureau of Agriculture and Fisheries Standards (BAFS)-Department of Agriculture (DA). (2018). Free range chicken (PNS/BAFS 262:2018). [https://bafs.da.gov.ph/bafs_admin/admin_page/pns_file/PNS BAFS 262-2018Final_Free range chicken.pdf](https://bafs.da.gov.ph/bafs_admin/admin_page/pns_file/PNS%20BAFS%20262-2018Final_Free%20range%20chicken.pdf)

BAFS-DA. (2019). Code of Practice (COP) for the production of organic soil amendments (PNS/BAFS 291:2019). [https://bafs.da.gov.ph/bafs_admin/admin_page/pns_file/PNS 291 COP OSA.pdf](https://bafs.da.gov.ph/bafs_admin/admin_page/pns_file/PNS%20291%20COP%20OSA.pdf)

BAFS-DA. (2019). Code of Practice (COP) for the production of organic soil amendments (PNS/BAFS 291:2019). [https://bafs.da.gov.ph/bafs_admin/admin_page/pns_file/PNS 291 COP OSA.pdf](https://bafs.da.gov.ph/bafs_admin/admin_page/pns_file/PNS%20291%20COP%20OSA.pdf)

BAFS-DA. (2022a). Organic Crop Production, Postharvest, and Processing (OCPPP) — COP. (PNS/BAFS 337:2022). [https://bafs.da.gov.ph/bafs_admin/admin_page/pns_file/PNS.BAFS.337.2022_PNS Organic Crop Production, Postharvest and Processing - Code of Practice.pdf](https://bafs.da.gov.ph/bafs_admin/admin_page/pns_file/PNS.BAFS.337.2022_PNS%20Organic%20Crop%20Production,%20Postharvest%20and%20Processing%20-%20Code%20of%20Practice.pdf)

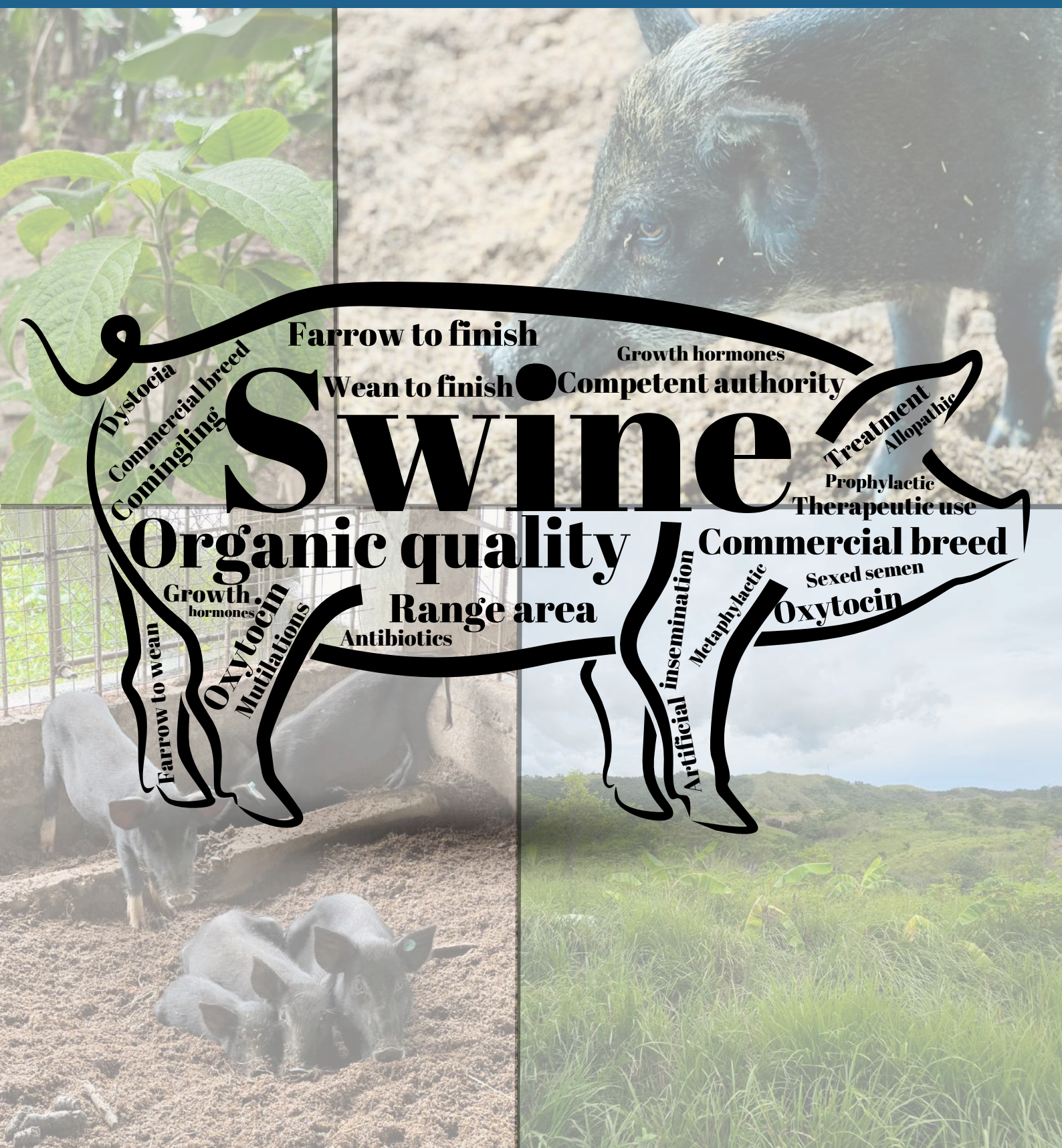
BAFS-DA. (2022b). Prepackaged fresh chilled and fresh frozen meat – Product standard – Labeling (PNS/BAFS 339:2022). [https://bafs.da.gov.ph/bafs_admin/admin_page/pns_file/PNS.BAFS 339.2022_PNS Prepackaged Fresh Chilled and Fresh Frozen Meat — Product Standard — Labeling.pdf](https://bafs.da.gov.ph/bafs_admin/admin_page/pns_file/PNS.BAFS.339.2022_PNS%20Prepackaged%20Fresh%20Chilled%20and%20Fresh%20Frozen%20Meat%20-%20Product%20Standard%20-%20Labeling.pdf)

BAFS-DA. (2022c). Swine — COP — Good Animal Husbandry Practices (GAHP) (PNS/BAFS 267:2022). [https://bafs.da.gov.ph/bafs_admin/admin_page/pns_file/2022-12-29 PNS.BAFS 267.2022_PNS Swine — Good Animal Husbandry Practices \(GAHP\) \(1\).pdf](https://bafs.da.gov.ph/bafs_admin/admin_page/pns_file/2022-12-29%20PNS.BAFS%20267.2022_PNS%20Swine%20-%20Good%20Animal%20Husbandry%20Practices%20(GAHP)%20(1).pdf)

- Codex Alimentarius Commission (CAC). (2018). General standard for the labeling of prepackaged foods (CXS 1-1985). https://www.fao.org/fao-who-codexalimentarius/shproxy/es/lnk=1&url=https://workspace.fao.org/sites/codex/Standards/CXS+1-1985/CXS_001e.pdf
- CAC. (2021). General standard for the labeling of non-retail containers of foods (CXS 346-2021). https://www.fao.org/fao-whocodexalimentarius/shproxy/en/lnk=1&url=https://workspace.fao.org/sites/codex/Standards/CXS+3462021/CXS_346e.pdf
- DA. (2002). Code of minimum standards for the welfare of pigs (Administrative Order [AO] DA. (2002). Code of minimum standards for the welfare of pigs (Administrative Order [AO] No. 41, series of 2002). https://paws.org.ph/downloads/ao_41__code_of_practice_and_minimum_standards_for_pigs.pdf
- DA. (2018). Revised guidelines for the official accreditation of organic certifying bodies (Department Circular [DC] No. 01, series of 2018). [https://bafs.da.gov.ph/bafs_admin/admin_page/laws_files/Department Circular No. 01 Series of 2018_web.pdf](https://bafs.da.gov.ph/bafs_admin/admin_page/laws_files/Department%20Circular%20No.%2001%20Series%20of%202018_web.pdf)
- DA. (2020). National list of permitted substances for organic agriculture (DC No. 09, series of 2020). [https://bafs.da.gov.ph/bafs_admin/admin_page/laws_files/DC.No.09 s 2020 National List of Permitted Substances for OA.pdf](https://bafs.da.gov.ph/bafs_admin/admin_page/laws_files/DC.No.09%20National%20List%20of%20Permitted%20Substances%20for%20OA.pdf)
- DA. (2022). Guidelines for the accreditation of the core Participatory Guarantee System (PGS) groups and its operation as Organic Certifying Body (OCB) (DC No. 03, series of 2022). https://www.da.gov.ph/wpcontent/uploads/2022/07/dc03_s2022.pdf
- Faylon, W., & Bueno, C. (2018). Practical guide in raising and value adding of meat from organically-grown native pig and native chicken. Bureau of Agricultural Research (BAR)-Department of Agriculture (DA). Standards Council of Canada. (2020). Organic production systems. General principles and management standards (CAN/CGSB-32.310-2020, amendment no. 1, 2021). <https://www.tpsgcp-wgsc.gc.ca/ongccgsb/programme-program/normes-standards/internet/032-310/032>

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Terms and Definitions



Farrow to finish

Growth hormones

Wean to finish

Competent authority

Swine

Treatment
Allopathic

Prophylactic
Therapeutic use

Organic quality

Commercial breed

Sexed semen

Oxytocin

Range area

Antibiotics

Growth
hormones

Oxytocin
Mutilations

Farrow to wean

Artificial insemination

Metaphylactic

3.1

antibiotics

medicines that fight infections caused by bacteria in humans and animals by either killing bacteria or making it difficult for the bacteria to grow and multiply (Center for Disease Control and Prevention [CDC], 2016)

3.2

artificial insemination

procedure by which one manually deposits a sperm suspension, fresh or frozen-thawed, into the female reproductive tract to overcome logistical problems associated with natural mating (Agca & Critser, 2006)

3.3

comingling

intentional or unintentional mixing together or the physical contact between organic and non-organic products which are unpacked or permeably packed, which leads to a loss of integrity of the organic product during production, processing, transportation, storage, or handling (BAFS-DA, 2022a)

3.4

commercial breed

classified as a meat type and essential for producing high-quality meat (Stachowiak et.al., 2016)

3.5

competent authority

competent authority official government organization/agency(ies) having jurisdiction. In the context of the DA, competent authority refers to the bureau or agency mandated by law with responsibility and competence for ensuring and supervising the implementation of Sanitary and Phytosanitary (SPS) measures, or standards (DA, 2022)

3.6

contamination

contact of organic products with substances that would compromise organic integrity (ASOA, 2014, modified)

3.7

dystocia

difficulty in the delivery of piglets (Nam & Sukon, 2021, modified)

3.8

farrow to finish

type of operation that raises swine from birth to slaughter weight (United State Department of Agriculture [USDA]-Economic Research Service [ERS], 2022)

3.9

farrow to wean

type of operation that raises piglets from birth to weaning (National Pork Board, 2019)

3.10

growth hormones

used to increase muscle mass, lower fatness, and improve feed conversion rate in swine (Wenjun et.al., 2002)

3.11

mutilations

intentional removal or alteration of animal body parts to solve animal management concerns and to improve the product quality (e.g., castration, teeth clipping, tail docking) (Nordquist et.al, 2017; Connor & Cowan, 2020, modified)

3.12

organic quality

produced according to organic standards (Association of Southeast Asian Nations [ASEAN], 2014)

3.13

oxytocin

hormone used to induce or maintain normal labor and delivery in pregnant animals (Papich, 2021)

3.14

pasture area

land used for livestock grazing that is natural or managed for the production of feed resources such as grasses and forages, and maintain or improve soil, water, and vegetative resources (Heleba, 2023, modified)

3.15

range area

area where animals can freely roam around to express their natural behavior in which animals may or may not graze (BAFS-DA, 2018, modified)

3.16

sexed semen

characterized by the presence of either X- or Y- chromosome-bearing sperm, allowing the production of offspring of the desired sex (Quelhas et al., 2021)

3.17

swine

porcine animal raised to be a feeder pig, breederstock, or slaughter pig (Cornel Law School, n.d., modified)

3.18

therapeutic use

administration of antimicrobial agents to animals for treating and controlling infectious diseases (Office International des Epizooties [OIE], 2016)

3.18.1

treatment

administration of a medicinal product to animal with the aim of treating the clinically sick animal (European Union [EU], 2019)

3.18.2

allopathic

evidence-based system of care, which relies on data from clinical trials and studies to develop more effective treatments (Martin, 2021)

3.18.3

metaphylactic

administration of a medicinal product to a group of animals after a diagnosis of clinical disease in part of the group has been established (Simjee & Ippolito, 2022 - modified)

3.18.4

prophylactic

administration of a medicinal product to a group of animals before clinical signs of disease, in order to prevent the occurrence of disease or infection (EU, 2019)

3.19

veterinary medicinal product

substances or combinations of substances to prevent, diagnose, or treat disease in animals (European Commission [EC], 2022)

3.20

wean to finish

type of operation that raises weanlings until slaughter weight (USDA-ERS, 2022, modified)

Swine Production Management



4.1 Conversion to organic swine production

If swine are to be sold as organic products, the swine shall be organically reared according to the conversion period shown in Table 1:

Table 1. Conversion period of swine and products derived from different type of operation

Type of operation	Conversion period	Products
Farrow to wean	Breeder sows: at least 38 days prior to farrowing	Weanlings/Cochinillo pigs/Lechon de leche pigs
	Organic Piglets: reared from farrowing to harvest	
Wean to finish	Weanlings: at least 120 days before slaughter	Slaughter pigs/Lechon pigs/pork
Farrow to finish	Fatteners: at least 120 days before slaughter	Slaughter pigs/pork
Breeders	Breeder sows: at least 38 days prior to farrowing (Hale, M. & Coffey, L., 2015)	Replacement breeders, piglets
References: Lammers, P. (2011). Raising Organic Pigs: A guide to USDA Certified Organic Requirements. National Sustainable Agriculture Information Service. National Bureau of Agricultural Commodity and Food Standards-Ministry of Agriculture and Cooperatives. (2011). Organic Agriculture Part 2: Organic Livestock (TAS 9000 Part 2-2011). Hale, M. & Coffey, L. (2015). Tipsheet: organic pig production. National Center for Appropriate Technology.		

Explanatory Note:

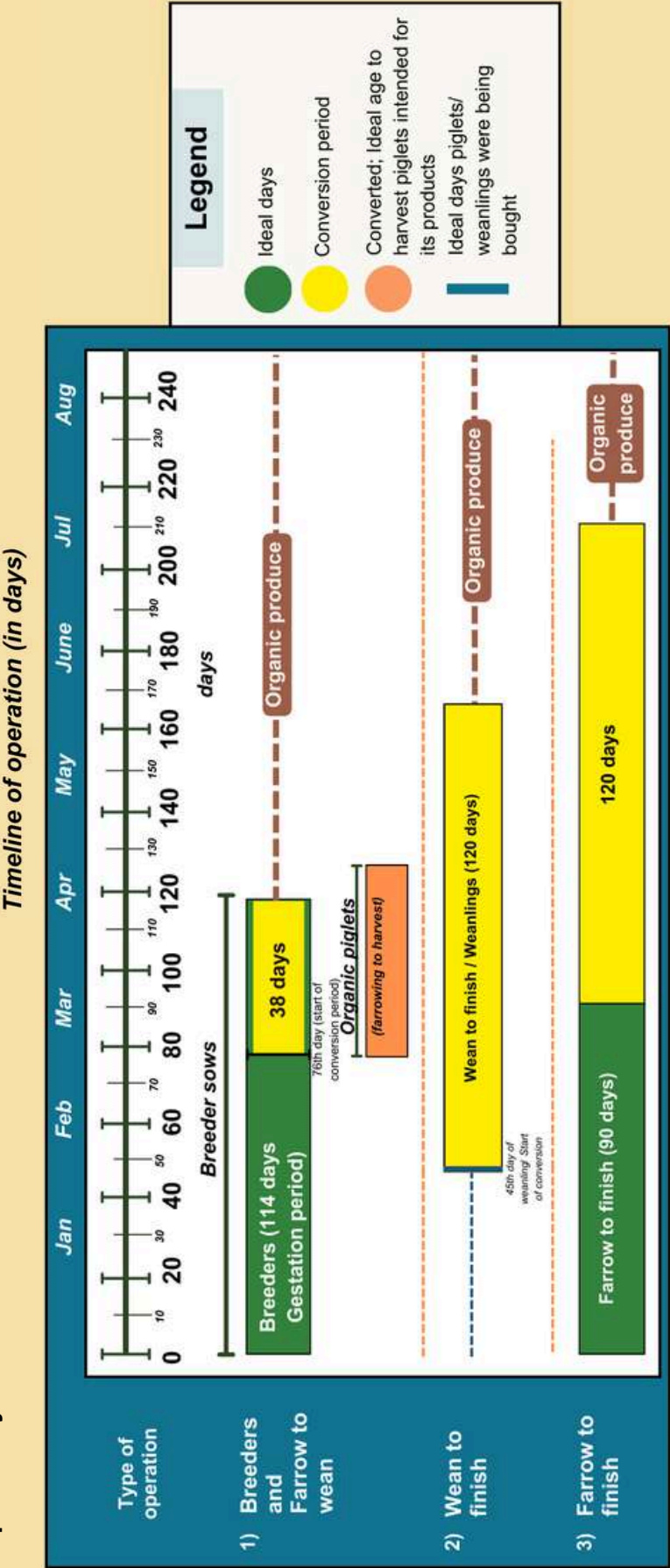













Figure 1. Conversion period of swine based on the type of operation

<p>Example:</p> <p>Date bought: <u>January 1, 2024</u></p> <p>Start of conversion period: <u>January 1, 2024</u></p> <p>Conversion period: <u>January 1, 2024 - April 30, 2024 (120 days).</u></p>	<p>Example:</p> <p>Date bought: <u>January 1, 2024</u></p> <p>Start of conversion period: <u>January 1, 2024</u></p> <p>Conversion period: <u>January 1, 2024 - July 30, 2024 (120 days).</u></p>
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Table 1. Type of operation and its corresponding products

Type of operation	Products		
Farrow to wean	<p><i>Image 1a. Weanling</i></p>  <p><small>Source: Canva, n.d.</small></p>	<p><i>Image 1b. Cochinillo pig</i></p> 	<p><i>Image 1c. Lechon de Leche pig</i></p>  <p><small>Source: Vin Sullivan Foods, 2019</small></p>
Wean to finish	<p><i>Image 1d. Slaughter pigs</i></p>  <p><small>Source: Canva, n.d.</small></p>	<p><i>Image 1e. Lechon pigs</i></p>  <p><small>Source: Canva, n.d.</small></p>	<p><i>Image 1f. Pork</i></p>  <p><small>Source: Canva, n.d.</small></p>
Farrow to finish	<p><i>Image 1g. Slaughter pigs</i></p>  <p><small>Source: Canva, n.d.</small></p>	<p><i>Image 1h. Pork</i></p>  <p><small>Source: Canva, n.d.</small></p>	
Breeders	<p><i>Image 1i. Replacement breeders</i></p>  <p><small>Source: Canva, n.d.</small></p>	<p><i>Image 1j. Piglets</i></p>  <p><small>Source: Flickr, n.d.</small></p>	<p><i>Image 1j. Piglets</i></p> 

4.2 Simultaneous conversion

If there is a simultaneous conversion of the farm, including animal, and/or any land used for animal feed, simultaneous conversion should be in accordance with the provisions stated in this Standard.

Explanatory Note:

Simultaneous conversion is the conversion of inorganic livestock and land to organic production at the same time (Soil association, 2009). The following are the considerations if the farm is undertaking simultaneous conversion:

- 1) Pigs that are born during the conversion phase (raised according to organic standards throughout the period) will be eligible for organic certification, as long as the land has undergone organic practices.

