

A photograph of several brown laying hens in a fenced outdoor area with green foliage in the background. The hens are in the foreground, with one prominently on the left and others behind it. A teal banner is at the top of the page.

GUIDELINE

LAYING HENS' DATA COLLECTION

Project for Strengthening ASEAN Food Security
Information System Function for Emergency (SAFER project)



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I. Introduction

The AFSIS Secretariat (AFSIS Sec.) was established in 2003 in response to growing concern on food security, with the objective of strengthening food security in the region through the systematic collection, analysis, and dissemination of food security-related information. In the early stages of AFSIS sec's activities, a network was established to facilitate information sharing between ASEAN Member States (AMS) and the AFSIS Sec., and the first step was to build statistics database. At that time, five key agricultural crops—rice, maize, soybean, cassava, and sugarcane—were selected for the main commodities. All member countries contributed their official data, which was stored in the AFSIS database and made accessible through the official website (<https://www.aptfsis.org/>).

Subsequently, AFSIS Sec. began providing reports on supply and demand information, as well as production forecasts for five main crops. These reports are known as the Agricultural Commodity Outlook (ACO) and Early Warning Information (EWI). Initially, the activities focused only rice-related data, but over time, the scope expanded to include all five major crops in alignment with the AFSIS database. The ACO reports are published twice a year—in June and December—while the EWI reports are released in March and September. Another significant publication is the Rice Growing Outlook (RGO) report, which is issued monthly and currently focuses on rice. However, starting in September 2025, the Maize Growing Outlook (MGO) report will also be made available on the AFSIS website

Since 2003, the AFSIS Sec. has continuously expanded our activities by introducing various typed of reports. To improve AFSIS's report efficiency, AMS proposed to increase the number of commodities in the AFSIS database. Under the implementation of the project for Strengthening ASEAN Food Security Information System Function for Emergency (SAFER project) during 2023 – 2025, the AFSIS Focal Points have been discussing on the appropriate agricultural commodity to be added as a new target commodity apart from five main crops.

When considering the inclusion of a new commodity, the best way to ensure comparable data across countries is to implement a standardized survey. However, we understand that national statistical surveys are conducted in accordance with each country's law and regulations. As a result, it is often challenging for all member countries to incorporate the new survey into their official statistical systems.

To address these challenges, AFSIS proposed utilizing existing official data that was already collected by member countries. After careful desk-based review, eggs from laying hens were selected as the new commodity to be added to the ACO report, EWI report, and AFSIS Database. This guidebook outlines the data collection process and provides clear definitions and descriptions of the necessary data items to support the integration of this new commodity into AFSIS's reporting mechanisms.

II. Abbreviations

LIST OF ABBREVIATIONS

ACO	Agricultural Commodity Outlook
AHTN	ASEAN Harmonized Tariff. Nomenclature
AMS	ASEAN Member State
CPC	Central Production Classification
EWI	Early Warning Information
FAO	Food and Agriculture Organization of the United Nations
FAOSTAT	Food and Agriculture Organization Statistics
FBS	Food Balance Sheet
IMF	International Monetary Fund
MGO	Maize Growing Outlook
RGO	Rice Growing Outlook
SAFER	Project for Strengthening ASEAN Food Security Information System Function for Emergency
UNSD	The United Nations Statistics Division



1

EXPANDING AFSIS'S COMMODITY UNDER THE SAFER PROJECT

1 EXPANDING AFSIS'S COMMODITY UNDER THE SAFER PROJECT



In terms of information network development, the AFSIS Secretariat (AFSIS Sec). emphasizes enhancing databases and data analysis to provide comprehensive information crucial for the planning and implementation of food security policies in the region. The commodity outlook, prepared by the AFSIS Sec., has become a key source of food security information. It offers valuable insights for food security planning by presenting AMS with projections on the future availability of specific food commodities. The development of the regional commodity outlook has strengthened cooperation among ASEAN Member States (AMS), fostering collective efforts to bolster food security across the region. Since 2008, with the collaboration of all AMS, the necessary national data for making the regional outlook has been consistently provided.