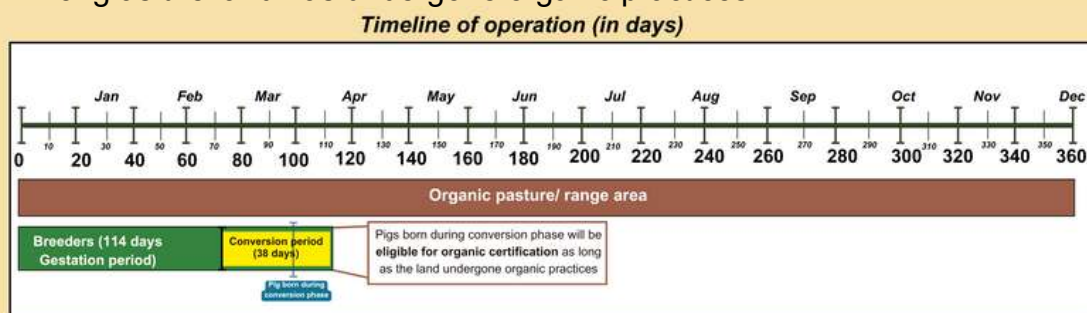


Figure 2a. Sample scenario of pigs born during conversion period

- 2) If the land is still going through conversion, the litters of **pigs born during the conversion period** that were reared to full organic standards on organic feed **cannot be sold as 'organic'**.

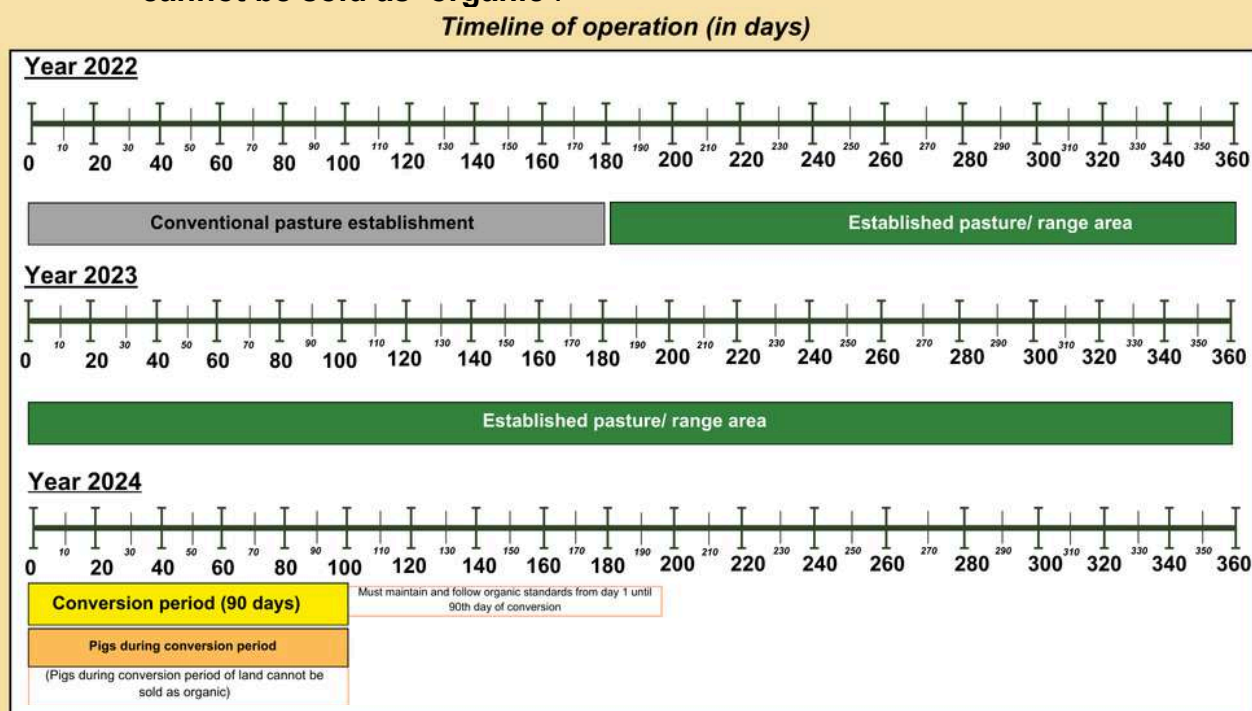


Figure 2b. Sample scenario of pigs during conversion period of land

- 3) Livestock and land production area must follow and maintain to comply to full organic standards from the start of the conversion or day one (1) of the 90-day conversion period.

4.3 Swine Husbandry Management

- 4.3.1** The animal husbandry for organic swine should be in conformance with PNS/BAFS 267:2022 (Swine — COP — GAHP) and shall be in conformance with Section 6 of the RA No. 10631, series of 2012 (An Act Amending Certain Sections of RA No. 8485, otherwise known as "The Animal Welfare Act of 1998").

Explanatory Note:

The Animal Welfare Act (AWA) of 1998 promotes the welfare of animals. It also declares that torturing, neglecting to provide adequate care, sustenance, or shelter, or mistreating any animal is an offense (Section 6). The AWA mandates that the killing of animals is done through humane procedures at all times using the most scientific method available. Further to this, the AWA created the Committee on Animal Welfare, attached to the Department of Agriculture (DA), which issues necessary rules and regulations for the strict implementation of the provisions of the Act.

The Animal Welfare Act of 1998 also stipulates exceptions such as:

- 1) *When it is done as part of the religious rituals of an established religion or sect or a ritual required by tribal or ethnic custom of indigenous cultural communities; however, leaders shall keep records in cooperation with the Committee on Animal Welfare;*
- 2) *When the pet animal is afflicted with an incurable communicable disease as determined and certified by a duly licensed veterinarian;*
- 3) *When the killing is deemed necessary to put an end to the misery suffered by the animal as determined and certified by a duly licensed veterinarian;*
- 4) *When it is done to prevent an imminent danger to the life or limb of a human being;*
- 5) *When done for the purpose of animal population control;*
- 6) *When the animal is killed after it has been used in authorized research or experiments; and*
- 7) *Any other ground analogous to the foregoing as determined and certified licensed veterinarian."*

- 4.3.2** The tethering of animals should be allowed until the safety and welfare of the animals is secured.

Explanatory Note:

The conditions and procedures for tethering animals are provided in the Department of Agriculture (DA) Administrative Order (AO) No. 41 series 2020 or the '*Code of Practice and Minimum Standards for the Welfare of Pigs*'.

In the Philippines, the practice of tethering is not allowed under organic production. However, certain exemptions are provided in the said AO where tethering may be allowed, provided that a minimum of 2.5 meters is used in the form of a harness with one loop around the neck and the other around the chest behind the elbows of the animal. On the other hand, tethering in the ankle and putting a ring on the snout, including close tethering, is prohibited.

Below are the example scenarios where tethering is allowed:

- For native swine, those that are aggressive during heat periods where they can harm other animals;
- For native swine, that may escape from their pens;
- Farm areas located in slopy areas; and
- Farm where perimeter fence is not fully established.

- 4.3.3** Management of the environment shall consider the behavioral needs of the swine and provide for the following:

- a) sufficient free movement;
- b) sufficient fresh air and natural daylight according to the needs of the swine;
- c) protection against excessive sunlight, temperatures, rain, and wind according to the needs of the swine;
- d) enough lying and/or resting area according to the needs of the swine;
- e) free access to fresh water and feeds according to the needs of the swine; and
- f) access to pasture.

Explanatory Note:

Studies have shown that providing adequate rearing space for pigs allows greater movements and has positive physiological effects resulting in lesser stress than their conventional counterparts (Mkwanazi M.V. et.al., 2018). Additionally, clean and safe water must be made available at all times or as needed.



Water testing is not mandatory. However, if the inspector observes any situation where the water source could potentially harm animals or cause adverse health effects, he/she may require the farmer to test the water quality at accredited laboratories.

The following are the chemical factors that affect the quality of water (BAFS, 2022; Kober, 1993; Nyachoti, M. and Kiarie, E., 2015):

1. Water pH

It measures the acidity or alkalinity of water. Water will be safe if the pH level ranges from 6.5 to 8.5. Low or high pH affects the solubility of some medications.

2. Hardness

This is the level of calcium and magnesium in the water. It does not affect animal health, but it can lead to an accumulation of scale in water delivery, treatment, and cooling equipment, blocking nipple drinkers and filters.

3. Total Dissolved Solids (TDS)

It measures salinity and the total levels of bicarbonates, chlorine, sulfate, sodium, calcium, and magnesium in the water. TDS below 1000 milligrams per liter (mg/L) is ideal for pigs, while TDS between 1000 to 3000 mg/L is suitable. However, if weaners are suddenly introduced to this water, it may cause transient diarrhea for a few days.

4. Nitrates

High levels of either nitrites or nitrates may be indicative of bacterial contamination. Nitrites or nitrates accumulate in the groundwater caused by material with high nitrogen levels (e.g., animal wastes, nitrogen fertilizers, decaying organic matter, silage juices, soils high in nitrogen-fixing, etc.). An increase in the recommended nitrite-nitrogen and nitrate-nitrogen ratio (10 and 100 ppm, respectively) causes contamination of groundwater.

Symptoms of nitrate poisoning include high respiration rate, increased incidence of diarrhea, reduced feed intake, poor growth, increased abortions among sows, and reduced vitamin A utilization.

5. Sulfates

The presence of sulfate in the drinking water of swine will inevitably lead to diarrhea. Studies show that water sulfate levels of less than 1000 ppm may not affect pig performance however, water with up to 3300 ppm causes a laxative effect and increases water intake of pigs.

Water can also become contaminated by various microbial pathogens. The number of coliforms per milliliter of water, for instance, determines the level of water contamination by bacteria. According to an Alltech (n.d.) factsheet on water quality in pig production, 50 colony-forming units (cfu) are fine, but anything higher than 100 cfu/ml requires treatment.

The following water treatments are suggested for different water quality problems (BAFS, 2022).

- Coliform count - Chlorinate water
- Water hardness - Install a softener
- High nitrates or other minerals - Ion exchange or reverse osmosis treatment systems
- Iron - Filtration
- High water pH - Acidification

To test the water quality, below are the government institutions that are capable to conduct analysis:

Department of Science and Technology (DOST)

Address:

DOST Main Building, General Santos Ave. Taguig, 1630 Metro Manila

Contact No:

(632) 8837 2071

Website:

<https://www.dost.gov.ph>

For regional offices:

<https://www.dost.gov.ph/products-and-services/regional-offices-s-t-services.html>

DA - Bureau of Soils and Water Management (BSWM)

Address:

SRDC Bldg. Elliptical Road corner Visayas Avenue, Diliman Quezon City

Contact No:

+63(2) 273-2474 loc. 3200 / (8)529-7640 local 201

Website:

<https://www.bswm.da.gov.ph>

These government institutions have regional offices that extend laboratory services to various regions/provinces throughout the Philippines. For private testing laboratories, the website of the Department of Trade and Industry (DTI)-Philippine Accreditation Bureau (PAB) provides the list of accredited testing laboratories: <https://pabaccreditation.dti.gov.ph/>

Image 2a. Rearing area with sufficient air and natural daylight



Image 2b. Availability of water inside the rearing area




Image 2c. Free access to pasture

4.3.4 Exceptions to any of the aforecited environmental management considerations may be allowed for the following conditions, provided that the welfare of the swine is guaranteed:

- a) animals' physiological state;
- b) inclement weather conditions;
- c) farm topography; and
- d) structure of certain traditional farming systems that restrict access to pasture or range area.

Explanatory Note:

Table 2. Allowed conditions for the following environmental and animal state

a) Animal's physiological state	Pregnant, sick or injured
b) Inclement weather conditions	Extreme weather conditions (<i>e.g typhoons, heavy rains, extreme heat and cold</i>)
c) farm topography	Slopy terrain
d) structure of certain traditional farming systems that restrict access to pasture or range area.	<p>Depends on the area and their corresponding traditional systems. For example, below is the practice done in Mt. Province</p>  <p>Source: Limsan V, n.d</p>

4.3.5 Landless animal husbandry systems shall not be allowed.

4.3.6 Herd animals shall not be kept individually, except in cases of the following:

- a) animals about to give birth or have just given birth shall be separated from other animals and shall be given the necessary veterinary attention; and
- b) sick, injured, or disabled animals shall be separated from healthy animals and shall be given the necessary veterinary attention as part of biosecurity measures.

Explanatory Note:



Image 3. Separation of injured animal

4.3.7 Cleansers and disinfectants for animal housing, facilities, equipment, and other tools shall be in accordance with Section B.2 of DC No. 9, series of 2020 (National list of permitted substances for organic agriculture).

Explanatory Note:**Table 3.** Cleansers and disinfectants listed in Section B.2 of DC No.9 series of 2020 (and its future amendments)

Substances/Materials	Other name
Acetic acid	-
Alkali carbonates	-
Calcium oxide	Quicklime
Citric acid	-
Cleaning and disinfection agents for teats and milking facilities	-
Ethanol	-
Hydrogen peroxide	-
Isopropanol	-
Lactic acid	-
Lime	-
Milk of lime	-
Natural essences of plants	-
Nitric acid	-
Oxalic acid	-
Peracetic acid	
Potassium hydroxide	Caustic potash
Potassium soap	Potassium salt of fatty acid, soft soap
Sodium carbonate	-
Sodium hydroxide	Caustic soda
Sodium hypochlorite	-
Sodium soap	Household bleach, liquid bleach
Water and steam	-

4.4 Breeds, breeding and breeding of animals

4.4.1 Breeding activities should take into consideration the following traits:

- a) reasonable productivity level even with low external input;
- b) adaptability to local conditions;
- c) longevity, temperament, and good health;
- d) breeds that are able to provide good quality traits and products; and
- e) ability of swine to give birth with minimal veterinary attention.

4.4.2 The use of artificial insemination techniques, such as the use of sexed semen and semen extender, should be allowed and should be carried out only by competent and trained personnel.

Explanatory Note:

Sexed semen is a type of semen that has been processed to preferentially select sperm cells carrying either the X or the Y chromosome. Sexing semen involves a complex process that sorts sperm cells based on differences in DNA content (Amposen, K. B. and Minozzi, G., 2006)



The application of AI should be done by a competent authority or skilled personnel. Personnel performing AI techniques shall be explicitly identified in the OMP.

4.4.3 Breeding techniques such as embryo transfer and genetic engineering shall not be allowed.

4.4.4 Breeding stock may be brought in from non-organic farms in cases of any of the following, provided that biosecurity protocols and measures are observed:

- a) unforeseen severe natural or man-made events;
- b) considerable expansion of the farm;
- c) improvement of existing breeding stock; and
- d) introduction of new breed.

Explanatory Note:

Under the circumstances enumerated, breeding-stock from non-organic farms is allowed, provided they undergo a conversion period.

- 4.4.5** The farm is encouraged to follow the standard swine replacement rate of at most 50% per year to sustain organic swine production and promote continuous genetic improvement.
- 4.4.6** Breed diversity of swine should be maintained. Indigenous/native breeds should be preserved and promoted.

Explanatory Note:

Below are the list of native species/strains and their corresponding origin.



Image 4a. Q-Black
Origin: Quezon Province



Image 4b. Benguet native pig
Origin: Benguet



Image 4c. Sinirangan
Origin: Eastern Samar



Image 4d. ISUbela
Origin: Isabela



Image 4e. Yookah
Origin: Kalinga



Image 4f. Markaduke
Origin: Marinduque

Source: Department of Science and Technology - Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (DOST - PCAARRD), n.d

List of purebred pigs used for the production of slaughter pigs.

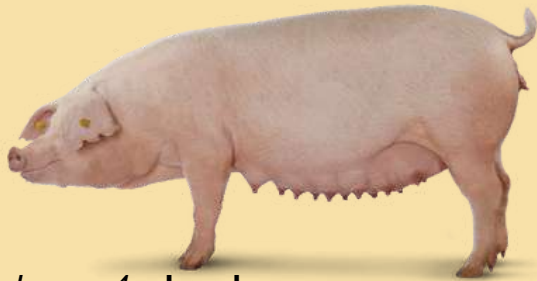


Image 4g. Landrace

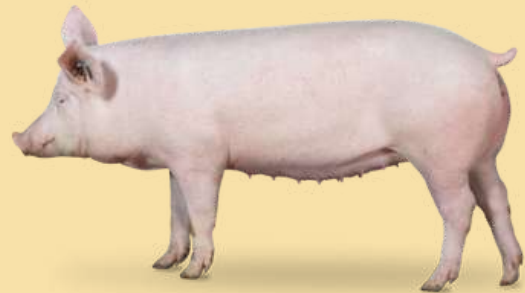


Image 4h. Large white



Image 4i. Berkshire



Image 4j. Duroc or Duroc jersey



Image 4k. Hampshire



Image 4l. Pietrain



Image 4m. Large black

4.5 Swine Nutrition

4.5.1 Pasture/range management

4.5.1.1 Swine shall have access to pasture/range area.

Explanatory Note:

According to DAR Administrative Order No. 01, S. 2004, grazing or pasture areas refer to plains, fields, or seas of grass that serve as grazing areas for livestock. These contain forage and are viable for the grazing activity of cattle (*in this case, swine*) as determined by the actual number of animal units.

4.5.1.2 Pasture/range area that has not been used in conventional crop production shall be exempted from the conversion period provided that the land meets the following requirements:

- a) Official attestation from the competent authority agency (national or local) or research institution on non-application of prohibited inputs for the past two years; or

Explanatory Note:

This **attestation** is a required document for farms applying for organic certification that seek an exemption from the conversion period. If a farm has been managed organically for at least two years without applying prohibited inputs, this attestation confirms compliance and exempts it from the conversion requirement.

The attestation must be valid at the time of certification and is used only for exemption from the conversion period. **This attestation does not guarantee the issuance of an organic certificate.** It serves only as **supporting evidence** that the farm has complied with the specific requirement of not using prohibited inputs for at least two years.”

[LETTERHEAD]

(DATE OF ISSUANCE)

OFFICIAL ATTESTATION OF NON-APPLICATION OF PROHIBITED INPUTS

This is to attest (NAME OF THE FARM), owned by (NAME OF THE FARMER), located at (COMPLETE AND EXACT ADDRESS) with a total land area of (SIZE OF THE FARM), has not been subject willfully to the application of prohibited inputs from (MONTH AND YEAR). This will also attest that the farm has been under practices allowed for organic agriculture within the same period and valid until (MONTH AND YEAR).

This attestation is issued upon the request of (NAME OF THE FARMER) for whatever legal purposes it may serve.

Attested by:

(NAME AND SIGNATURE OF AUTHORIZED OFFICIAL)

or

(NAME AND SIGNATURE OF DISINTERESTED PERSON)

Image 5. Proforma of an attestation signifying the non-application of prohibited inputs

The proforma includes the minimum required details such as the:

1 Name of farm

The registered or commonly known name of the farm, ensuring that the attestation applies to the correct operation.

2 Name of farmer

The full name of the farm owner or operator, identifying the person responsible for organic compliance.

4 Size of the farm

The total land area under organic management, expressed in square meters (sqm), to confirm that the attestation covers the entire farm or the specific portion applying for certification.

This is to attest **(NAME OF THE FARM)**, owned by **(NAME OF THE FARMER)**, located at **(COMPLETE ADDRESS)** with a total land area of **(SIZE OF THE FARM)**; has not been subject willfully to the application of prohibited inputs from **(MONTH AND YEAR)**. This will also attest that the farm has been under practices allowed for organic agriculture within the same period and valid until **(MONTH AND YEAR)**.

3 Complete and exact address

The full location details, including barangay, municipality, province, and region, allowing inspectors to verify the farm's location and ensure compliance with the two-year no-prohibited-inputs rule. GPS coordinates may be included if available.

6 Date of issuance or validity of the attestation

The issuance date and, if applicable, its validity period, ensuring that the attestation reflects the farm's current status and is not outdated.

5 Month and year started not using prohibited inputs and practices organic management system

The exact date when the farm stopped using prohibited substances, proving that organic practices have been in place for at least two years, as required for exemption

Attested by:

(NAME AND SIGNATURE OF AUTHORIZED OFFICIAL)

or

(NAME AND SIGNATURE OF DISINTERESTED PERSON)

7 Name and signature, and position of authorized official that issues the attestation

The full name, designation, and signature of the official from a competent authority (e.g., LGU, or research institution) who has direct knowledge of or has conducted verification on the farm's practices and is therefore in the position to credibly attest that prohibited inputs have not been used for at least two years

- b) Notarized affidavit from two disinterested persons from the community as proof that the land was cultivated under practices allowed for organic agriculture for the past two years (BAFS-DA, 2022a, modified).

Explanatory Note:

Disinterested persons are people who are not engaged in any activities related to the farm, including workers, staff, group members/organization, relatives, and friends.

Republic of the Philippines)
) ss.

AFFIDAVIT OF TWO DISINTERESTED PERSONS

We, [Name of Affiant 1] and [Name of Affiant 2], both Filipinos, of legal age, residing at [complete and exact address], after having been duly sworn to in accordance with law, do hereby depose and say:

1. That we personally know [Name of the Farm Owner], the owner [Name of the Farm Owner] located in [Location];
2. That he/she owns agricultural land with a total area of [Area of farm], where he/she cultivated [List of commodities];
3. That in cultivating these commodities, he/she has not used any substances that are not listed in the Department Circular No. 9 s. of 2020 or the National List of Permitted Substances for Organic Agriculture
4. That he/she has, in fact, managed and converted the land to organic agriculture practices within a period of [Duration of Conversion];
5. That although we are neither related to him/her by affinity nor consanguinity, we personally know him/her as we reside in the same barangay and have been invited to some of his/her family gatherings.
6. That we are executing this affidavit to attest to the truth and veracity of the foregoing statements for whatever legal purpose it may serve.