Data on the five main commodities—rice, cassava, maize, soybean, and sugarcane—from AMS have been collected and disseminated for the AFSIS database, Agricultural Commodity Outlook (ACO) and Early Warning Information (EWI) reports. These commodities are essential for ensuring food security in the ASEAN region, as they serve both as staple foods for people and as feed for livestock. The database and two reports provide comprehensive information on agricultural production, trade, and economic indicators for five commodities in AMS. This includes data on cultivation areas, yields, production conditions, trade volumes and values, and key ratios. These reports are not only used for calculating various indicators but also provide insights into the food production situation, support economic analysis, and serve as a reference for reports and decision-making by policymakers.

Considering the data needs in both normal and emergency situations, the availability of data and food security concerns are crucial in determining additional data items among AMS. Expanding the range of target commodities managed by the AFSIS Sec. is a key activity under the SAFER project. This initiative aims to improve the scope and depth of food security data, addressing both routine and emergency requirements to support effective decision-making and response strategies. Mr. Yasuhiro Miyake, the AFSIS Expert, conducted a desk study and collected information from member countries' proposals for new commodities, ensuring that the data aligns with the region's food security priorities.

Discussion For New Commodity

The Regional Workshop under the SAFER project, held on 29–30 August 2023 at the Novotel Bangkok Sukhumvit 20, Bangkok, Thailand, was convened to discuss with the AMS on the inclusion of new commodities that will be managed by AFSIS Sec. The criteria for selection, based on input from AMS, included 1) Commonality, 2) Availability and Completeness of Data, 3) Impact on Global Trade, 4) Impact on Market (Demand and Supply), and 5) Economic Importance. The top three commodities proposed by member countries were 1) Hen Eggs, 2) Meat of Swine/Hog/Pig, and 3) Meat of Chicken, Potato, and Groundnuts.



Figure 1 – The 1st Regional Workshop under the SAFER project held on 29 – 30 August 2025 in Bangkok, Thailand

Following deliberations, the meeting concluded that “Laying Hens” would be the new commodity added to the AFSIS Database, as well as the ACO and EWI reports. Historically, AFSIS Sec. has focused on five primary commodities, all of which are carbohydrate sources. Member states recognized the importance of broadening this scope to include additional commodity types in order to strengthen food security in the ASEAN region.

Laying hens were identified as a suitable choice, as they are widely produced and consumed across all AMS. Additionally, comprehensive data for this commodity is available through FAOSTAT, aligning with the selection criteria and offering advantages over other proposed commodities.





2 NEW COMMODITY SELECTION PROCESS

2 NEW COMMODITY SELECTION PROCESS

For new commodity selection, it is difficult for the AFSIS Sec. to introduce a new standardized survey for collecting new data items on additional commodities in the region, as doing so would require a necessary amendment to statistical laws in each member country. On the other hand, the AFSIS Sec. has been providing data on five commodities in the AFSIS database by receiving official statistics directly from member countries. Following the same approach, one of the key criteria for new commodities for this project is whether each member country is able to provide the relevant data.

To assess this, the AFSIS Sec. distributed a questionnaire to grasp member countries' requests for new commodities and to evaluate the availability of corresponding data. We reviewed responses from member countries, along with additional relevant information that could support the selection process.

We received numerous requests covering a wide range of commodities, including both crops and livestock. We fully acknowledge that each member country has their own priority commodities, which play vital roles in supporting farmers, ensuring adequate food for consumers, and promoting exports, in line with national policies. However, due to practical limitations, not all requests could be accommodated. Therefore, the AFSIS Sec. carefully considered how to select a new commodity for inclusion in the database based on consensus. As a result, the AFSIS Sec. developed a set of criteria to guide a selection process. AFSIS Sec. proposed five criteria, which were subsequently approved by the AMS as follows:

Criteria 1: Identification of Commodities with High Commonality among Member Countries

This item aims to identify commodities that are commonly produced and consumed across AMS. The criteria are based on three key indicators related to both production and consumption, as detailed below:



- 1) **Number of countries with resources to produce crops and livestock** – based on data such as planted area and stocks used



- 2) **Number of countries where the crops or livestock is produced** – based on data on crop yield and livestock production used



- 3) **Number of countries that consume the targeted crop or livestock product** – determined through food consumption data

Criteria 2: Availability and Completeness of Data

The second item focuses on the availability and completeness of data. As the AFSIS Sec. intends to publish information on newly selected commodities in its database, support from AMS is essential to ensure the provision of relevant, consistent, and reliable data.

As a result, the number of proposed commodities from AMS totaled 17 commodities. These include both crops and livestock products that are considered priority items for agricultural monitoring in the region.