Subscribed and sworn to before me this _____ day of _____, 20____, in the presence of _____, Philippines.

 (Affiant)

AND SWORN to before me this _____ day of _____ in the presence of _____, respectively.

 Notary Public

Image 6. Proforma of an affidavit signifying the non-application of prohibited inputs from two disinterested persons

- 4.5.1.3** Pasture area that has been established less than 2 years and previously used in conventional crop production shall have at least 90 days into conversion period (BAFS-DA, 2022a, modified).

Explanatory Note:

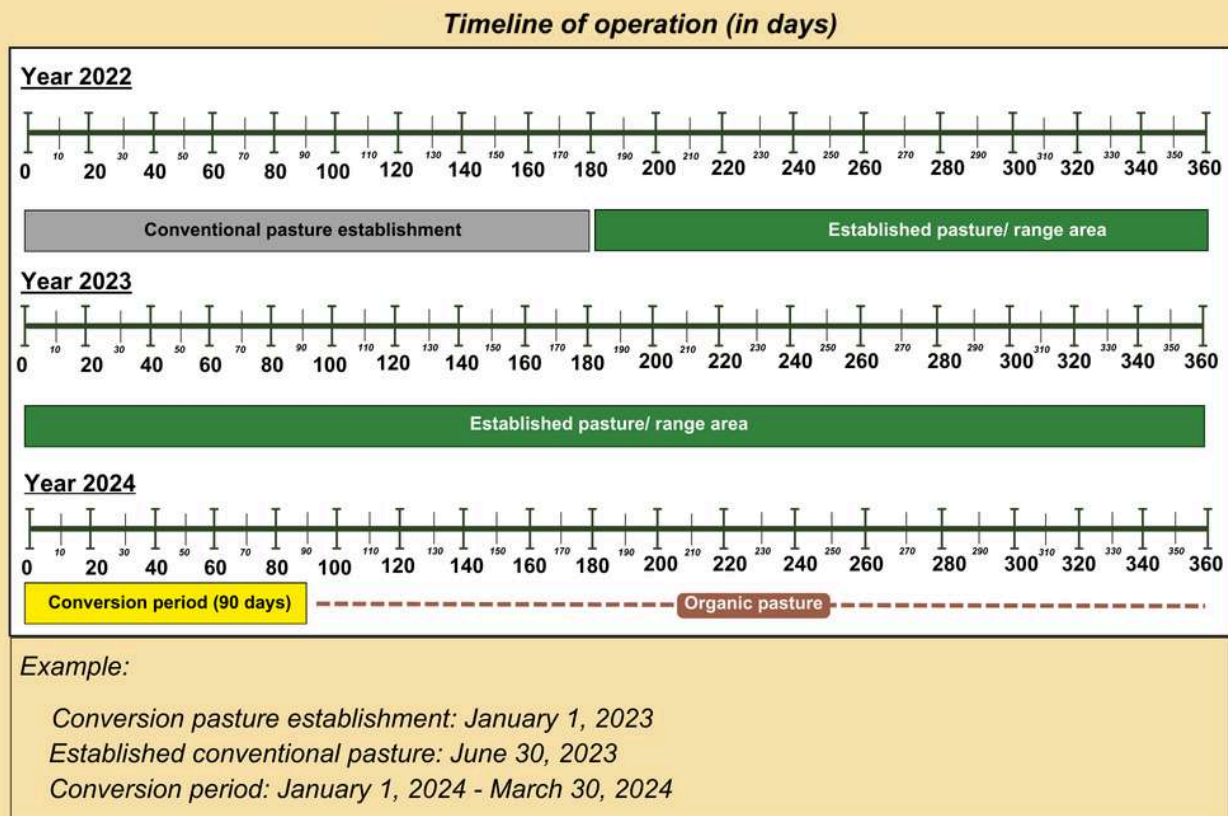


Figure 3. Timeline for pasture establishment

- 4.5.1.4** The pasture management for organic swine production shall be properly managed in accordance with item a of Clause 6.4 of PNS/BAFS 262:2018 (Free range chicken), such as:
- encourage to use the range area fully;
 - maintain vegetation quality;
 - prevent and/or manage muddy/worn/soddy area;
 - prevent coming into contact with any toxic substances;
 - minimize any build-up of parasites or other disease-causing organisms; and
 - offer protection and cover while they are ranging.

Explanatory Note:

One of the management options to promote healthy pastures and good forage is to implement rotational grazing. It involves cross fences to divide the pasture into separate units - paddocks, and periodically moves the livestock to fresh paddocks to allow the regrowth of pasture (Irang, 2018).

Based on PNS GAHP for Beef Cattle and Buffalo (PNS/BAFS 200:2023), *if the rotational grazing protocol is being applied in the farm, it should take into consideration the cross-contamination of disease to other groups of animals.*

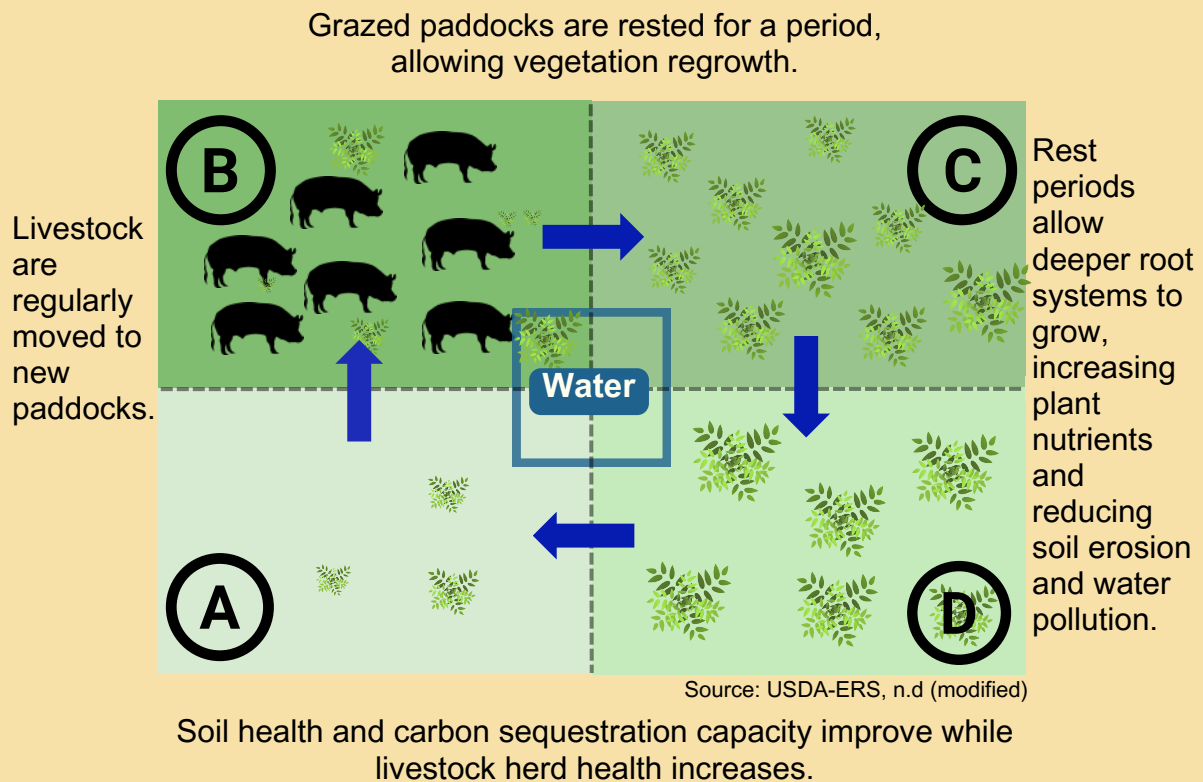


Image 7. Illustration of Rotational grazing

- 4.5.1.5** Swine shall not be exposed to pasture management practices that may cause them harm (e.g., spraying, pesticide use, sowing, cropping, etc.) (BAFS-DA, 2018).

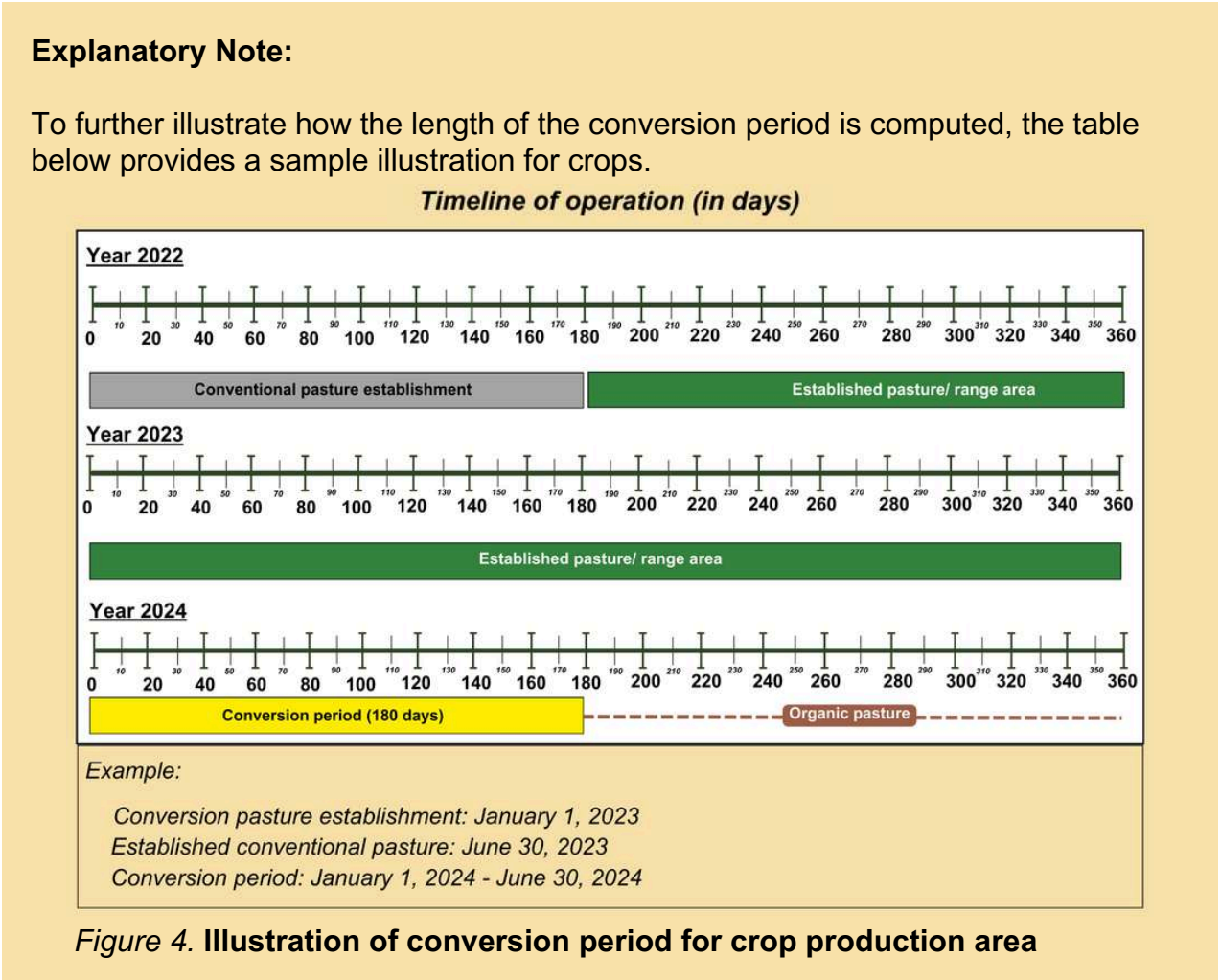
4.5.2 Crop production for feeds

- 4.5.2.1 Crop production area that has not been used in conventional crop production shall be exempted from the conversion period provided that the land meets the following requirements:
- a) Official attestation from the competent authority agency (national or local) or research institution on non-application of prohibited inputs for the past two years; or
 - b) Notarized affidavit from two disinterested persons from the community as proof that the land was cultivated under practices allowed for organic agriculture for the past two years (BAFS-DA, 2022a, modified).

Explanatory Note:

For the sample template of attestation, refer to clause 4.5.1.2 under 4.5 Swine Nutrition.

- 4.5.2.2 Crop production area that has been used in conventional crop production shall have at least 180 days into the conversion period, the production practices shall follow PNS/BAFS 337:2022 (OCPPP – COP).



- 4.5.2.3** Use of locally sourced or native varieties should be encouraged as shown in Annex A (Common and locally available feed ingredients). Use of GMO varieties shall be prohibited (BAFS-DA, 2022a).

Explanatory Note:

The corresponding registered varieties for feed ingredients can be accessed on the Bureau of Plant Industry - National Seed Industry Council (BPI-NSIC) website.

On the other hand, according to the International Service for the Acquisition of Agri-biotech Applications (ISAAA), the Philippines stands among the nations that have approved Genetically Modified (GM) crops. Below are some of the crops with GM counterparts:

1. Eggplant - *Solanum melongena*
2. Maize - *Zea mays* L.
3. Potato - *Solanum tuberosum* L.
4. Rice - *Oryza sativa* L.
5. Soybean - *Glycine max* L.

To view the complete list of crops with their GM counterparts, it can be accessed through this link:

www.isaaa.org/gmapprovaldatabase/approvedeventsin/default.aspCountryID=PH&Country=Philippines

- 4.5.2.4** All the organic soil amendments and other planting media used (e.g., carbonized rice hull, coco coir, peat, etc.), shall be in accordance with the PNS/BAFS 291:2019 (PNS on production of OSA) and Section A.2 of DC No. 09, series of 2020 (National list of permitted substances for organic agriculture) (BAFS-DA, 2022a).

Explanatory Note:

The National List of Permitted Substances for Organic Agriculture (DC No. 09, series of 2020 [and its future amendments]) lists down the approved organic soil amendments and other planting media that can be used or applied.

The DC No.9 series of 2020 can be accessed through: https://www.da.gov.ph/wp-content/uploads/2022/07/dc09_s2020.pdf

- 4.5.2.5** When supplementary application of OSA is needed, it shall be certified as organic (BAFS-DA, 2022a).

Explanatory Note:



"Certified Organic Philippines" logo

Image 8a. Sample OSA bottle

Philippine organic marks



Source: DA, 2018

Image 8b. Third-party certification: "Certified Organic Philippines" logo



Source: DA, 2022

Image 8c. Participatory Guarantee System (PGS): "Guaranteed Organic Philippines" logo

To see the full and updated list of registered Organic Soil Amendments and Plant Supplements, you can check regularly the DA-BAFS website:

<https://bafs.da.gov.ph/index.php/registered-organic-soil-amendment-products/>

4.5.3 Raw materials permitted

- 4.5.3.1** The raw materials permitted for organic swine production shall be in accordance with Section B of DC No. 9, series of 2020 (National list of permitted substances for organic agriculture).

Explanatory Note:

The DC No. 9 series of 2020 (National list of permitted substances for organic agriculture) contains permitted substances on which the “conditions for use shall be complied.

- 4.5.3.2** In the context of animal nutrition, vitamins and minerals, provitamins, and chemically well-defined substances having a similar effect (e.g., crystalline amino acid [dL methionine]) may be used provided it meet the conditions stated in DC No. 9, series of 2020 (National list of permitted substances for organic agriculture).

Explanatory Note:

If necessary, vitamins and minerals may be administered through the drinking water.

4.5.4 Organic feed productions

- 4.5.4.1** The production of organic feeds shall be in accordance with applicable standards related to organic animal feeds.
- 4.5.4.2** In the formulation of organic feed, the ingredients/raw materials, vitamins and minerals, and preservatives shall be in accordance with Section B of DC No. 9, series of 2020 (National list of permitted substances for organic agriculture).

Explanatory Note:

Image 9. Sample sources of vitamins and amino acids



- 4.5.5** The diet should be offered to the swine in a form allowing them to execute their natural feeding behavior.

4.6 Feeding of milk and fostering

- 4.6.1** The use of milk from non-organic systems and dairy-based milk substitutes is allowed in case the sow is unable to provide the piglets' requirements. The piglets should be weaned only after a minimum time that considers their natural behavior.
- 4.6.2** Fostering is allowed to ensure sufficient nourishment and survivability of piglets.

Explanatory Note:

Fostering is a management system where piglets are moved from one sow to another to create regular litters among sows and to allow each piglet to access functional teats. This is done when the sow is experiencing illness, death, or refusal to nurse the litter, and the sow is not producing sufficient milk for the litter (Alexopoulos et al., n.d).

Benefits of fostering:

- Decrease pre-weaning mortality
- Giving all piglets access to a functional teat
- Giving small piglets access to a smaller teat
- Standardizing litter size (Ceva, 2022)

In fostering, it is important to keep in mind that the sow that will be used shall be organically reared. Otherwise, it will not be considered organic.

4.7 Swine Identification and Mutilation

4.7.1 The farm operator shall have means of identification of swine.

4.7.2 The following methods of identification of swine shall be allowed and comply with the Section 3 of the DA AO No. 41, series of 2000 (Code of minimum standards for the welfare of pigs):

- a) ear tattooing
- b) ear tagging; and
- c) ear notching

Explanatory Note:

For identification, pigs' ears may be notched, tagged, punched, or tattooed. Particular care must be taken when tattooing to avoid pain and discomfort. Piglets shall be ear-notched before reaching 7 days of age (DA AO No. 41 s2000).



Image 10a. Pig with ear tattoo

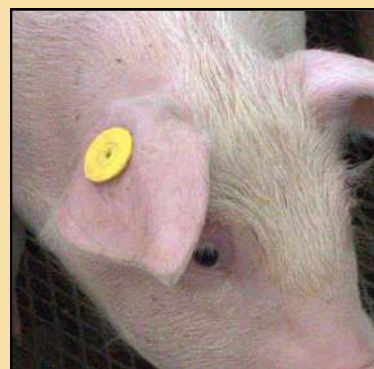


Image 10b. Pig with ear tag



Image 10c. Pig with ear notch

4.7.3 Mutilations shall be prohibited. However, the following methods shall be exempted in specific cases where these can improve the welfare, health, or hygiene of the swine or for safety reasons:

- a) castration
- b) cutting or grinding of teeth/clipping of needle or milk teeth and
- c) tail docking

Explanatory Note:

Mutilation is an animal management practice that is intended to prevent problems and protect the welfare of animals inside the farm (Nordquist et al., 2017).

Castration

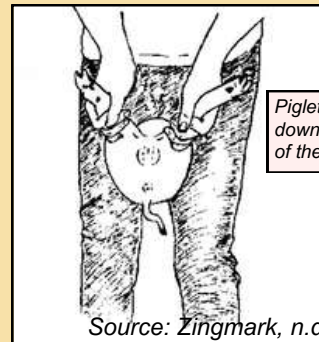
Castration is done by removing the testes to prevent the development of boar taint or urine-like odor in mature pigs (American Veterinary Medical Association, 2013).

As per DA AO No. 41 Series of 2000 (and its future amendments), the procedure can be done as early as 1 day old or an average age of 3 days. Castration beyond 14 days old will require general/local anesthesia and shall be performed by a licensed veterinarian.

Ways in restraining piglets during castration

Source: Zingmark, n.d

Image 11a. Castrating of pigs using commercial device



Source: Zingmark, n.d

Image 11b. Castrating of pigs manually

Piglets held firmly head-down between the legs of the operator

Clipping of “Needle” or Milk Teeth

Teeth clipping is done to reduce needle teeth to avoid harm in the sow's teats. The clipping of “needle” or milk teeth shall be done within 2 days from birth. Clean and appropriate equipment shall be used (DA AO No. 41 s.2000 [and its future amendments]).



Source: Mills, 2019

Image 11c. Sample image of teeth clipping

Tail Docking

Docking as a routine preventive measure may be carried out in piglets during the first three days of life. One-third to one-half of the tail may be removed by a competent operator. Tail docking of pigs more than 7 days of age shall be undertaken only in an emergency and shall be done by a licensed veterinarian (DA AO No. 41 s.2000 and its future amendments).



Source: Hissink, 2018

Image 11d. Sample image of tail docking

- 4.7.4** Allowed mutilations and animal identification practices shall not cause suffering and comply with existing regulatory requirements of the competent authority. Trained personnel should carry out these practices at the most appropriate age and any suffering to the swine is reduced to a minimum.

4.8 Swine Health

- 4.8.1** The farm owner shall ensure the health and well-being of the swine through the following:
- a) selection of appropriate breeds of swine;
 - b) adoption of GAHP appropriate to the requirements of swine;
 - c) provision of nutritionally balanced feed; and
 - d) appropriate stocking densities.
- 4.8.2** The recommended nutritional requirements for swine are provided in Annex B (Nutritional requirements of swine).
- 4.8.3** Swine health care shall be supervised by a duly licensed veterinarian.
- 4.8.4** The well-being of the swine is superior in the choice of treatment, and treatment shall be prescribed by the licensed veterinarian.
- 4.8.5** Natural remedies and complementary medical methods should be the first choice.

Explanatory Note:

Herbal plant medicines are well-known as phytobiotics - natural active compounds obtained from several herbal sources (Alagawany et al., 2021). The use of herbal plants has increased in livestock production due to the side effects of modern drugs, the high input costs, toxic residues in food, microbial resistance, and due to the development of organic livestock production systems (Kuralkar et al., 2021).

For a list of Philippine herbs used in small animal practice, please refer to Annex B.

- 4.8.6** If natural remedies are not effective, prophylactic or metaphylactic drugs are allowed as prescribed by a licensed veterinarian. Moreover, treatment shall not be withheld for economic reasons like if the treatment jeopardizes the organic integrity of the swine.
- 4.8.7** The swine shall be treated promptly and adequately if sick or injured despite preventive measures. If necessary, in isolation and in suitable housing/s, producers shall not withhold such medication where it will result in the unnecessary suffering of the swine.

Explanatory Note:

Isolation pens are strategically placed in the swine production area to minimize contact/contamination with the healthy pig. It is placed where the route of air/ wind will first face the healthy ones before the sick pig.

In cases when prophylactic or metaphylactic drugs are not effective, antibiotics may be used in severely sick pigs.

4.8.8 The use of oxytocin is not allowed except when there are dystocia cases.

Explanatory Note:

Oxytocin is administered only in cases of dystocia (difficulty in giving birth) by a licensed veterinarian (USDA PCO Certified Organic, n.d.; Hill et al., 2022) or a deputized trained personnel (see *PNS clause 4.8.10*).

4.8.9 The use of antibiotics for prophylactic/preventive purposes and as growth promoter is not allowed. However, the use of antibiotics for treatment and metaphylactic is allowed when an endemic disease is known or expected to be a problem in the region where the farm is located and where the disease cannot be controlled by other management techniques under the direct supervision of a duly licensed veterinarian.

Explanatory Note:

Below are examples of endemic swine diseases:

• African Swine Fever

a viral disease of domestic and wild pigs that is highly contagious (about 100% mortality rate). It is highly resistant in the environment, so it can survive on clothes, boots, wheels, and other materials, even in various pork products such as ham, sausages, or bacon (WOAH, 2025).



Image 12a. Swine infected with ASF



Currently, the Philippines is experiencing active cases of ASF disease. For the latest updates on ASF, you can visit the BAI's website at <https://www.bai.gov.ph/stakeholders?Rep=African%20Swine%20Fever>

• Porcine Reproductive and Respiratory Syndrome (PRRS)

a viral disease characterized by two overlapping clinical presentations, reproductive impairment or failure in breeding animals, and respiratory disease in pigs of any age (Iowa State University, n.d.).



Image 12b. Swine infected with PRRS

- **Classical Swine Fever also known as "Hog Cholera"**

Also known as hog cholera. It is a contagious viral disease of domestic and wild swine caused by a virus of the genus Pestivirus of the family Flaviviridae (WOAH, n.d).



Source: Quizlet, n.d

Image 13c. Swine infected with hog cholera

- **Pseudorabies virus (PRV)**

It is a major viral disease manifested in swine by signs and lesions that vary among different age groups. The disease is characterized by three overlapping syndromes that reflect lesions in the central nervous system (CNS), respiratory system, or reproductive system (Iowa State University, n.d).



Source: Pig progress, 2016

Image 13d. Swine infected with Pseudorabies

4.8.10 Administration of veterinary drugs may be done by deputized trained personnel through written authorization by a duly licensed veterinarian.

Explanatory Note:

In case there is no available licensed veterinarian in the area, the deputized trained personnel can administer veterinary drugs provided that the health care program is approved by the licensed veterinarian. The approval of a licensed veterinarian should be reflected in the Organic Management Plan (OMP).

4.8.11 The withdrawal period of a veterinary drug shall be twice the legal withdrawal period provided in the medical insert or in a case in which this period is not specified, 21 days, whichever is longer. The swine shall be sold as organic only after the withdrawal period.

Explanatory Note:

Withdrawal period is a specific set period of time after the last dose of the veterinary medicine has been administered (National Office of Animal Health, 2016). Below are sample veterinary drugs and their corresponding withdrawal period.

Table 4. Withdrawal period of common veterinary drugs

Veterinary Drug	Withdrawal period as required by the manufacturer	Withdrawal period as required by the Organic standards (2x the recommended)
Amoxycillin	18 days	36 days
Ampicilin	28 days	56 days
Ceftiofur	12 hours	24 hours
Cephalexin	2 days	4 days
Clavulanic acid plus amoxycillin	14 days	28 days
Enrofloxacin	10 days	20 days
Framycetin	49 days	98 days
Lincomycin	2 days	4 days
Oxytetracycline	15 days	30 days
Procaine pen plus dihydrostreptomycin	21 days	42 days
Procaine penicillin	5 days	10 days

Source: *The Pig Site* (2024)

4.8.12 Vaccination using registered vaccines shall be allowed as authorized by the competent authority.

Explanatory note:

According to Food and Drugs Administration (FDA), the following are the approved veterinary drugs for swine in the Philippines:

Table 5. Approved veterinary drugs in the Philippines (as of February 3, 2025)

Generic name	Registration No.
Modified Live Classical Swine Fever (CSF) Virus Vaccine (Vet.)	VR-4103, VR-4467
Inactivated Swine Influenza Virus (SIV) Vaccine (Vet.)	VR-4162, VR-4185, VR-4358
Inactivated Swine Parvovirus + Erysipelothrix rhusiopathiae + Leptospira interrogans ser. Canicola + L. interrogans ser. Grippotyphosa +	VR-4227
Live Attenuated Classical Swine Fever (CSF) Virus Vaccine (Vet.)	VR-4320, VR - 4440
Live Attenuated Classical Swine Fever (CSF) Virus Vaccine (Vet.)	VRP-231, VRP - 316

To access the updated list of veterinary drugs registered under FDA, you can use this link: https://verification.fda.gov.ph/veterinary_productslist.php?start=1

4.8.13 The use of the following substances shall not be allowed:

- a) all steroids and other synthetic growth promoters or enhancers;

Explanatory note:

If needed, the above-mentioned substances should be prescribed and administered by a licensed veterinarian. Once used, swine will undergo a conversion period

- b) substances of synthetic origin for production stimulation or suppression of natural growth; and
- c) hormones for heat synchronization.

4.8.14 The use of allopathic medicines shall be allowed following the maximum treatments:

- a) slaughter pigs - three treatments per animal; and
- b) breeder pigs - three treatments per animal per year.

Explanatory Note:

For every disease condition treated, follow-up treatments are considered as part of the regimen until the animal recovers. Thus, it is considered as one treatment only.

4.9 Biosecurity measures

- 4.9.1** Mandatory biosecurity and quarantine procedures shall be well-implemented to prevent the introduction of disease into the farm and/or to control its spread within the farm.

Explanatory Note:

Biosecurity is the overall program that uses a combination of physical barriers and directed actions in a specific way that should prevent the introduction of, or limit the spread of infectious disease (ASEAN, n.d.).

Pathogens that can cause diseases in pigs can be potentially from the following sources (WOAH, n.d):

- Other domestic pigs
- Wild boars
- Other animal species, such as rodents (e.g., salmonellosis and leptospirosis), birds (e.g., salmonellosis and influenza), and arthropod parasite vectors and contaminators
- Humans (e.g. influenza and tuberculosis)
- Fomites such as vehicles, equipment, or any object that can be contaminated with infectious material
- Environment - soil, water, air

To ensure that diseases will not be carried into farm houses and reduce the risk of transmission between the farms, the following procedures can be implemented and followed daily (ASEAN, n.d.; WOAH, n.d.):

1. Prevent contact with potentially infected pigs (domestic, feral, wild boar)
2. Pigs (new pigs, boars for service) should be introduced only from sources known to be healthy and free of infection.
3. Maintain enough distance between each facility, such as nursery, grower, finisher and breeder houses, feedmill, waste management facilities and others.
4. Establish a perimeter fence around the farm to avoid unwanted visitors. Farm main entrance gate is gated and provided with visible biosecurity signage at all farm access points indicating “Restricted Biosecurity Area, No Entry Unless Authorized” or similar wording.
5. Install shower and changing facilities equipped with clean protective clothing and boots.
6. Establish a disinfection and sanitation area for vehicles with a suitable water and power supply. Additionally, the area has clear signage indicating “designated parking area for visitors and employees” near the entrance to the farm.

For vehicle that requires entry to the farm site (e.g, delivery of supplies), they have to follow disinfection procedures of the farm.

7. Quarantine newly-arrived pigs for 30 days or practice all-in-all-out management. Multi-age facilities represent a significant biosecurity risk to the farm and industry. If multi-age groups are unavoidable, ensure proper fencing and segregation of animals.
8. Lock the pig pens when not supervised. Additionally, barn entryways (workrooms) are consistently kept clean and routinely disinfected.
9. Place suitable disinfectant products (refer to Section B of DC 9 or the National List of Permitted Substances for Organic Agriculture and its future amendments) on footbaths at all shed doorways. Separate footwear or plastic overshoes may be required for each pen, and maintained so as not to become sources of contamination.

The following are recommendations for footbaths:

- ✓ Big enough to easily step in and out, and should be covered or placed inside buildings, not exposed to the outside environment.
- ✓ Have a brush and a container with detergent available to remove dirt from the boots.
- ✓ Use disinfectants that do relatively well in the presence of organic materials. Replacing the disinfectant solution daily is recommended.
- ✓ Footbaths may be installed and placed where people are expected and need to wash their hands.

Moreover, to minimize/avoid risks, below are the necessary steps in developing a biosecurity plan. The steps can be used as a reference to formulate/modify approaches in a biosecurity plan based on the disease of concern:

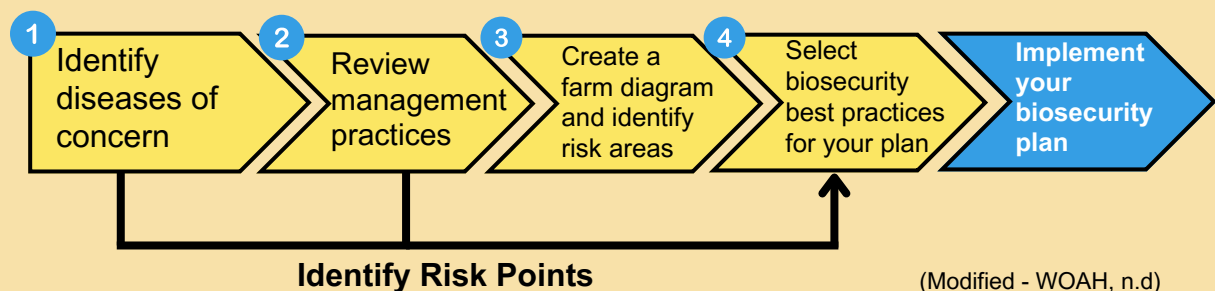


Image 14. Steps in developing biosecurity plan

4.9.2 The farm shall have a written protocol for biosecurity measures. Proper biosecurity signages shall be provided.

Explanatory Note:

As mentioned in the ASEAN for Biosecurity Management Manual for Commercial Poultry Farming, n.d, *modified*, the following are the operational biosecurity procedures for personnel and visitors:

1) Personnel

- *Personnel working in the farm should not work in any other farm. Thus, the conditions of employment should be set out as a guide for specific biosecurity issues as following:*
 - *Employees living on the farm should work on the same farm.*
 - *Employees should not own any farm related to the species they are responsible for caring for.*
 - *Rides to and from work should be limited to employees working on the same farm.*
 - *Employees should not visit locations where birds or swine are present. In the rare occasion when this may occur (e.g., fairs, exhibits), the employee will be expected to take a shower and change clothing before going to work.*
 - *Employees should always shower and put on clean clothing before going to work, and sign the “Personnel Quarantine Declaration” before entering the farm*

PERSONNEL QUARANTINE DECLARATION
(BIOSECURITY QUESTIONS FOR EMPLOYEE)

Instructions: Kindly answer the following biosecurity questions.

Biosecurity Questions	Yes	No
1. Is there any swine/pigs at your residence?		
2. Do you or anyone residing with you, work for any other pig-related business, such as a piggery farm, breeder farm, feed mill, agricultural store, meat processing plant, etc.? If yes, provide the type of business		
3. Do you regularly visit anyone who owns or lives on a piggery farm?		
4. Do you live near property where pigs are kept?		

As an employee, you must:

- Wear laundered clean clothes and shoes when arriving at the farm.
- If you have any vehicle, park in the designated parking area away from the barns.
- Disinfect the tires, wheel wells, and undercarriage when entering the farm driveway.
- Not bring any family or friends without the manager's permission. They must also strictly adhere to a biosecurity protocol.
- Wear coveralls, boots, and a head covering, and sanitize your hands when entering the farm's production area.
- Use all footbaths where provided.
- Not knowingly come into contact with other pig farms.

I have read and understand the above questions and requirements for employment and the farm's biosecurity procedures.

Signature over the printed name of Employee _____ Date _____

Biosecurity Questions	Yes	No
1. Is there any swine/pigs at your residence?		
2. Do you or anyone residing with you, work for any other pig-related business, such as a piggery farm, breeder farm, feed mill, agricultural store, meat processing plant, etc.? If yes, provide the type of business		
3. Do you regularly visit anyone who owns or lives on a piggery farm?		
4. Do you live near property where pigs are kept?		

As an employee, you must:

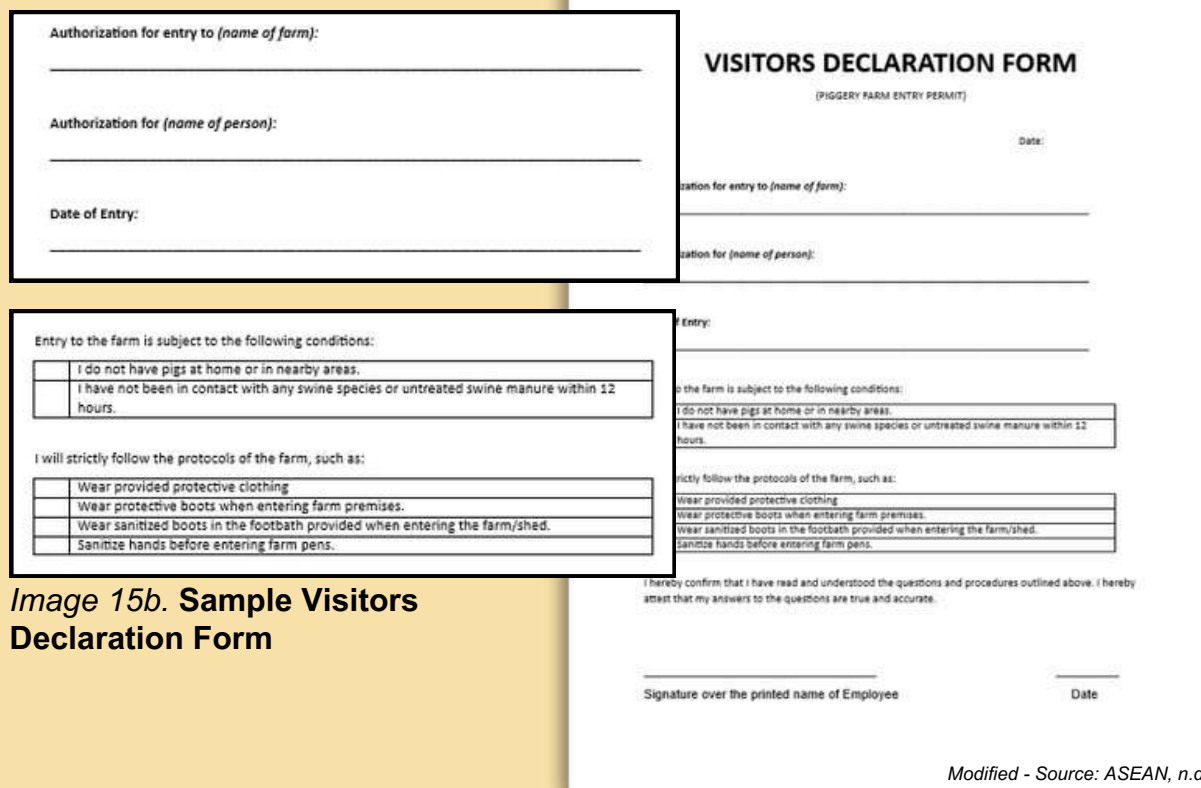
- Wear laundered clean clothes and shoes when arriving at the farm.
- If you have any vehicle, park in the designated parking area away from the barns.
- Disinfect the tires, wheel wells, and undercarriage when entering the farm driveway.
- Not bring any family or friends without the manager's permission. They must also strictly adhere to a biosecurity protocol.
- Wear coveralls, boots, and a head covering, and sanitize your hands when entering the farm's production area.
- Use all footbaths where provided.
- Not knowingly come into contact with other pig farms.

Modified - Source: ASEAN, n.d.

Image 15a. Sample Personnel Quarantine Declaration

2) Visitors

- *All visitors must follow biosecurity procedures as outlined in the Visitor's Entry Protocol. They should not have been on any other farm facilities for at least 24 hours prior to the visit (ASEAN, n.d). If there's an international visitor, require at least 48 hours of no animal contact before arriving on your farm (Iowa State University Ames, n.d).*
- *All visitors should park their vehicles in the designated parking area, unless it is essential for the vehicle to enter the farm premises, such as bringing farm supplies and materials, implements, and others. It is best to park vehicles at least 100 feet from the farm. Visitors coming from high-risk areas should at least wait for five (5) days before entering the farm facilities. They should sign the "Visitors Declaration Form".*
- *Prevent animal contact by visitors to prevent the possibility of disease transmission to the animals (Iowa State University Ames, n.d).*
- *Company service taking multiple farm visits on a single day must adhere to its biosecurity protocol. Service people must be properly trained to enter and exit farms and observe strict bio-sanitation measures. **Visits or movement** from farm to farm should always be made from "clean areas" such as younger animal pens to the older animal pens, from healthy to sick animals, and in other applicable situations. They will be expected to visit younger or healthier animals first. **Protective clothing**, including headwear and boots, should be worn on the farm site. **Handwashing** is important to protect the animals and to protect those working with animals. As such, hands must be sanitized before entering the building.*
- *In an emergency, a visit may be made from a "dirty" area after a shower and complete change of clothing. If vaccination is practiced, a Vaccination Crew should strictly follow their biosecurity protocol.*
- *Prohibit visitors from bringing any food items, especially undercooked food products, into the farm (Iowa State University Ames, n.d).*



The image shows two versions of a 'VISITORS DECLARATION FORM (PIGGERY FARM ENTRY PERMIT)'. The top version is a clean, blank form with fields for 'Authorization for entry to (name of farm):', 'Authorization for (name of person):', 'Date of Entry:', and 'Date:'. Below these are checkboxes for conditions of entry and a list of protocols to follow. The bottom version is a filled-out form with the same fields and checkboxes, but with handwritten or printed text in some areas. The protocols listed include wearing protective clothing, boots, sanitizing boots, and hands.

Image 15b. Sample Visitors Declaration Form

Modified - Source: ASEAN, n.d.



Image 15c. Signages inside the farm as part of biosecurity protocols

4.9.3 The implementation of biosecurity measures shall be continuously monitored to assess the effectiveness of the program.

Explanatory Note:

BIOSECURITY MONITORING FORM
(day, month and year)

		Description	Remarks
1. Location information (must include distance from the farm and nearest farm):			
2. Facilities	- Fence		
	- Shower area		
	- Pest control program		
	- Downtime period		
	- Decontamination of farm supplies/personal		
	- Food items (No pork and pork products inside the farm)		
	- Water		
	- Cleaning and disinfection of areas		
3. Protocols and Health Checks	- Presence of stray animals/other animal species on the farm premises		
	- Visitor's log		
4. Records	- Health declaration form (for visitors and personnel with health issues)		
	- Daily time record of personnel		
5. Vehicle maintenance	- Farm inventory (population and mortality)		
	- Tire bath		
	- Vehicle spray		

Prepared by: _____

(Name of the farmer)

Image 16. Sample template of biosecurity monitoring form

4.9.4 The farm shall have the appropriate and functional layout and infrastructure to ensure the effective implementation of the biosecurity measures. This shall include facilities for:

- Disinfecting at entry and exit points of the farm and the building;
- changing footwear; and
- washing and showering.