Proposed commodity														Total
Crops	Shallot			1										1
	Chili			1										1
	Coffee				1									1
	Black and Green Gram								1					1
	Pigeon Pea								1					1
	Pineapple									1				1
	Potato										1			1
	Palm oil		1											1
	Sesame seed								1					1
	Groundnuts								1					1
Livestocks	Poultry/Chicken	1	1	1		1					1			5
	Beef/Cattle		1	1	1	1							1	5
	Swine/Hog/Pig				1	1				1			1	4
	Goat					1								1
	Sheep					1								1
	Eggs			1		1								2
	Milk					1								1

Table 1 – List of Commodities Purposed by ASEAN Member Countries

In order to reduce the burden of data verification, the AFSIS Sec. decided to rely on information published by the FAOSTAT Database (Food and Agriculture Organization Statistics) for comparison purposes. Basically, FAO collects agricultural data from all member countries and publishes it on the FAOSTAT platform. The presence of data on FAOSTAT generally indicates that the corresponding crop or livestock product is being produced in that country. However, in cases where a particular crop or livestock is being produced but there is no available data, FAO may generate their own estimations. Importantly, FAOSTAT establishes a unified and standardized system of codes (also named flags) to be associated with data disseminated externally which provide to users a clear indication of the source, whether the data is official or estimated, as pictured below.

Flags

More information about Flags, at [this link](#).

Flag	Flags
A	Official figure
B	Time series break
E	Estimated value
F	Forecast value
I	Imputed value
M	Missing value (data cannot exist, not applicable)
O	Missing value
P	Provisional value
Q	Missing value; suppressed
TPM	Mirror trade
U	Low reliability
X	Figure from international organizations

Figure 2: Standardized system of codes established by the FAO (source: <https://www.fao.org/faostat/en/#definitions>)

This allows the AFSIS Sec. to assess the availability and reliability of data in each country. To enable comparison among member countries, the AFSIS Sec. calculates the percentage of official data available for each commodity across six data items shown below.

- Planted Area
- Stock
- Crop Yield
- Livestock Production
- Food Consumption
- Producer Price

Criteria 3: Impact on Global Trade

The third item considers the impact of each commodity on global trade. This is measured by the trade scale ratio (%), which is calculated using four types of data: import quantity, export quantity, import value, and export value. The ratio reflects the share of trade conducted by AMS with other regions and is calculated separately for each commodity.

Criteria 4: Impact on the Market (Supply and/or Demand)

The fourth item assesses the impact of each commodity on the overall market, focusing on both supply and demand aspects. This is measured using two key indicators:

- Percentage of total food production
- Percentage of total food consumption

As globalization advances, the impact of agricultural and livestock markets of each country is increasingly influenced by trends in other countries. For this item, the market impact is assessed at the regional or the global level rather than at the individual country level.

While there are various methods to assess the market impact of each item, for this project, the AFSIS Sec. decided to use an indicator that can be calculated using FAOSTAT data. The underlying assumption is that commodities with higher levels of production and consumption tend to have a greater impact on the overall market. To compare commodities, we calculated the percentage of each agricultural and livestock product relative to total food production. It is important to note that the term of “food” here includes fish. For example, in the case of potatoes, the market impact was calculated using the following formula:

Impact is measured as the share of the candidate commodity, calculated as follows:

Share (%) = (Production or consumption volume of the candidate commodity, e.g., potato, in the global or regional context) ÷ (Total production or consumption volume of all food items — including crops, livestock, and fish — in the same global or regional context)

Criteria 5: Economic Importance for Each Member Country

The final item considers the economic importance of each commodity within AMS. This is assessed using the percentage of total gross agricultural value, expressed in monetary terms and sourced from FAOSTAT. To compare commodities, all items listed in FAOSTAT were ranked by their economic value within each country. The number of countries in which a target commodity ranked among the top five was then counted.

Criteria Incorporating Member Country Feedback

No.	Criteria	Indicator by proposed commodity	Data	FAO Data Coverage		
				Global	Region Level (ASEAN +3)	National Level (ASEAN +3)
1	Commonality	Data coverage by the total amount of country and region that plant/ raise the commodity	Planted area	-	-	✓
			Stocks	-	-	✓
		Data coverage by total amount of country and region that produce the commodity	Crop yield	-	-	✓
			Livestock production	-	-	✓
		Data coverage by total amount of country and region that consume the commodity	Food consumption	-	-	✓
2	Availability and completeness of data	Percentage of official data by countries	Planted area	-	-	✓
			Stocks	-	-	✓
			Crop yield	-	-	✓
			Livestock production	-	-	✓
			Food consumption	-	-	✓
			Producer price	-	-	✓
3	Impact to global trade	Percentage of world trade of all member countries	Import quantity	-	✓	-
			Export quantity	-	✓	-
			Import value	-	✓	-
			Export value	-	✓	-
4	Impact to market (supply and/or demand)	Percentage of total food production	Quantity of total food production	-	✓	-
		Percentage of total food consumption	Quantity of total food consumption	✓	✓	-
5	Economic importance of each member country	Percentage of total gross agricultural production	Gross agricultural production	-	-	✓

Table 2 – Criteria Incorporating Member Countries' Feedbacks for Selecting New Commodity

Proposed Commodity		1. Commonality				2. Availability			3. Impact to global trade		4. Demand and supply for markets		5. Economic importance	Total
		Country level		Regional level		Area stock	Production	Price	Import	Export	Global	Region		
		production	consumption	production	consumption									
Crops	Shallot (incl. onion)			1	1	1	1	2				1		8
	Chili (incl. pepper)		1	1		1	1			1				5
	Coffee			1		2	2	1		1			1	8
	Black and green Gram			1		1	1			1			1	5
	Pineapple		1	1		1	1	1						5
	Potato 3rd			1	1	1	2	2	2		1	1		11
	Oil palm fruit				1	1	1	1					1	5
	Pigeon pea			1		2	2	1						6
	Sesame seed						1		1					2
Livestock	Groundnuts 3rd		1	1	1	1	2	2	1	1			1	11
	Poultry/Chicken	Meat 3rd	2	1	1	1	1		1		1	1	2	11
		Hen eggs in shell 1st	2	1	1	1	1	1	1		1	1	2	13
	Buffalo/cattle	Meat	2	1			1	1	1	1			1	8
		Raw milk of cattle	2	1	1	1	1	1			1	1	1	10
	Swine/Hog/Pig	Meat 2nd	2	1	1	1	1	1	1	1	1	1	1	12
	Goat	Meat	1	1			1							3
	Sheep	Meat		1						1				2

Table 3 – Summary of Finalized Criteria and Results

Based on these five criteria, the AFSIS Sec. assigned scores to each commodity. As a result of this evaluation process, laying hens were selected as the new target commodity, and data compilation efforts will focus on eggs.



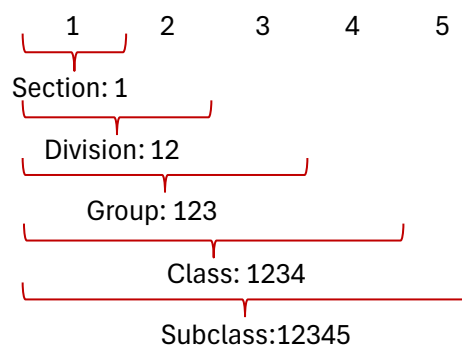
3 DEFINITION OF TARGET COMMODITY

3 DEFINITION OF TARGET COMMODITY

To select target commodities, priority was given to those with a high proportion of official statistics available from each country in FAOSTAT, given AFSIS's requirement for official data on eggs from laying hens provided by member countries. The commodity list utilized by FAOSTAT is derived from the Central Production Classification (CPC), as developed by the United Nations Statistics Division (UNSD). The CPC serves to classify goods and services resulting from economic production activities and provides a standardized framework for the development of survey instruments across various contexts, with its principal advantage being its adherence to the criteria of an internationally recognized standard. This broad acceptance enables consistency in the categorization and definition of products, thereby facilitating international comparability and supporting the coherence of global statistical systems. AFSIS Sec. also intends to use the same standard for our work.

In the publication on "World Programme For The Census Of Agriculture 2020" provided by FAO, livestock refers to all animals, birds, and insects kept or reared in captivity mainly for agricultural purposes. This includes cattle, buffaloes, horses and other equine animals, camels, sheep, goats, and pigs, as well as poultry, bees, silkworms, and etc. except aquatic animals. Domestic animals, such as cats and dogs, are excluded unless they are being raised for food or other agricultural purposes.