Explanatory Note:

Disinfection aims to prevent the spread of pathogens (Oguntoyinbo, 2024) and the risk of contamination inside the farm and with other farms (FAO, 2023). It is usually located and designated at the entry and exit points of the farm and/or building. It applies to every person, vehicle (i.e., tires), tool, etc., entering and exiting the farm. However, disinfection alone is not enough; **before entering the farm, changing into appropriate footwear as well as washing hands and showering** is necessary to reduce or prevent the risk of spread of pathogens or contamination.



Image 17a. Sample disinfection process



Image 17b. Sample illustration of layout of the farm

The following are facilities that are crucial in maintaining biosecurity of the farm:

- 1) **Perimeter fence** - It serves as the first line of defense against unauthorized access and potential biosecurity threats. It prevents the entry of wild animals, which can carry diseases transmissible to livestock. Additionally, it restricts unauthorized personnel and vehicles from entering sensitive areas, thereby reducing the risk of introducing pests, diseases, or contaminants (University of Illinois, n.d.).
- 2) **Disinfection Area at Entry and Exit Points and Vehicle disinfection area** - Vehicles can unintentionally carry diseases and pests into a property through soil, plant material, or manure attached to tires and other parts. Establishing a designated vehicle disinfection area equipped with high-pressure wash-down facilities ensures that vehicles entering the property are thoroughly cleaned and disinfected (Farm Biosecurity, n.d.).
- 3) **Footbath**- These are essential for preventing the spread of pathogens via footwear. By placing footbaths containing appropriate disinfectant solutions at the entrances to animal facilities, individuals can disinfect their footwear before entry. It's important to maintain these footbaths with daily cleaning, removing accumulated organic matter, and regularly replenishing the disinfectant to ensure effectiveness (Farm Biosecurity, n.d.; University of Minnesota, n.d.).
- 4) **Footwear Changing Area** - A designated space for changing into farm-specific or sanitized footwear before entering swine facilities. Footwear can carry swine-specific pathogens such as Porcine Epidemic Diarrhea Virus (PEDV) or African Swine Fever (ASF). Providing a dedicated area ensures that all farm personnel and visitors wear clean, biosecure footwear, reducing the risk of introducing or spreading diseases within organic swine housing and pastures.

- 5) **Handwashing Area** - A facility equipped with soap and water for washing hands before and after handling pigs on the farm. It ensures that all individuals can disinfect their hands before and after coming into contact with livestock, plant material, or soil. This practice helps prevent the transmission of diseases and contaminants. Handwashing facilities should be readily accessible, and the use of disinfectant (e.g, hand gel) can be an effective alternative when handwashing stations are not available (Farm Biosecurity, n.d.; University of Minnesota, n.d.).
- 6) **Shower Facility** – For swine farms that operate under strict biosecurity measures, there is a dedicated shower area. Showering before entering and exiting the swine farm is an effective way to remove potential contaminants from the skin and clothing. This is especially critical for farms implementing all-in, all-out systems, where pigs are housed in batches and strict sanitation protocols are followed to maintain herd health.

- 4.9.5 All “brought-in” swine shall be isolated and undergo appropriate quarantine measures/treatment.
- 4.9.6 The farm shall have a proper handling and disposal system for dead swine (BAFS-DA, 2022c).

Explanatory Note:

According to PNS for Good Animal Husbandry Practices (GAHP) for Swine (PNS/BAFS 267:2022) the following shall be observed in handling and disposing of dead swine:

- 12.2.12 *The farm operator/owner should be familiar with the proper procedure for disposal and the schedule of actions to be taken, especially at times of emergency.*
- 12.2.13 *The farm should have proper handling and disposal system for sick, injured, and dead animals, and should be in accordance with existing regulations of the authority. In addition:*
 - a) *In the case of burial, the area should have enough space, not prone to flooding, and away from water sources. Dead animals should be buried at least 50 centimeters deep, poured with limestone or disinfectant, and with soil added over the burial area of at least 50 centimeters in height to prevent animal digging.*
 - b) *In the case of mortality/carcass pit, the dead animal should be dropped in a specific mortality/carcass pit practicing good hygienic practices.*
 - c) *For other methods, it should be done in accordance with the instructions from the competent authority.*

- b) *In the case of mortality/carcass pit, the dead animal should be dropped in a specific mortality/carcass pit practicing good hygienic practices.*
- c) *For other methods, it should be done in accordance with the instructions from the competent authority.*

12.2.14 *The disposal and destruction of pig carcasses shall be under consideration and responsibility of farm veterinarian using appropriate methods (Canadian Association of Swine Veterinarians, 2021).*

4.9.7 All visitors entering the farm should undergo a downtime period of at least 24 hours or based on their origin and exposure and area with disease risk situation.

Explanatory Note:

Downtime or downtime period is an important tool in biosecurity. Essentially, it is the required settling time or waiting time before entering the farm. It provides added protection from visitors when they are visiting swine herds (Ghent University, n.d.).

To implement this, farms are highly recommended:

- 1) Require visitors to declare their recent farm visits and animal contact history.

Date of Visit: _____	
Visitor's Full Name:	
Place of Origin:	Type of Visit:
Purpose of Visit:	
Area visited for the last 6 months	
Farms visited for the last 6 months (specify animals)	

Image 18. Sample downtime form

VISITOR'S DOWNTIME FORM	
Visitor's Full Name:	Date of Visit: _____
Place of Origin:	Type of Visit:
Purpose of Visit:	
Area visited for the last 6 months	
Farms visited for the last 6 months (specify animals)	
Downtime period (specify start and end date and no. of days):	
Approved by:	
(Signature over printed name)	Name of personnel

- 2) Set a minimum of a 24-hour downtime period, or adjust it based on the visitor's origin and the prevailing disease situation.
- 3) Provide designated rest areas or lodging for visitors undergoing downtime.
- 4) Restrict direct pig contact during downtime and ensure compliance with farm biosecurity protocols.

This measure adds an extra layer of protection to maintain herd health and prevent disease outbreaks in organic swine farms (Nelson, n.d).

4.10 Range area and housing

- 4.10.1** Housing for animals should not be mandatory in areas with appropriate climatic conditions to enable animals to live outdoors.
- 4.10.2** Swine may be temporarily confined during periods of unfavorable weather, when the health, safety, and well-being of the animal could be jeopardized, or to protect the plant, soil, and water quality.

Explanatory Note:

Individual pen in the swine house as confinement in case of sick pig/s among pigs.



Modified - Source: OAD, 2024

Image 19. Isolation pen for confinement

- 4.10.3** The stocking density in buildings should:

- provide comfort and well-being of the swine with regard for their breed and age;
- consider the behavioral needs of the swine with respect to the size of the group and their classification; and
- provide the swine with sufficient space to stand naturally, lie down easily, turn around, groom themselves, and assume all-natural postures and movements.

- 4.10.4** The minimum indoor space requirements for swine shall be in accordance with Table 2:

Swine type	Indoor space (m/head)
Lactating sow and piglets (250 kg)	7.5 per sow
Piglets over 40 days up to 30 kg)	0.6
Breeder sow (female) (200 kg)	2.5
Boar (male) (180 kg)	10
Farrow to finish (up to 50 kg)	0.8
Farrow to finish (50.1 kg to 85 kg)	1.2
Farrow to finish (85.1 kg to 110 kg)	1.3

- 4.10.5** The minimum outdoor space requirements for swine is 6 m²/head (Faylon & Bueno, 2018).
- 4.10.6** The outdoor stocking density of animals kept on pasture, grassland, or other natural or semi-natural habitats shall be kept at an optimum level as to prevent degradation of the soil and over-grazing of vegetation.
- 4.10.7** The housing should be in conformance with Clause 7 of PNS/BAFS 267:2022 (Swine — COP — GAHP).

Explanatory Note:

According to PNS GAHP for Swine, the following are the provisions under clause 7:

- 7.1 The farm building should be designed and constructed appropriately for the intended purpose and should provide proper ventilation, easy maintenance, and cleaning.*
- 7.2 The building intended for keeping animals should be constructed in an orientation that minimizes the adverse effects on animal performance and eliminates possible hazards to its surroundings.*
- 7.3 Pig houses and its equipment shall be hygienic and well maintained in good condition for the safety of both pigs and personnel (National Farm Animal Care Council [NFAACC], 2014).*
- 7.4 The building should be designed and constructed using materials that:*
- a) should not cause any injury or impart hazard to the welfare of the animal;*
 - b) provide comfort;*
 - c) can be easily cleaned and disinfected;*
 - d) can be easily replaced when damaged;*
 - e) create efficient stock management; and*
 - f) enhance biosecurity.*
- 7.5 Painting materials used for the building and facilities should not be hazardous to the animals.*
- 7.6 There should be an effective drainage system in place at the building.*
- 7.7 Pens and pathways should be:*
- a) designed and constructed to prevent animals from escaping; and*
 - b) free from protruding objects or structures (e.g. nails and bolts) that may cause injury to the animals and farm operators and farm workers.*
- 7.8 Housing design (particularly roof height and sides) should provide proper ventilation (whether natural or artificial) to maintain a comfortable environment.*
- 7.9 Animal buildings should have adequate lighting to ensure that animals can be thoroughly inspected as required.*

- 7.10 *Electrical installations and wirings should be protected and should not be accessible to animals.*
- 7.11 *Floors and pathways used by the animals should be made from non-slippery materials, safe, stable, and well-lighted to prevent injury or abnormal gait to the animals.*
- 7.12 *The design of alleys and chutes should allow effective management of the animals. In addition:*
- a) Floors of alleys and chutes should be properly built to provide good footing, preventing slippage and injuries; and*
 - b) Alleys and chutes should have sides of sufficient height to prevent animals from jumping off or falling.*
- 7.13 *The farm should provide effective and appropriate facilities to restrain or handle animals without causing undue stress and injury to both animals and farm workers.*
- 7.14 *The premises should be kept clean at all times to prevent disease occurrence, establishment of breeding ground for pests and avoid environmental degradation.*
- 7.15 *Pig housing should be secured from stray animals and birds.*
- 7.16 *Pig house should have sufficient space for pig raising and good environment condition within the house. It should take into consideration pig breed, size, and age.*
- 7.17 *Animals should be provided with sufficient floor space suitable for their age and condition, body weight, and size to allow animals to feed and drink comfortably.*
- 7.18 *The feeding and drinking equipment and facilities should conform with the standards/requirements for swine and should be constructed and conspicuously placed such that:*
- a) Animals are allowed to eat and drink freely, allowing them to behave normally; and*
 - b) Contamination with animal feces and urine is minimized.*
- 7.19 *Controlled environment housing shall have an alarm system in case of a power failure and/or significant temperature variance. An alternative ventilation system shall be available.*



For concrete swine housing facilities, concrete floorings are allowed provided that the surface has a natural bedding.

4.11 Manure management

4.11.1 Manure management practices used to maintain any area in which animals are housed, penned, or pastured shall be implemented in a manner that:

- a) minimizes soil and water degradation;
- b) does not significantly contribute to the contamination of water by nitrates;
- c) optimizes recycling of nutrients; and
- d) does not include burning or any practice inconsistent with organic practices.

4.11.2 All manure storage and handling facilities, including composting facilities, shall be designed, constructed, and operated to prevent contamination of ground and/or surface water.

Explanatory Note:

Image 20a. Use of composting machine/mixer



Image 20b. Vermicomposting area



- 4.11.3** Manure production rates shall be at levels that do not contribute to ground and/or surface water contamination.
- 4.11.4** The competent authority may establish maximum manure application rates for pasture. The timing of application and application methods should not increase the potential for run-off into ponds, rivers, and streams.
- 4.11.5** Organic farmer should compost their manure and use it as fertilizer. The compost production shall be in accordance with PNS/BAFS 291:2019 (COP for the production of OSA).

Explanatory Note:

The composting of manure should adhere to the procedures outlined in PNS/BAFS 291:2019 to minimize contamination from microbiological, physical, and chemical hazards

5.2 Processing

5.2.1 Solid organic fertilizer and compost/soil conditioner

Single or a combination of raw materials should undergo proper decomposition process to reach a minimum of 60°C to destroy pathogenic microorganisms.

5.2.2 Liquid organic fertilizer and organic plant supplement

Heavy metal contaminated raw materials should be avoided in the production of liquid organic fertilizer and organic plant supplement.

Liquid organic fertilizer and organic plant supplement should undergo complete fermentation process followed by proper handling and aeration.

5.2.3 Microbial inoculant

The carrier should be able to sustain a high population of the inoculum strain during the storage period. This can be done through sterilization of the carrier material. Carriers for seed or soil inoculation may be prepared from various types of materials.

Good carrier materials should have the following properties:

- (1) non-toxic to the inoculum strain;*
- (2) good moisture holding capacity;*
- (3) easy to process and free of lump-forming materials;*
- (4) easy to sterilize by autoclaving or gamma-irradiation;*
- (5) available in adequate amounts;*
- (6) inexpensive;*
- (7) good adhesion to seeds;*
- (8) good pH buffering capacity; and*
- (9) non-toxic to plants.*



Image 21a. Use of mixer/machine in preparing compost



Image 21b. Vermicomposting beds

4.12 Pest management

4.12.1 Farm premises shall be maintained in a good condition to prevent possible vermin infestation.

4.12.2 The farm shall have pest control programs to reduce or eliminate pests including rodents and insects.

Explanatory Note:

Pest control is an essential part of the biosecurity program. Elimination and control of pests like rodents, insects, and wild birds are essential to prevent the introduction and spread of diseases.

The farm shall have pest control programs to reduce or eliminate pests. The following are the recommendations by the ASEAN for eliminating and controlling the presence of pests in the farm.

Rodents

Trapping is a practical way to remove rats and mice on relatively small farms. Placement of traps can be across or near paths where rats or mice normally stay. Because mice travel only short distances, set traps every 10 feet. As for rats, place traps every 25 to 50 feet. Remove dead animals from the traps regularly (Thakur et al., 2021).



Insects: Flies

Control of the common housefly (*Musca domestica*), lesser housefly, and various other filth flies is often a real problem in warm weather. Houseflies are the most persistent and common fly pests, although other species, such as lesser houseflies, are also present.



Flies favor moist environments, e.g., exposed manure and wet feeds. This causes severe nuisances and can spread diseases. As such, it is important to control litter moisture in the farm (Thakur et al., 2021).



To reduce flies on the farm, the use of baits can be done. For dry baits, distribute baits along walls, windowsills, or other areas away from feed and water, and provide light applications of bait and periodically sweep up dead flies and old bait. For liquid/wet baits, apply/place them in burlap bags or paper.

Ideally, fly control should be approached through an overall management plan. This plan would include strict sanitation, screening of any openings that would allow entry of flies, and the use of a combination or rotation of insecticides and application methodology (Thakur et al., 2021).

Insects: Litter Beetles (Darkling Beetles)

Litter beetles seriously affect farm production due to their high reproductive rate, difficulty in control, role as a disease vector, damage to the insulation of the farm, migration from litter disposal sites to urban housing areas, and may consume feeds.

If litter beetles cannot be controlled, the application of insecticides can be done. It is advisable that the building is empty before applying and the organic materials inside the building are removed afterward, turn the heat up to bring the beetles out after applying the insecticide (Thakur et al., 2021).

Wild birds

Wild birds consume and contaminate large quantities of feed and can also be vectors for disease spread.

To avoid excessive birds, the following can be done:

- Eliminate any openings or structural features on the outside of the barn that may provide a nesting site. Wire mesh on air inlets is essential.
- Eliminate spilled feed on the outside of the house, so birds will not be attracted to the area.
- The building should have all holes plugged or covered with mesh.
- Regularly monitor if bird nests and eggs (of non-protected species) are occurring on the farm to prevent a population build-up. A systematic program of removing nests at least once each week should be followed (Thakur et al., 2021).

The image displays two overlapping 'RODENT CONTROL RECORD' forms. Each form includes a title, a subtitle '(Month and Year)', and a table with four columns: Date, Type of Bait, Remarks, and Comments. The forms are designed for systematic recording of rodent control activities.

RODENT CONTROL RECORD
(Month and Year)

Date	Type of Bait	Remarks	Comments

Submitted by: _____
Name of Personnel: _____

Image 22. Sample template for rodent control record

Modified - Source: ASEAN, n.d

4.13 Transport and Slaughter

4.13.1 The organic integrity of swine shall be maintained throughout the entire process of transport and slaughter. Each swine or group of swine shall be identifiable and separated at each step in the transport and slaughter process.

4.13.2 Swine shall be transported in conformance with Clause 16 of PNS/BAFS 267:2022 (Swine — COP — GAHP).

Explanatory Note:

Below are the contents of the Clause 16 of PNS/BAFS 267:2022 or GAHP for Swine:

- 16.1 *Animals should be transported in appropriate vehicles and in a manner that does not cause stress throughout the travel and does not predispose them to injury and disease.*
- 16.2 *Animals being transported should be in a good state of health. However, stressed, sick and pregnant animals, may be transported but with extra-precautionary measures.*
- 16.3 *A shipping permit and Veterinary Health Certificate (VHC) shall be obtained prior to shipping as required by the competent authority (EWG-ASEAN GAHP, 2018)*
- 16.4 *Vehicles used for the transport of animals should be according to the following specifications:*
 - a) *Allow easy loading and unloading;*
 - b) *Has communication device and first aid kit;*
 - c) *Ensure the safety of the animals and personnel during transport;*
 - d) *Clean and sanitized;*
 - e) *Equipped with floors that provide a secure footing;*
 - f) *Have proper drainage for collection of urine;*
 - g) *Decal/label stating “live animal on board” at the sides and front/back;*
 - h) *Registered with BAI as Transport Vehicle Carrier and accompanied by registered livestock handler; and*
 - i) *Water available during transport.*

- 4.13.3** Swine shall always be handled or restrained in such a way to protect them from fear, stress, pain, and injury. The handling shall be calm and gentle. The use of electric prods and such instruments shall be restricted.
- 4.13.4** Tools shall be used in a manner that minimizes stress and does not harm the swine. Sticks, canes, or electric prods should not be used to restrain farm animals. However, these may be used for the worker's safety when handling aggressive animals.
- 4.13.5** Tools, facilities, and equipment shall be functional for efficient and effective animal management. The operators shall acquire the skills and techniques to use the tools properly and appropriately.
- 4.13.6** The transport of organic swine shall be separated from conventional and shall be well-organized and appropriate to the needs of the animals, taking into consideration the following factors:
- a) stress caused to the swine;
 - b) fitness of the swine;
 - c) process of loading and unloading;
 - d) mixing different groups of swine or swine of different sex;
 - e) the grip of the feet on floors and ramps;
 - f) equipment used;
 - g) extreme temperatures and relative humidity; and
 - h) hunger and thirst.
- 4.13.7** Appropriate measures such as a separate schedule of stocking during pre slaughter and a separate schedule or facility shall be implemented during slaughter to prevent commingling and contamination of organic with conventional swine. A separate slaughterhouse for organic swine is recommended.
- 4.13.8** Slaughtering of organic swine shall be done in NMIS-registered slaughterhouses /Locally Registered Meat Establishments (LRME).

Explanatory Note:

LRME refers to slaughterhouses, meat processing plants, poultry dressing plants, meat cutting plants, and cold storage facilities that are allowed to operate by the city/ municipal government but are not accredited by the NMIS (Philippine Statistics Authority, n.d).

To view the complete list of NMIS licensed slaughterhouses, visit the following link: <https://nmis.gov.ph/menu-accr-list>.

- 4.13.9** The transport of meat shall be in compliance with Section 15 of DA AO No. 19, series of 2010 (Guidelines on Good Hygienic Slaughtering Practices [GHSP] for LRME) and any applicable standards.

Explanatory Note:

According to Section 15 of DA AO No.19, on the transportation and Delivery, meat handlers shall undertake all necessary steps to prevent meat and meat products from being contaminated during transport, including, but not limited to the following:

- a. *Vehicles used for the transport of live animals shall not be allowed for meat delivery/transport.*
- b. *Meat delivery van shall be used for transporting meat from the slaughterhouse to the market. However, in their absence, other means of conveyance may be allowed, provided that carcasses are protected from contamination. Meat delivery van or other conveyances shall be washed and disinfected prior to loading of carcass/meat parts and offal.*
- c. *If the carcass cannot be transported in hanging position, the meat must be placed and transported in clean containers.*
- d. *Offal shall be transported in leak leak-proof and properly covered receptacle.*
- e. *Carcasses being transported manually by meat handlers shall be properly protected from contamination.*



Image 23a. Transport vehicle for organic swine (exterior)



Image 23b. Non-slip transport vehicle for organic swine (interior) Source: Bueno, n.d.

4.14 Documentation

- 4.14.1** Treatment records of sick swine shall be kept, clearly identifying the swine concerned, including details of the treatment and its duration, as well as the generic name of the active ingredient(s), indications and contraindications, brand name, withdrawal period, batch number, and manufacturing and expiration date of drugs used.
- 4.14.2** The farm operator shall keep updated and complete records of swine health programs including disease monitoring such as, but not limited to, necropsy report, mortality rate, and signs and symptoms, vaccination, and de-worming programs, and animal waste management and utilization. Records should be easily accessible.

Explanatory Note:

The sample template of records is available in Annex C. Sample templates can be used as a basis/reference in developing record templates.

- 4.14.3** The farm operator shall keep updated and complete records of biosecurity measures including, disinfection of entry and exit points, changing footwear, washing and showering, and other related measures.

Explanatory Note:

[illegible][illegible]

Image 24. Sample footbath monitoring report

4.14.4 The farm operator shall maintain updated records of medicine purchased and administration that should be readily available for verification.

4.14.5 Administration records shall consist of the following Veterinary Drug Order (VDO) accompanied by a Veterinarian-Client-Patient Relationship (VCPR):

- a) type of drugs or medication used;
- b) quantity of medicine used;
- c) date administered;
- d) identification and number of animals treated;
- e) withdrawal period; and
- f) name and license of the administering veterinarian.

4.14.6 The farm operator shall keep the following minimum records:

- a) Conversion period;
- b) Swine identification;
- c) Swine source;
- d) Feed;
- e) Swine health (treatment, vaccination, and supplementation);
- f) Swine movement;
- g) Laboratory tests;
- h) Sanitation and hygiene (personnel and farm hygiene);
- i) Pest control;
- j) Personnel health and training;
- k) Waste management and utilization;
- l) Manure management;
- m) Production;
- n) Procurement;
- o) Storage;
- p) Visitor; and
- q) Transportation.

4.15 Packaging

- 4.15.1** The packaging, storage, and transportation containers used for organic products shall not contaminate the organic product.
- 4.15.2** Use of packaging materials from biodegradable, recycled, or recyclable sources should be encouraged.

Explanatory note:

Image 25. Sample packaging for organic products



4.16 Labeling

- 4.16.1** The labeling of organic pork should generally conform with the requirements of CXS 1-1985, rev. 2018 (General standard for the labeling of prepackaged foods), CXS 346-2021 (General standard for the labeling of non-retail containers of foods), and PNS/BAFS 339:2022 (Prepackaged fresh chilled and fresh frozen meat – Product standard – Labeling).

Explanatory Note:

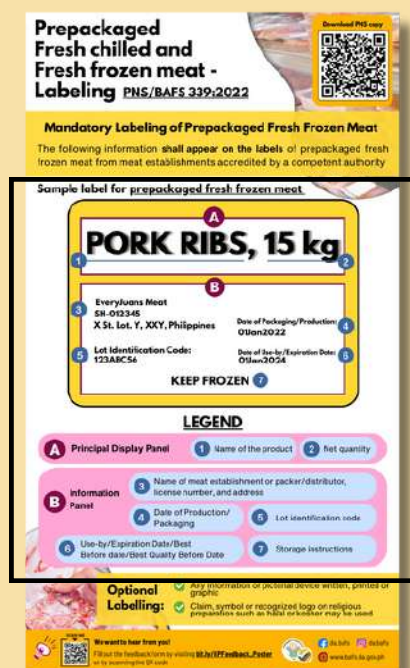
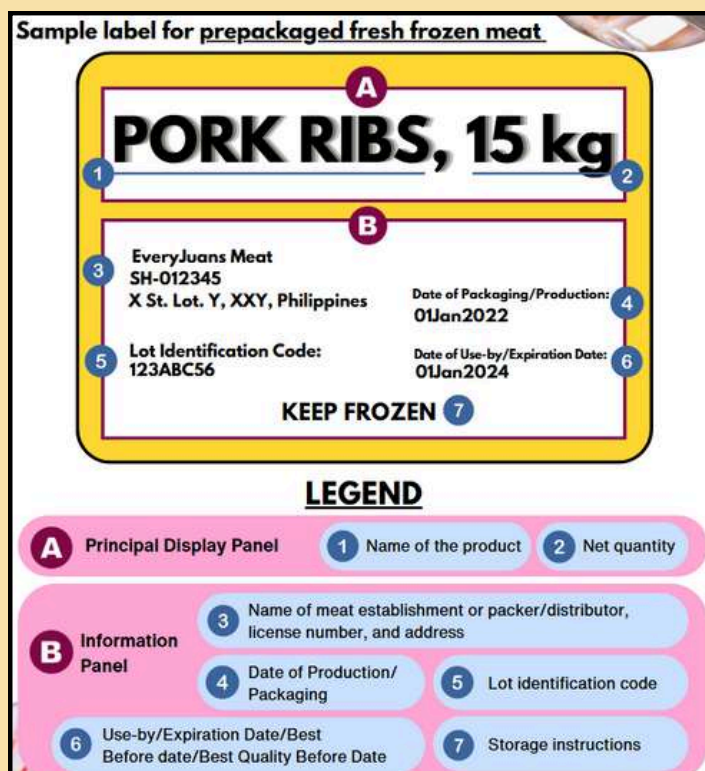


Image 26. Poster for PNS Prepackaged fresh chilled and Fresh Frozen Meat - Product Standards - Labelling

- 4.16.2** All organic food labeling shall meet additional requirement established by the competent authorities including the following and their future amendments:
- Section 14 of RA No. 11511 (An act amending the RA No. 10068 or the Organic Agriculture Act of 2010);
 - DC No. 01, series of 2018 (Revised guidelines for the official accreditation of organic certifying bodies); and
 - DC No. 03, series of 2022 (Guidelines for the accreditation of the core PGS and its operation as OCB).

Explanatory Note:

For labelling requirements, refer to the DA-BAFS Organic Agriculture Division (OAD) or the PNS for Packaged Primary and Postharvest Foods - Product Standard - General labeling Standard (PNS/BAFS 384:2024) for guidance on labeling requirements. Below are the latest guidelines for issuance relevant to labeling requirements:

Section 18 of the amended Organic Agriculture Law, which states that:

“The label of organic produce shall contain the name, logo, or seal of the OCB and the accreditation number issued by the BAFS. The organic label/mark shall also include the trade name, as defined by pertinent domestic property rights laws, and the address of origin of the produce.”

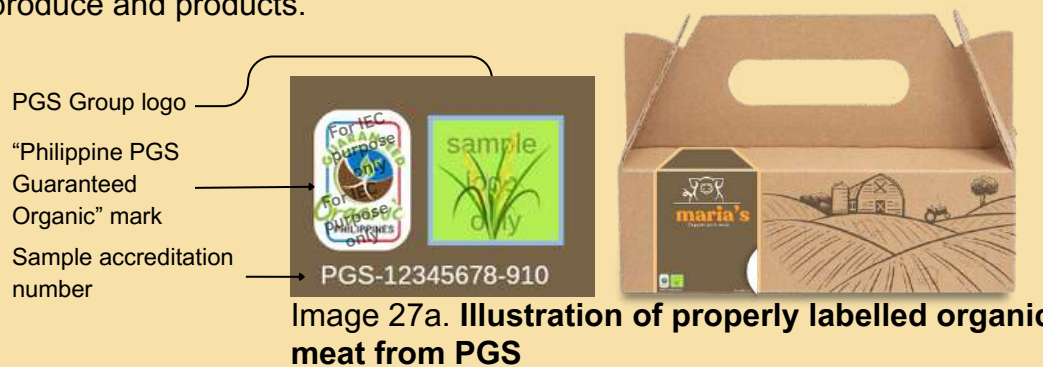
“Products that are certified and guaranteed by a third-party organic certification system and the PGS shall be allowed to be labeled and sold as organic.”

Article XVI - Use of Organic Mark in DC 1, s. 2018 must be followed, particularly, Section 2, which states that:

“The ‘Organic’ mark shall be provided by the officially accredited OCB to its client with active certification. The mark shall always accompany the logo of the OCB and its official accreditation number and may appear only on organic certificate issuances, and on all certified products under its scope of certification.”

Section 8 - Use of ‘Philippine PGS Guaranteed Organic’ Mark of DC 3, s. 2022, which states that:

“The ‘Philippine PGS Guaranteed Organic’ mark shall always accompany the PGS Group's logo and its accreditation number. It shall appear only on the Participatory Organic Certificate (POC) and on the label of all PGS-guaranteed produce and products.”



Annexes



Annex A (Informative)

Common and locally available feed ingredients for swine (PHILSAN, 2010)

Energy sources (as fed basis)								
Feed ingredients	Dry matter	Crude protein %	Crude fat %	Crude fiber %	Ash %	Starch %	ME ¹ , Kcal/kg	TDN ² %
Banana, meal, peeled	90.00	5.40	1.10	3.50	5.20	70.00	2600 3500	69.20
Cassava, residue	89.60	2.20	0.90	12.30	5.30	56.00	2665	70.94
Cassava meal	90.00	3.80	0.40	1.10	1.20	59.00	2800 3550	74.53
Corn, cooked	91.59	6.85	0.76	0.73	0.49	83.00	3975	81.40
Corn, yellow (local)	89.29	8.05	3.94	2.44	1.42	71.00	3550 3687	80.00
Rice broken	88.00	7.50	0.90	3.80	0.70	58.00	3080 3550	77.50
Rice paddy	89.00	7.30	1.20	9.00	4.90	50.00	2360 2735	71.20
Sorghum	88.00	9.00	2.70	2.20	1.80	62.00	3250 3500	77.40
Sugar brown	95.00	-	-	-	-	-	3620 3800	90.00
Plant protein sources (as fed basis)								
Feed ingredients	Dry matter	Crude protein %	Crude fat %	Crude fiber %	Ash %	Starch %	ME ¹ , Kcal/kg	TDN ² %
Black beans	90.50	39.50	1.50	11.60	6.00	-	2540	69.20
Canola meal	90.00	35.50	1.50	9.00	7.30	-	2900 2330	70.00
Cow pea	88.00	21.50	1.20	3.20	3.20	-	2820	-
Ipil-ipil leaf meal	90.00	20.00	4.40	10.30	7.00	-	1400 1465	-
Mung bean	88.56	24.77	1.13	6.63	3.50	-	2745	-
Pigeon pea	88.00	22.50	1.00	8.00	4.70	-	2610	-

Milling and factory by-products (as fed basis)								
Feed ingredients	Dry matter	Crude protein %	Crude fat %	Crude fiber %	Ash %	Starch %	ME ¹ , Kcal/kg	TDN ² %
Copra meal, expeller	96.20	21.00	10.51	8.76	6.13	-	2850 2970	82.10
Corn bran	88.60	9.00	8.50	7.00	3.20	40.00	2600 3250	74.80
Molasses	75.00	2.90	-	-	-	-	2330 2455	54.84
Rice bran, D1	91.40	12.14	13.79	5.27	6.89	28.00	3000 3752	77.16
Rice bran, D2	89.00	10.00	9.90	10.20	7.20	20.00	2600 2910	73.14
Rice bran, defatted	92.30	20.10	3.20	7.30	13.80	25.00	2590	75.050

Note: figures in bold numbers are computed based on regression equation

¹ME - Metabolizable Energy

²TDN - Total Digestible Nutrients

Annex B (Informative)

Nutritional requirements of swine (PHILSAN, 2010)

Table B.1. Nutrient recommendation for creep and pre-starter rations (hybrid)

	Rations									
	Unit	Creep			Pre-starter					
Weight range	Kg	2.0 - 8.0			8.0 - 22.0					
Feeding days		28			30					
Expected ADFI	Kg/day	0.11			0.83					
Expected ADG	g/day	190	195	200	430	440	450			
Nutrient Density	Unit	Low	Medium	High	Low	Medium	High			
Energy (ME): Protein ratio 3		157	157	157	162	162	162			
Nutrients										
	Unit	Starter			Grower			Finisher		
Energy, ME	Kcal/kg	3100	3150	3200	2900	3000	3100	2900	3000	3100
Crude Protein	%	17.5	18.0	18.3	16.0	16.5	16.8	13.5	14.0	14.4
Calcium	%	0.85			0.75			0.75		
P (avail)	%	0.52			0.50			0.45		
Salt	%	0.50			0.50			0.50		
Crude fiber	%	<5	<5	<4.5	<5.5	<5.5	<5	<7.0	<6.0	<6.0
Amino acids										
	Unit	Starter			Grower			Finisher		
Lysine	%	1.16	1.18	1.20	1.02	1.05	1.09	0.82	0.85	0.88
Met + Cys	%	0.64	0.65	0.66	0.56	0.58	0.60	0.45	0.47	0.48
Threonine	%	0.79	0.80	0.82	0.69	0.71	0.74	0.56	0.58	0.60
Tryptophan	%	0.23	0.24	0.24	0.20	0.21	0.22	0.16	0.17	0.18

¹ ADFI - Average daily Feed Intake

² ADG - Average Daily Gain

³ ME - Metabolizable Energy

Table B.2. Nutrient recommendation for starter, grower, and finisher rations (hybrid)

	Rations									
	Unit	Creep			Pre-starter					
Weight range	Kg	2.0 - 8.0			8.0 - 22.0					
Feeding days		28			30					
Expected ADFI	Kg/day	0.11			0.83					
Expected ADG	g/day	190	195	200	430	440	450			
Nutrient Density	Unit	Low	Medium	High	Low	Medium	High			
Energy (ME): Protein ratio		157	157	157	162	162	162			
Nutrients										
	Unit	Starter			Grower			Finisher		
Energy, ME	Kcal/ kg	3100	3150	3200	2900	3000	3100	2900	3000	3100
Crude Protein	%	17.5	18.0	18.3	16.0	16.5	16.8	13.5	14.0	14.4
Calcium	%	0.85			0.75			0.75		
P (avail)	%	0.52			0.50			0.45		
Salt	%	0.50			0.50			0.50		
Crude fiber	%	<5	<5	<4.5	<5.5	<5.5	<5	<7.0	<6.0	<6.0
Amino acids										
	Unit	Starter			Grower			Finisher		
Lysine	%	1.16	1.18	1.20	1.02	1.05	1.09	0.82	0.85	0.88
Met + Cys	%	0.64	0.65	0.66	0.56	0.58	0.60	0.45	0.47	0.48
Threonine	%	0.79	0.80	0.82	0.69	0.71	0.74	0.56	0.58	0.60
Tryptophan	%	0.23	0.24	0.24	0.20	0.21	0.22	0.16	0.17	0.18

¹ ADFI - Average daily Feed Intake² ADG - Average Daily Gain³ ME - Metabolizable Energy

Table B.3. Nutrient recommendation for gestating, lactating, and boar rations (hybrid)

	Rations							
	Unit	Gestating			Lactating			Boar
Weight range	Kg	150-200			150-250			180
Expected ADFI	Kg/day	(2.5-3.0)			(4.50-6.00)			(2.80)
Nutrient Density	Unit	Low	Med	High	Low	Med	High	
Nutrients								
Energy, ME	Kcal/kg	(2750-3000)			(3000-3500)			2900
Crude protein	%	13.50	14.00	14.70	15.50	16.00	16.50	16.90
Calcium	%	1.00			(1.0-1.2)			0.90
P (avail)	%	0.50			0.50			0.50
Salt	%	0.50			0.50			0.50
Amino acids								
Lysine	%	0.45	0.46	0.47	0.84	0.87	0.90	0.80
Met + Cys	%	0.26	0.27	0.27	0.50	0.52	0.54	0.48
Threonine	%	0.29	0.30	0.31	0.55	0.57	0.59	0.52
Tryptophan	%	0.09	0.09	0.09	0.17	0.17	0.18	0.16

¹ ADFI - Average daily Feed Intake² ME - Metabolizable Energy

Annex B

List of Philippine Herbs Used in Small Animals

Preparation of the Herbal Medicines

De = Decoction: boil plant parts in water, 15-20 min (from time of boiling), or until water volume is halved, strain, and cool.

In = Infusion: pour hot or cold water into plant material and allow to stand while tightly covered, stand for 5-15 min if hot, 12-24 hrs if cold, then filter

Pw = Powder: pound and grind the dried plant materials and sift to get required particle size (coarse, intermediate or fine)

J = Juice: pound fresh plant materials and filter through a fine piece of cloth, or may just squeeze the plant parts to extract the juice

Pt = Poultice or Paste: grind the plant material (dried or fresh) with a little oil, water, molasses or honey, then may or may not be spread on a square of warm cloth or banana trunk, and applied to the skin

B = Bolus: pound plant materials and add sufficient binding agent (honey or molasses) and rolled into a ball

T = Tincture: botanical extracts made with alcohol; 1 part herb:5 parts distilled spirits and infused for 6 weeks; residue can be used to prepare ointments.

Application of the Herbal Medicines

Oral:

Dr = Drenching: administration of liquid or semi-liquid preparation through the mouth; may use bamboo tube, soft drink bottle, syringe sans needle, or medicine dropper.

Ff = Force feeding: application of solid preparation through the mouth.

Topical:





Fo = Fomentation: warm, moist substance (wet cloth) applied to affected parts of the body.

Fo = Fomentation: warm, moist substance (wet cloth) applied to affected parts of the body.






C = Compress: dry substance applied to affected parts of the body.

S = Smudge: direct application of herbal preparation on affected parts of the body.