The classification consists of sections (identified by the first digit), divisions (identified by the first and second digits), groups (identified by the first three digits), classes (identified by the first four digits), and subclasses (identified by all five digits, taken together).



In the CPC laying hens are including in the "Live animals," group which number is "021." This group is divided into six classes which are "0211 Bovine animals", "0212 Other ruminants," "0213 Horses and other equines," "0214 Swine /pigs," and "0215 Poultry," Laying hens are classified in this class on 0215 Poultry. This class on poultry is also divided into five subclasses which are "02151 Chickens," "02152 Turkeys," "02153 Geese," "02154 Ducks," and "02155 Guinea Fowls."

Definitions in the CPC Explanatory Notes

The explanatory notes in the CPC provide definitions for each product category. In the case of livestock, the CPC definitions are relatively simple and are primarily based on scientific names.

For poultry, the definitions of each subclass are specified as pictures below:

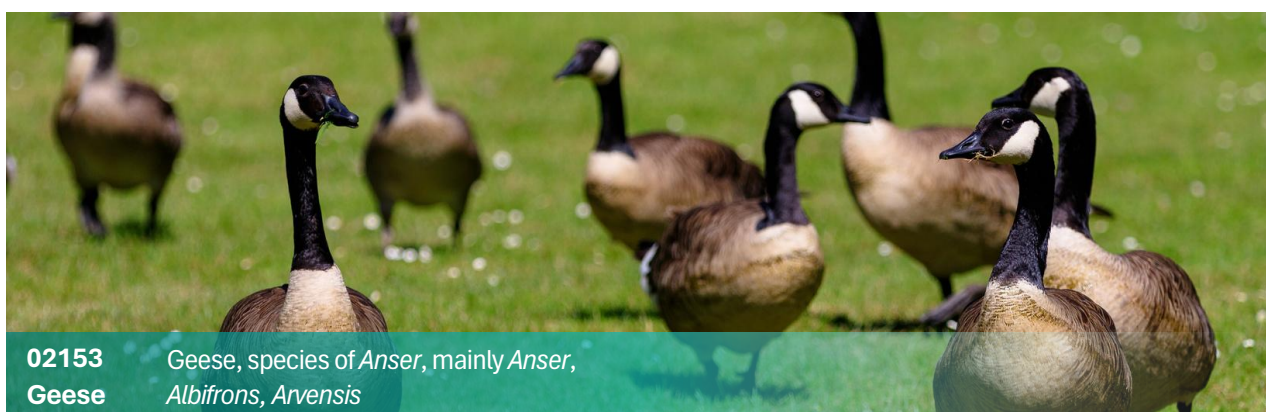


ANNEX 6

Classification of livestock

Group	Class	Descriptor
1	1	Bovine animals
	11	Cattle
	12	Buffaloes
	19	Other bovine animals
2	2	Sheep and goats
	21	Sheep
	22	Goats
3	3	Swine/ pigs
	4	Equines
4	41	Horses
	42	Asses
	43	Mules and hinnies
	5	Camels and camelids
5	51	Camels
	52	Llamas and alpacas
	59	Other camelids
6	6	Poultry
	61	Chickens
	62	Turkeys
	63	Geese
	64	Ducks
	65	Guinea fowls

Source: Food and Agriculture Organization of the United Nations. World Programme for the Census of Agriculture 2020. <https://www.fao.org/3/i4913e/i4913e.pdf>





4

DATA ITEMS SELECTION

4 DATA ITEMS SELECTION

The data available in the AFSIS database consist of official statistics published and provided by each member country, collected in accordance with nationally determined methodologies. As a result, definitions of the target commodities are not standardized across member countries. Nevertheless, the data disseminated through AFSIS Sec. must be comparable at the international level.

In considering the selection of data items, our aim is to ensure consistency with those currently available for the five commodities included in the AFSIS database. To begin, we will present an overview of the structure and contents of the data table and items associated with these five commodities.

There are eleven data items in the AFSIS database as follows;

- Production*
- Crop Calendar*
- Farmgate price*
- Wholesale price*
- Population information
- Labor Force
- GDP
- Balance Sheet*
- Land Use
- Land Use irrigated
- Cost*

There are six data items, marked with asterisks, that are specifically provided for each commodity in the AFSIS' database. For the additional commodity, laying hens, AFSIS Sec. intends to develop the same set of tables. However, crop calendars are proposed to be excluded from this activity, as it is anticipated that only a limited number of countries would be able to supply the relevant data.