Table 6. List of herbs for integumentary system

Herb	Indication	Preparation and application	Active ingredient	Precaution
 <p>Source: Canva, n.d</p> <p>Sabila (<i>Aloe barbadensis</i>)</p>	Wounds, burns, abrasions, skin irritation	J/ S: Strip off outer skin and apply mesophyll on affected areas	Acemannan, allantoin, aloemodin-anthran-C-glycoside, emonin, allantoin	Toxic when ingested (due to anthracoid present in the latex skin); not to be used in pregnant or lactating animals
 <p>Source: Skin biology, n.d</p> <p>Comfrey (<i>Symphytum officinale</i>)</p>	Wounds, abscess, cuts	J/ S: Bruise the roots and immediately apply topically; or Pt/ Fo: leaves, overnight	Allantoin, tannin, mucous substances	Toxic when ingested (due to pyrrolizidin alkaloids and consolicine present)
 <p>Source: BAFS, 2023</p> <p>Eggplant (<i>Solanum melongena</i>)</p>	Wounds, dermatophytes	J/ S: leaves, bid x7d	Alkaloid, tannin	Slight toxicity noted when ingested
 <p>Source: Vecteezy, n.d</p> <p>Guava (<i>Psidium guajava</i>)</p>	Wounds	De/ S: leaves, and irrigate affected area tid x 3d	Tannin, saponin, volatile oil, fixed oil	-

(continued)

Herb	Indication	Preparation and application	Active ingredient	Precaution
 Source: Adriano L., 2023 Tobacco (<i>Nicotiana tabacum</i>)	Surgical wound (from castration, i.e.)	Pt/ S: leaves mixed w/ paminta, betel nut and lime;	Nicotine	Toxic when ingested
	Localized Mange (S, D)	T/ S: 75 g tobacco dust + 1 li H ₂ O, filter in gauze, + 20 ml 70% isopropyl alcohol, apply bid x 3d; if moderate infestation, apply od x 7d more;	-	
	Tick infestation	Pw, I/ S: 75 gm leaves, soak in 1 li H ₂ O (3d), filter, apply on infected areas, dip paws for 30 min and rinse off with tap water.	Nicotine (causes paralysis then death of the parasite)	
 Source: Anato, 2019 Atchuete (<i>Bixa orellana</i>)	Canine pyoderma, infected wounds	I/ S: Atchuete dye mixed with lime	-	Toxic when ingested
 Source: Exotic seeds store, n.d Lemongrass (<i>Cymbopogon citratus</i>)	Tick infestation, Dermatophytes	J/ S: leaves; or T/ S: leaves in ethanol at 1:3 (v/v) dilution	Citral (an aldehyde in essential oil)	-
 Source: Bioenergy Sri Lanka, 2014 Kakawate (<i>Gliricidia sepium</i>)	Tick and flea infestation, Mange (S), Dermatophytes	De/ S: 500 gm leaves and young stalks in 1 li H ₂ O apply within 24 hrs, weekly x 6 wks	Coumarin, tannin, anthraquinone, sulfur	-
 Source: BAFS, 2024 Manga (<i>Mangifera indica</i>)	Mange (S)	/S: Mix the gum resin with oil and apply topically	Saponin, tannin, peroxidase, sulfur	-

(continued)

Herb	Indication	Preparation and application	Active ingredient	Precaution
 <p>Source: Rajkumar, 2022 Talisay (<i>Terminalia catappa</i>)</p>	Mange (S)	J/ S: young leaves mixed with oil	Tannin, saponin, calcium oxalate, glycosides	Toxic when ingested (due to punicalagin, a hydrolysable tannin, present)
 <p>Source: Tramil, 2017 Elefante (<i>Heliotropium indicum</i>)</p>	Mange (S)	De/ S: leaves	Alkaloid Alkaloid, tannin	Toxic when ingested
 <p>Source: Dreamstime, n.d Sweet sop (<i>Anona squamosa</i>)</p>	Mange (S)	De/S: leaves;	Alkaloid Alkaloid, tannin	Toxic when ingested
 <p>Source: Vivero pullally, n.d Kuchai (<i>Allium tuberosum</i>)</p>	Mange (S), Dermatophytes	De/ S: 500 gm leaves in 1 li H ₂ O + 0.5 gm agar; after cooling, + 500 ml cooking oil, shake vigorously and apply to skin weekly x 3wks	Alliin, beta carotene	-
 <p>Source: Ibot A., 2014 Makabuhay (<i>Tinospora crispa</i>, <i>T. rumphii</i>)</p>	Mange (S)	J/ S: vine, may + pounded coconut palm leaves, use as rubbing agent to affected areas	Berberine	-

(continued)















Herb	Indication	Preparation and application	Active ingredient	Precaution
 <p>Source: Dr. Farrah, n.d Akapulko (<i>Cassia alata</i>)</p>	Ear mites (<i>Psoroptes cuniculi</i>), eczema Mange (D)	De/ S: leaves, apply to the ears weekly x 4wks; Pt/ S: leaves	Alkaloids, tannin, saponin, glycoside, calcium oxalate	Slightly toxic when ingested
 <p>Source: Canva, n.d Niyog (<i>Cocos nucifera</i>)</p>	Dermatophytes	/S: Oil	-	-
 <p>Source: Philippine Daily Inquirer, 2012 Gatas-gatasan/Tawa-tawa (<i>Euphorbia hirta</i>)</p>	Dermatophytes (<i>Trichophyton mentagrophytes</i> , <i>T. simii</i>)	De/S: leaves;	Alkaloids, tannin, sulfur, amygdalin	Ingenol ester (present in the latex) causes skin irritation & has tumor-promoting activity
 <p>Source: Pinterest, n.d Aroma (<i>Acacia farnesiana</i>)</p>	Skin disease	Pt/ C: Use fresh leaves as rubbing agent	-	-

Table 7. List of herbs for gastrointestinal system

Herb	Indication	Preparation and application	Active ingredient	Precaution
 <p>Source: Canva, n.d Sabila (<i>Aloe barbadensis</i>)</p>	Indigestion, constipation	J/ Dr: leaves with small amount of water	Anthranoids	May interact with heart medication (aloe decreases K ⁺ , which increases potency of heart glycosides)
 <p>Source: Dreamstime, n.d Paragia (<i>Eleusine indica</i>)</p>	Diarrhea and stomach ache	/Ff: Feed leaves	Tannins, saponins	Toxic when ingested at 3mg/kg of extract
 <p>Source: Vecteezy, n.d Guava (<i>Psidium guajava</i>)</p>	Diarrhea, Giardia infestation	De/ Dr: leaves, 250 ml bid x 1-2d	Tannin, saponin, protozoa-inhibiting principle, quercetin	-
 <p>Source: BAFS, 2024 Manga (<i>Mangifera indica</i>)</p>	Giardia, E. coli, Enterobacteria infestation	De/ Dr: leaves	Tannin, saponin, fats, calcium oxalate, peroxidase, glycosides	-
 <p>Source: Canva, n.d Niyog (<i>Cocos nucifera</i>)</p>	Bloat, diarrhea, constipation	De/ Dr: 200 ml oil or milk of coconut, bid x 2d	Fats, oils, proteins, CHON, minerals, Vits A, B, C	

(continued)

Herb	Indication	Preparation and application	Active ingredient	Precaution
 <p>Source: Shutterstock, n.d</p> <p>Damong maria (<i>Artemisia vulgaris</i>)</p>	Gas pain (tympanism)	De/ Dr: 6 leaves in 1 glass H ₂ O	Alkaloids	-
 <p>Source: Mediko, 2015</p> <p>Takip kohol (<i>Centella asiatica</i>)</p>	Peptic ulcer	De/ Dr: 30-60 leaves in 1 glass water	Vallarine, asiaticoside (a glycoside)	-
 <p>Source: Adorio, 2013</p> <p>Lagnob (<i>Ficus hauli biancoi</i>)</p>	Food poisoning, indigestion	De/ Dr: 3 young unopened leaves & 1 young soft leaf, give while lukewarm	-	-
 <p>Source: Canva, n.d.</p> <p>Luya (<i>Zingiber officinale</i>)</p>	Bloat	Pw/ Ff: Feed raw and crystallized rhizome, q2hrs	Gingerol, shogaol, zingerone	Do not use in pregnant animals nor those with fever, on hypo-glycemic txt or anticoagulant txt; do not use 1 wk prior to and after surgery
 <p>Source: Exotic seeds store, n.d.</p> <p>Lemongrass (<i>Cymbopogon citratus</i>)</p>	Flatulence, diarrhea	/Dr: Oil	Citral (an aldehyde in essential oil)	

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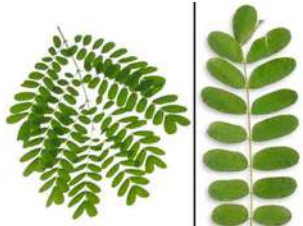


Herb	Indication	Preparation and application	Active ingredient	Precaution
 <p>Source: Philippine Medicinal Plants, n.d.</p> <p>Bulak ng Paraiso (<i>Caesalpinia pulcherrima</i>)</p>	Jaundice	De/ Dr: 5 leaves, 3 fruits and bark	-	
 <p>Source: Yin and Liu, 2018</p> <p>Rosal (<i>Gardenia jasminoides</i>, <i>G. florida</i>)</p>	Jaundice	De/ Dr: fruit or 6-9 gm leaves	Crocin (gardenia), crocetin, mannitol, B-sitosterol	-
 <p>Source: Aimil, n.d</p> <p>Mutha (<i>Cyperus rotundus</i>)</p>	Stomach pain/colic	/Ff: Feed fresh leaves	-	-

Table 8. List of herbs for intestinal parasitism












Herb	Indication	Preparation and application	Active ingredient	Precaution
 Source: Pinterest, n.d Bunga (Areca catechu)	Toxocara canis, Ancylostoma caninum, Dipylidium caninum, cestodes	Pw, J/ Dr: Remove husk, wash and dry nut, grind with mortar and pestle, mix 5 gm (1tsp) to 8 ml of water, squeeze off juice with cheesecloth and give 2 ml/kg BW, PO; repeat after 1 wk	Arecoline, arecaidine	Large doses of areca nut cause vomiting and diarrhea
 Source: BAFS, 2023 Pinya (Ananas comosus)	Toxocara canis	B/ Ff: sundried (1 wk) leaves, grind, mix 1 gm with 1 gm of molasses, give at 2mg/kg BW	Bromelain	Contraindicated in patients with prolonged bleeding time; and those under anticoagulant medication
  Source: eCrater, n.d Niyog-niyogan (Quisqualis indica)	Toxocara canis	/Ff: Roast 4-5 seeds and give PO	L-quisqualic acid	-
 Source: Urban Tropicals, n.d Balete (Ficus elastica)	Trichuris, Toxocara canis	Use the latex of the trunk (1.0 cm ³ /kg) and give PO	Ficin enzyme, ficosterin, caoutchouc (rubber)	Some toxic side effect: hypotension, vasodilation and direct heart depressant
 Source: Monaco Nature Encyclopedia, n.d Pandakaking - tsina (Ervatamia divaricata)	Worms	Pt/ Ff: Rub root bark with water and give PO	-	-

Table 9. List of herbs for respiratory system

Herb	Indication	Preparation and application	Active ingredient	Precaution
 <p>Source: BAFS, 2023 Amarillo (<i>Tagetes patula</i>, <i>T. erecta</i>)</p>	Common cough	De/ Dr: leaves and flowers, bid x 1-2d	Fats, volatile oil, quercetagenin	Large doses of areca nut cause vomiting and diarrhea
 <p>Source: Pimentel R.M., 2021 Sambong (<i>Blumea balsamifera</i>)</p>	Productive cough	De/ Dr: 1c leaves in 2 glasses water, bid x2d	Glycosides, tannin Alkaloids, tannins	-
 <p>Source: Dreamstime, 2025 Sweet sop (<i>Anona squamosa</i>)</p>	Productive cough	De/ Dr: 1c leaves in 2 glasses water, bid x2d	Glycosides, tannin Alkaloids, tannins	-
 <p>Source: Health cautions, n.d Lagundi (<i>Vitex negundo</i>)</p>	Kennel cough	Commercially available in capsule-form; or De/ Dr: leaves	Flavonoids, essential oils	May decrease heart rate and amplitude
 <p>Source: Vecteezy, n.d Guava (<i>Psidium guajava</i>)</p>	Colds	De/ Dr: leaves, 250 ml bid x 1-2d	Tannin, saponin	-

(continued)


Herb	Indication	Preparation and application	Active ingredient	Precaution
 <p>Source: Organics.ph, n.d. Malunggay (<i>Moringa oleifera</i>)</p>	Colds	/Ff: Feed leaves	Calcium oxalate, pectic substances	-

Table 10. List of herbs for reproductive system




Herb	Indication	Preparation and application	Active ingredient	Precaution
 <p>Source: Organics.ph, n.d. Malunggay (<i>Moringa oleifera</i>)</p>	Agalactia	Ff: leaves or Pt/ S: leaves and apply on mammaries	Calcium oxalate, pectic substances	-
 <p>Source: Philippine Daily Inquirer, 2012 Gatas-gatasan (<i>Euphorbia hirta</i>)</p>	Agalactia	I/ Dr: whole plant	Amygdalin, calcium oxalate	High doses can irritate GIT
 <p>Source: Spengler T., 2022 Sampaguita (<i>Jasminum sambac</i>)</p>	Mastitis	Pt/ Fo: Leaves and flowers, apply on the mammaries (lactifuge)	-	-

Table 11. List of herbs for urinary system




Herb	Indication	Preparation and application	Active ingredient	Precaution
 <p>Source: Pimentel, 2021 Sambong (<i>Blumea balsamifera</i>)</p>	Cystitis, urolithiasis, diuretic	De/ Dr: 1c leaves in 2 glasses H ₂ O, and drench _c tid	Alkaloids, Glycosides, tannin, volatile oil (l-borneol)	-
 <p>Source: Thang, 2019 Pansit-pansitan (<i>Peperomia pellucida</i>)</p>	Urolithiasis, UTI	/Ff: Feed fresh or De/ Dr: 4-6 inches of the plant in one glass water, tid-qid	Tannins, calcium oxalate, alkaloids, volatile oils	Suppresses peristalsis due to the volatile oil present
 <p>Source: Mediko, 2015 Balbas-pusa (<i>Orthosisphon aristatus</i>)</p>	UTI	I/ Dr: leaves	-	-

Table 12. List of herbs for circulatory system











Herb	Indication	Preparation and application	Active ingredient	Precaution
 <p>Source: CocoHitech, n.d Niyog (<i>Cocos nucifera</i>)</p>	Dehydration	/Dr: Water of 3 young coconuts, + 1c sugar, tid until hydrated; w/o the sugar could be given IV	ECF-like	-
 <p>Source: Canva, n.d Avocado (<i>Persea americana</i>)</p>	Anemia	/Ff: Feed fruit (except fruit peel)	VitB-complex, Phosphate, Fe, K, minerals	-
 <p>Source: Organics.ph, n.d Malunggay (<i>Moringa oleifera</i>)</p>	Anemia	/Ff: Feed leaves and flowers	Fe, C, Phosphorus, Vits A&C	-
 <p>Source: Canva, n.d Luya (<i>Zingiber officinale</i>)</p>	Dirofilaria immitis infection	T/ : Alcoholic extract of rhizome residue, SC	Not yet identified altho has gingerol	Do not use 1 wk prior to and after surgery
 <p>Source: Canva, n.d Bawang (<i>Allium sativum</i>)</p>	Arrhythmia, tachycardia	/Ff: 1 clove/5-15 kg BW/ day	Sulfuric compounds, Aliin	Do not use in anemic animals; NOT with high dose Vit. E and in 1 wk prior to and after surgery

Table 13. List of herbs for ophthalmic system

Herb	Indication	Preparation and application	Active ingredient	Precaution
 <p>Source: Spengler T., 2022</p> <p>Sampaguita (<i>Jasminum sambac</i>)</p>	Eye infection, eye wound, sore eyes	De/ EyeDrop: flower, q2hr x 3d	-	-
 <p>Source: Tramil, 2017</p> <p>Elefante (<i>Heliotropium indicum</i>)</p>	Conjunctivitis	J/ EyeDrop: leaves	Indicin (an alkaloid), calcium oxalate, tannin	-
 <p>Source: Philippine Daily Inquirer, 2012</p> <p>Gatas-gatasan (<i>Euphorbia hirta</i>)</p>	Cataract Stye	J/ EyeDrop: sap, one drop od x 7d; One drop only	Amygladin	High doses taken orally can irritate GIT
 <p>Source: Lontoc J.F., 2017</p> <p>Sampaloc (<i>Tamarindus indica</i>)</p>	Conjunctivitis	J/ EyeDrop: young leaves	Glycosides	-

(continued)

Herb	Indication	Preparation and application	Active ingredient	Precaution
 <p>Source: Monaco Nature Encyclopedia, n.d</p> <p>Pandakaking - tsina (<i>Ervatamia divaricata</i>)</p>	Opthalmia	J/ EyeDrop:sap of leaves	-	-

Source: Soriano-Flores, n.d.

Annex C

Sample template of records

ORGANIC NATIVE PIG MONTHLY INVENTORY REPORT

<i>(month and year)</i>									
Particulars	Phase of Production/ Age range	Production	Transfer/Procured	Available stock	Distribution	Culled	Mortality	Total	Ending balance
		No. of heads	No. of heads	No. of heads	No. of heads	No. of heads	No. of heads	No. of heads	No. of heads

Prepared by:

 (Name of the farmer)

Sample template of inventory report

ORGANIC NATIVE PIG and FEEDING MANAGEMENT RECORD

(month and year)											
Drum no.	Raw feed materials mixed		Raw feed materials sources			Procured feed ingredients mixed		Volume of water added (Liter)	Date Processed	Date to harvest (21 days fermentation)	Remarks
	Particulars	kg	Date Established	Date harvested	Area code harvested	Particulars	kg				

Prepared by:

 (Name of the farmer)

Sample template of feeding management record

ORGANIC NATIVE PIG WEEKLY HEALTH MONITORING RECORD

(month and year)									
Date	Infected animal					Observation	Other activities performed	Remarks	
	ID	Name	Sex	Drugs/Biologicals administered					

Prepared by:

(Name of the farmer)

Sample template of health monitoring record

References



DOCUMENT REFERENCES

- Alagawany, M., Elnesr, S., Farag, M., Abd El-Hack, M.E., Barkat, R., Gabr., Foda., Noreldin, A., Khafaga. A., El-Sabrou, K., Elwan H., Tiwari, R., Yatoo, M.I., Michalak, I., Di cerbo A., & Dhama, K. (2021). Potential role of important nutraceuticals in poultry performance and health - A comprehensive review.
- Alltech. (n.d.). Water quality in pig production: Pay attention to these 5 indicators. Retrieved from <https://www.alltech.com/blog/water-quality-pig-production-pay-attention-these-5-indicators>
- American Veterinary Medical Association. (2013). Literature Review on the welfare Implications of swine castration. Retrieved from https://www.avma.org/sites/default/files/resources/swine_castration_bgnd.pdf
- Amposem, K. B. & Minozzi, G. (2006). The state of development of biotechnologies as they relate to management of animal genetic resources and their potential application in developing countries. Commission on Genetic Resources for Food and Agriculture.
- ASEAN. (n.d). ASEAN Biosecurity Management Manual for Commercial Poultry Farming. Retrieved from <https://asean.org/wp-content/uploads/2021/09/AMAF-33-Biosecurity-Manual.pdf>
- BAFS. (2022). Explanatory Manual for PNS/BAFS 267:2019 GAHP for Swine.
- BAFS. (2022). PNS Code of Practices for the production of OSA (PNS/BAFS 291:2019).
- BAFS. (2023). PNS Code of Good Animal Husbandry Practices for Beef cattle and Buffalo (PNS/BAFS 200:2023).
- BPI - National Seed Industry Council. (n.d). NSIC registered varieties. Retrieved from <https://nsic.buplant.da.gov.ph/>
- Ceva. (2022). Cross-fostering piglets during lactation & impact on performance. Retrieved from <https://swinehealth.ceva.com/blog/cross-fostering>
- DA. (2000). DA AO 41 series of 2000 - Code of practice and minimum standards for the welfare of pigs. Retrieved from https://paws.org.ph/downloads/ao_41_-_code_of_practice_and_minimum_standards_for_pigs.pdf
- DA. (2020). DC No.9 series of 2020 - National List of Permitted Substances for Organic Agriculture. Retrieved from https://www.da.gov.ph/wp-content/uploads/2022/07/dc09_s2020.pdf
- DA. (2010). DC No.19 series of 2010 - Guidelines on good hygienic slaughtering practices for locally registered meat establishments (GHSP-LRMES). Retrieved from <https://elibrary.judiciary.gov.ph/thebookshelf/showdocs/10/57297>
- DA. (2018). DC No. 01, series of 2018 - Revised guidelines for the official accreditation of organic certifying bodies.
- DA. (2022). DC No. 03, series of 2022 - Guidelines for the accreditation of the core PGS and its operation as OCB.

- Department of Agrarian Reform. (2004). Administrative Order No.1 series of 2004 - 2004 Rules and regulations governing the exclusion of agricultural lands used for cattle raising from the coverage of the comprehensive agrarian reform program". Retrieved from <https://elibrary.judiciary.gov.ph/thebookshelf/showdocs/10/38476>
- DOH-FDA. (2024). Veterinary drugs. Retrieved from https://verification.fda.gov.ph/veterinary_productslist.php?start=1
- DOST- PCAARRD. (2022). Philippine Native Pig Breed Information System. Retrieved from <https://ispweb.pcaarrd.dost.gov.ph/philippine-native-pig-breed-information-system/>
- Farm Biosecurity. (n.d.). People, vehicles & equipment: Essentials toolkit. Retrieved from <https://www.farmbiosecurity.com.au/essentials-toolkit/people-vehicles-equipment/>
- Ghent University. (n.d). Downtime as a biosecurity measure: necessary for your farm?. Biosecure: Enhanced and cost-effective biosecurity in livestock production. Retrieved from https://biosecure.eu/wp-content/uploads/2024/10/2_UGENT_Downtime-as-biosecurity-measure.pdf
- Hill, S.V., Amezcua, M., Ribeiro, E.S., O'Sullivan, T.L., & Friendshio, R.M. (2022). Defining the Effect of Oxytocin Use in Farrowing Sows on Stillbirth Rate: A Systematic Review with a Meta-Analysis.
- Iowa State University. (n.d). Porcine Reproductive and Respiratory Syndrome (PRRS). College of Veterinary Medicine - Veterinary Diagnostic and Production Animal Medicine. Retrieved from <https://vetmed.iastate.edu/vdpam/FSVD/swine/index-diseases/porcine-reproductive>
- Iowa State University. (n.d). Pseudorabies. College of Veterinary Medicine - Veterinary Diagnostic and Production Animal Medicine. Retrieved from <https://vetmed.iastate.edu/vdpam/FSVD/swine/index-diseases/PRV>
- Irang, C. (2018). Importance of proper pasture management. Retrieved from <https://agriculture.com.ph/2018/08/01/importance-of-proper-pasture-management/>
- Kober, J. A. (1993). Water: the most limiting nutrient. *Agri-Practice*. 14: 39-42.
- Kuralkar, P. & Kuralkal, S.V. (2021). Role of herbal products in animal production - an updated review. Volume 278.
- Mkwanazi, M.V., Ncobela, C.N., Kanengoni, A.T., & Chimonyo, M. (2019). Effects of environmental enrichment on behaviour, physiology and performance of pigs - a review.
- Nelson, T. (n.d). Downtime a key part of biosecurity. *Farm Health Guardian*.
Retrieve from: <https://farmhealthguardian.com/downtime-a-key-part-of-biosecurity/>
- Nordquist, R., Staay, F.J., Eerdenburg, F.J., Velkers, F., Fijn, L. & Arndt, S.S. (2017). Mutilating procedures, management practices, and housing conditions that may affect the welfare of farm animals: Implications for welfare research.
- National Office of Animal Health. (2016). Veterinary medicines and the safety of food from animals. Retrieved from <https://www.noah.co.uk/topics/regulation/veterinary-medicines-safety-food-from-animals/>
- Nyachoti, M. and Kiarie, E. (2015). Water in Swine Production: A review of its significance and conservation and strategies. Retrieve from https://www.researchgate.net/publication/266865290_WATER_IN_SWINE_PRODUCTION_A_REVIEW_OF_ITS_SIGNIFICANCE_AND_CONSERVATION_STRATEGIES

- Philippine Statistics Authority. (n.d). Technical Notes: Carabao Situation Report as of June 2022. Retrieved from <https://psa.gov.ph/statistics/technical-notes/168049>
- Republic Act No. 10631. (2013). An act amending certain sections of Republic Act No. 8485, otherwise known as The Animal welfare Act of 1998. Retrieved from https://lawphil.net/statutes/repacts/ra2013/ra_10631_2013.html
- Soil association. (2009). Organic pig production: an introductory guide. Retrieved from <https://www.vguk.hr/multimedia/3e852061f5a28a699ae9150fc076ddfd61f4f193ddca86a27be3bfdcc436fb480842eace1642416254.pdf>
- The Pig Site. (2018). Antibiotics and antibacterial medicines for diseases and parasites Retrieved from <https://www.thepigsite.com/disease-and-welfare/managing-disease/antibiotics-antibacterial-medicines-for-diseases-and-parasites>
- Thakur, K., Sharma, A. & Sharma, K. (2021). Management of agricultural insect pests with physical control methods. Retrieved from <https://www.thepharmajournal.com/archives/2021/vol10issue6S/PartE/S-10-5-31-561.pdf>
- World Organisation for Animal Health. (n.d). African swine fever. Retrieved from <https://www.woah.org/en/disease/african-swine-fever/>
- WOAH. (n.d). Classical swine fever. Retrieved from <https://www.woah.org/en/disease/classical-swine-fever/>
- WOAH. (n.d). Preventive measures and biosecurity for small pig farm: Biosecurity at backyard and small-scale farms. Retrieved from https://rrasia.woah.org/app/uploads/2020/05/webinar2_biosecurity-small-farms_k-jazdzewski_14may2019.pdf
- United States Department of Agriculture - Agricultural Marketing System. (2005). Oxytocin. Technical evaluation report. Retrieved from <https://www.ams.usda.gov/sites/default/files/media/Oxytocin>
- United States Department of Agriculture - Economic Research Service. (n.d). Schematic graphic showing how rotational grazing of cattle works. Retrieved from <https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartId=105191>
- University of Illinois. (n.d.). Swine biosecurity: Module 3. Retrieved from <https://vetmed.illinois.edu/swine-biosecurity/module-3/>
- University of Minnesota. (n.d.). Chapter 13: Biosecurity. In Veterinary preventive medicine. Retrieved from <https://pressbooks.umn.edu/vetprevmed/chapter/chapter-13-biosecurity/>
- Van Baelen, C., Montagne, L., Ferchaud, S., Prunier, A., & Lebret, B. (2024). Feeding strategy in organic pig farming as a lever to improve various quality dimensions of pork, animal, Volume 18, Issue 7, 2024, 101190, ISSN 1751-731.

PHOTO REFERENCES

Page 14

Image 1a. Canva. (n.d). Weanling. (Photograph).

Image 1b. World class. (n.d). (Photograph). Retrieved from https://www.worldclass.com/products/suckling-pig-cochinillofbclid=IwY2xjawHMns5leHRuA2FlbQlXMAABHRI75yTnJHTQCoe6ethLm3dGcxslfKsU7Qw_IFxL0gUqfcLSTExEP4Pt0w_aem_JZEuVeJyEE1D3o6lm20glA

Image 1c. Vin Sullivan Foods. 2019. Lechon de leche pig. (Photograph). Retrieved from https://vinsullivan.com/meat-poultry-game/suckling-pig?product_id=4346

Image 1d and Image 1g. Canva. (n.d). Slaughter pigs. (Photograph).

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Image 4a. Department of Science and Technology - Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (DOST - PCAARRD). Q-Black. (n.d). (Photograph). Retrieved from <https://pab-is.pcaarrd.dost.gov.ph/nativepigs/breed/q-black>

Image 4b. DOST - PCAARRD. (n.d). Benguet native pig. (n.d). (Photograph). Retrieved from <https://pab-is.pcaarrd.dost.gov.ph/nativepigs/breed/benguet>

Image 4c. DOST - PCAARRD. (n.d). Sinirangan. (Photograph). Retrieved from <https://pab-is.pcaarrd.dost.gov.ph/nativepigs/breed/sinirangan>

Image 4d. DOST - PCAARRD. (n.d). ISubela. (Photograph). Retrieved from <https://pab-is.pcaarrd.dost.gov.ph/nativepigs/breed/isubela>

Image 4e. DOST - PCAARRD. (n.d). Yookah. (Photograph). Retrieved from <https://pab-is.pcaarrd.dost.gov.ph/nativepigs/breed/yookah#one!>

Image 4f. DOST - PCAARRD. (n.d). Markaduke. (Photograph). Retrieved from <https://pab-is.pcaarrd.dost.gov.ph/nativepigs/breed/marinduke>

Page 26 (Left to right)

Image 4g. DanBred. (n.d). Landrace. (Photograph). Retrieved from <https://danbred.com/our-dna/landrace/>

Image 4h. Nucleus. (2018). Large white. (n.d). (Photograph). Retrieved from <https://www.nucleus-sa.com/en/our-reproducers/large-white-femelle/>

Image 4i. British Pig Association. (n.d). Berkshire. (Photograph). Retrieved from <https://www.britishpigs.org.uk/breed-information/berkshire>

Image 4j. Britannica. (n.d). Duroc or Duroc jersey. (Photograph). Retrieved from <https://www.britannica.com/animal/Duroc>

Image 4k. Britannica. (n.d). Hampshire. (Photograph). Retrieved from <https://www.britannica.com/animal/Hampshire-breed-of-pig>

Image 4l. British Pig Association. (n.d). Pietrain. (Photograph). Retrieved from <https://www.britishpigs.org.uk/breed-information/pietrain>

Image 4m. British Pig Association. (n.d). Large black. (Photograph). Retrieved from <https://www.britishpigs.org.uk/breed-information/largeblack>

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Image 8b. Department of Agriculture. (2018). Department Circular No. 01 Series of 2018 - Revised Guidelines for the Official Accreditation of Organic Certifying Bodies (OCB). (Illustration). Retrieved from https://www.da.gov.ph/wp-content/uploads/2022/05/dc01_s2018.pdf

Image 8c. Department of Agriculture. (2022). Department Circular No. 03 Series of 2022 - Guidelines for the Accreditation of Core Participatory Guarantee System Groups (PGS) and its Operation as Organic Certifying Bodies (OCB). (Illustration). Retrieved from https://www.da.gov.ph/wp-content/uploads/2022/07/dc03_s2022.pdf

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Image 9. Costales, R. (2024). Sample sources of vitamins and amino acids. (Photograph).

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Image 10a. Ebay. (n.d). Pig with ear tattoo. (Photograph). Retrieved from <https://www.ebay.co.uk/itm/262913673350>

Image 10b. BAFS. (2022). Pig with an ear tag. (Photograph).

Image 10c. Kinaman, C. (2021). Pig with ear notch. (Photograph). Retrieved from <https://chadakinaman.medium.com/how-to-ear-notch-a-pig-4e5ece66ef91>

Page 38 (Left to right)

Image 11a. Zingmark, J. (n.d). Castrating of pigs using commercial device. (Photograph). Retrieved from http://qpc.adm.slu.se/5_Entire_Male_Pigs/index.htm

Image 11b. FAO. (1994). Castrating of pigs manually. (Photograph). Retrieved from <https://www.fao.org/4/t0690e/t0690e06.htm#unit%2033:%20castrating%20piglets>

Image 11c. Mills, J. (2019). Sample image of teeth clipping. (Photograph). Retrieved from <https://www.worldanimalprotection.org/latest/blogs/piglets-are-forced-endure-painful-mutilations-factory-farming-its-time-end-their-suffering/>

Page 39

Image 11d. Hissink, R. (2018). Sample image of tail docking. (Photograph). Retrieved from <https://www.fwi.co.uk/livestock/pigs/what-tougher-tail-docking-inspections-mean-for-pig-farmers>

Page 41

Image 12a. BAI. (n.d). Swine infected with ASF. (Photograph)

Image 12b. Done S., Paton D., White M. (1996). Swine infected with PRRS. (Photograph). Porcine reproductive and respiratory syndrome (PRRS): A review, with emphasis on pathological, virological and diagnostic aspects. *British Veterinary Journal*. DOI:10.1016/S0007-1935(96)80071-6. Retrieved from <https://www.semanticscholar.org/paper/Porcine-reproductive-and-respiratory-syndrome-A-on-Done-Paton/86abeb6921de4400dbbf8f12d6cf6206dd6e1dd7>

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Image 13c. Quizlet.(n.d). Swine infected with hog cholera. (Photograph). Retrieved from <https://quizlet.com/543472194/classical-swine-fever-flash-cards/>

Image 13d. Pig progress. (2016). Swine with Pseudorabies. (Photograph).

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BAFS. (2023). Eggplant (*Solanum melongena*). (Photograph). https://static.vecteezy.com/system/resources/previews/010/235/577/large_2x/green-young-guava-plant-leaves-in-the-garden-guava-leaves-are-one-of-the-traditional-herbal-ingredients-that-are-very-popular-especially-to-treat-diarrhea-and-flatulence-free-photo.JPG

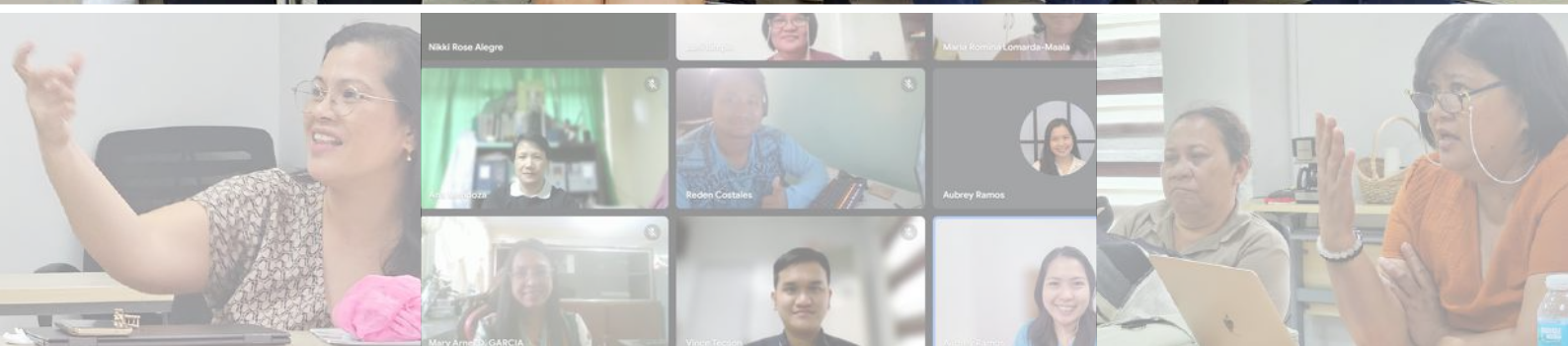
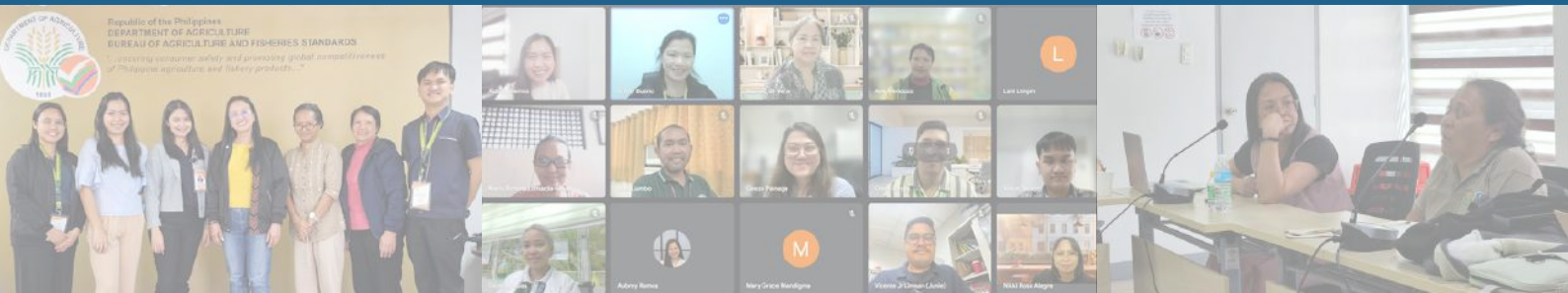
Adriano, L. (2023). Tobacco (*Nicotiana tabacum*). *Philippine News Agency*. (Photograph). Retrieve from <https://www.pna.gov.ph/articles/1208675>

Anato. (2019). Atchuete (*Bixa orellana*). *Anato*. (Photograph). Retrieve from <https://anatolife.com/blogs/news/why-anato-forest-to-face-solutions>

- Exotic seed store. (n.d). Lemongrass (*Cymbopogon citratus*). Retrieve from <https://www.exotic-seeds.store/en/home/lemongrass-seeds-cymbopogon-citratus.html>
- Bioenergy Sri Lanka. (2014). Kakawate (*Gliricidia sepium*). *Gliricidia as Liquid Fertiliser & Jeewamrutha (Microbial) Culture*. (Photograph). Retrieve from <https://www.bioenergy.srilanka.lk/gliricidia-as-liquid-fertiliser-jeewamrutha-microbial-culture/>
- BAFS. (2024). Manga (*Mangifera indica*). (Photograph).
- Rajkumar. (2022). Talisay (*Terminalia catappa*). Rajus Biology: Terminalia catappa Medicinal Uses. (Photograph). Retrieve from <https://rajusbiology.com/terminalia-catappa/>
- Tramil Applied Research program on the Popular Use of Medicinal Plants in the Caribbean. (n.d). Elefante (*Heliotropium indicum*). (Photograph). Retrieve from <https://tramil.net/fr/plant/heliotropium-indicum>
- Dreamstime. (n.d). Sweet sop (*Anona squamosa*). (Photograph). Retrieve from <https://www.dreamstime.com/green-annona-squamosa-leaves-nature-garden-fresh-green-annona-squamosa-leaves-nature-garden-image103908675>
- Vivero pullaly. (n.d). Kuchai (*Allium tuberosum*). (Photograph). Retrieve from <http://www.viveropullaly.cl/producto/allium-tuberosum/>
- Ibot, Andrew. (2014). Makabuhay (*Tinospora crispa*, *T. rumphii*). (Photograph). Retrieve from <https://akosiandrewibot.blogspot.com/2014/07/makabuhay-tinospora-rumphii-boerl.html>
- Farrah. (n.d). Akapulko (*Cassia alata*). *Health Benefits And Medicinal Uses Of Akapulko*. (Photograph). Retrieve from <https://drfarrahmd.com/2020/01/health-benefits-and-medicinal-uses-of-6/>
- Canva. (n.d). Niyog (*Cocos nucifera*). (Photograph).
- Quismundo, Tarra. (2012). Gatas-gatasan/Tawa-tawa (*Euphorbia hirta*). Philippine Daily Inquirer: DOST to test 'tawa-tawa' as cure for dengue, tuberculosis. (Photograph). Retrieve from <https://business.inquirer.net/53341/dost-to-test-%e2%80%98tawa-tawa%e2%80%99-as-cure-for-dengue-tuberculosis>
- Pinterest. (n.d). Aroma (*Acacia farnesiana*). (Photograph). Retrieve from <https://www.pinterest.com/pin/524317581602983458/>
- Dreamstime. (n.d). Paragia (*Eleusine indica*). (Photograph). Retrieve from <https://www.dreamstime.com/eleusine-indica-noxious-weeds-garden-image162487357>
- Shutterstock. (n.d). Damong maria (*Artemisia vulgaris*). (Photograph). Retrieve from <https://www.shutterstock.com/image-photo/wormwood-artemisia-vulgaris-grows-wild-nature-2121442487>
- Mediko. (2015). Takip kohol (*Centella asiatica*). (Photograph). Retrieve from <https://mediko.ph/gamot/takip-kohol/>
- Adorio, Ernesto. (2013). Lagnob (*Ficus haulti biancoi*). (Photograph). Retrieve from <https://dr-ernie-photography.blogspot.com/2012/07/plants-ficus-haulti-ficus-septica-septic.html>
- Canva. (n.d). Luya (*Zingiber officinale*). (Photograph).

- Philippine Medicinal Plants. (n.d). Bulak ng Paraiso (*Caesalpinia pulcherrima*). (Photograph). Retrieve from <https://www.stuartxchange.org/Bulaklak.html>
- Yin, Fei & Liu, Jianhui. (2018). Rosal (*Gardenia jasminoides*, *G. florida*). (Photograph). Research and application progress of *Gardenia jasminoides*. Retrieve from https://www.researchgate.net/publication/327468569_Research_and_application_progress_of_Gardenia_jasminoides
- Aimil. (n.d). Mutha (*Cyperus rotundus*). (Photograph). *Cyperus rotundus*. Retrieve from https://www.researchgate.net/publication/327468569_Research_and_application_progress_of_Gardenia_jasminoides
- Pinterest. (n.d). Bunga (*Areca catechu*). (Photograph). Retrieve from <https://jp.pinterest.com/pin/762656518118394469/>
- BAFS. (2023). Pinya (*Ananas comosus*). (Photograph).
- eCrater. (n.d). Niyog-niyogan (*Quisqualis indica*). (Photograph). Retrieve from <https://www.ecrater.com/p/34771924/40-rangoon-creeper-quisqualis-botanical-seed>
- Urban tropicals. (n.d). Balete (*Ficus elastica*). (Photograph). Retrieve from <https://urbantropicals.com/product/burgundy-rubber-tree-ficus-elastica/>
- Monaco Nature Ebcyclopedia. (n.d). Pandakaking - tsina (*Ervatamia divaricata*). (Photograph). Retrieve from <https://www.monaconatureencyclopedia.com/tabernaemontana-divaricata-2/?lang=fr>
- BAFS. (2023). Amarillo (*Tagetes patula*, *T. erecta*). (Photograph).
- Pimentel, Rose May. (2021). Sambong (*Blumea balsamifera*). Ang pinoy: Health benefits of Sambong. (Photograph). Retrieve from <https://angpinoy.net/health-benefits-of-sambong>
- Health Cautions. (n.d). Lagundi (*Vitex negundo*). (Photograph). Retrieve from <https://healthcautions.com/lagundi-for-cold-and-cough-is-this-really-effective/>
- Organics.ph. (n.d). Malunggay (*Moringa oleifera*). (Photograph). Retrieve from <https://www.organics.ph/products/malunggay>
- Spengler, Teo. (2022). Sampaguita (*Jasminum sambac*). (Photograph). Retrieve from <https://www.hunker.com/13426264/how-to-grow-sampaguita/>
- Tháng. (2019). Pansit-pansitan (*Peperomia pellucida*). (Photograph). Retrieve from <https://herbsforhuman.blogspot.com/2019/09/peperomia-pellucida-miraculous-healing.html>
- Mediko. (2015). Balbas-pusa (*Orthosisphon aristatus*). (Photograph). Retrieve from <https://mediko.ph/gamot/balbas-pusa/>
- CocoHiTech. (n.d). Niyog (*Cocos nucifera*). (Photograph). Retrieve from <https://cocohitech.com/product/young-coconut/>
- Canva. (n.d). Avocado (*Persea americana*). (Photograph).
- Canva. (n.d). Bawang (*Allium sativum*). (Photograph).
- Lontoc, Jo. Florendo. (2017). Sampaloc (*Tamarindus indica*). (Photograph). Retrieve from <https://up.edu.ph/the-stories-of-the-old-trees-of-upd/>

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This Explanatory Manual (EM) serves as a supplementary learning material for the Philippine National Standard (PNS) Organic Swine - Code of Practice (PNS/BAFS 371:2023). The EM aims to aid stakeholders by promoting uniform understanding and interpretation of the PNS to ensure efficient adoption and implementation of the Standard.

PNS/BAFS 371:2023 was developed to support Organic Filipino farmers and to promote sustainable farming.



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