AFSIS Sec. proposes to utilize the same data items for each table as previously applied, as outlined below:

1) Production Table

- Planted area
 - Harvested area
 - Production
 - Yield
- } For livestock, production-related figures should be replaced with stock (number)

2) Farmgate Price Table

- Farmgate Price

3) Wholesale Price Table

- Wholesale Price

4. Balance Sheet Table

- **Supply**
 - Beginning stock
 - Production
 - Imports
- **Demand**
 - Domestic utilization
 - Food consumption
 - Feed
 - Industrial usage
 - Seed
 - Others
 - Exports
 - Ending stock

5. Cost of Production Table

- Fixed cost
- Variable cost
- Total cost

Until now, AFSIS Sec. has only provided data on agricultural crops; however, the inclusion of livestock is implemented under the SAFER project. Consequently, certain items in the production table will require modification, specifically, the replacement of area-related data. For livestock commodities, AFSIS Sec. purposed to use the number of laying hens raised on farms in place of the area data item, to more accurately reflect the nature of livestock production.



5

DEFINITION OF DATA ITEMS

5 DEFINITION OF DATA ITEMS

This section presents definitions for each data item. With regard to these definitions, AFSIS Sec. proposes adopting those provided by FAO, which are widely used by many countries in the development of agricultural statistics. The use of unified definitions facilitates cross-country comparability and includes reference periods to support users in the interpretation and analysis of results. However, AFSIS Sec. relies on official data from ASEAN member countries for inclusion in the database, with the definitions, reference periods, and units of measurement often varying across countries. To address this issue and ensure comparability among member countries, AFSIS Sec. has established a standardization approach, which is detailed in the following section.

In FAOSTAT, two primary types of reference periods are used: the reference year and the reference day. The reference year refers to a twelve-month period, typically aligned with either the calendar year or agricultural year, depending on the nature of the data being collected for individual items. In contrast, the reference day represents a specific point in time, and it is primarily used for reporting livestock numbers.

1. Laying Hen Stock

In the production table, AFSIS Sec. intends to include the **reference day alongside stock data**, representing the specific point in time at which the livestock numbers are recorded.

In case no specific reference date is designated for counting the number of heads, the **midpoint of the survey period** shall be used as the reference day.

For example, if data collection occurs from 1st to 30th January, the 16th of January will serve as the reference day. According to AFSIS's definition, the number of laying hens refers exclusively to female birds of egg-type breeds that have laid eggs during the reference year.

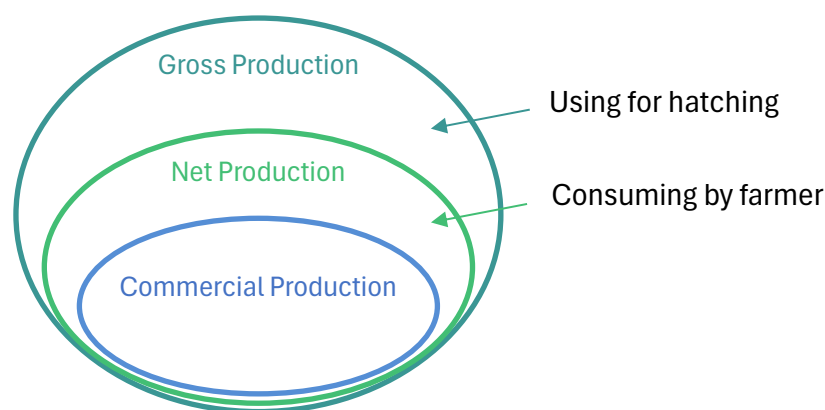
This data is expressed in **heads or thousands (1,000) of heads**, depending on the reporting format.

2. Production

In the case of the commodity being laying hens, the data will be counted based on the total amount of eggs produced. The reference period for this data is twelve-months within a calendar year.

Regarding the concepts of egg production, three types of production are commonly used worldwide.

- 2.1) Gross production:** includes all eggs laid by female chickens, regardless of their intended use.
- 2.2) Net production:** excludes eggs that are used for hatching purposes.
- 2.3) Commercial production:** This is the portion of net production that enters commercial channels. Eggs consumed by the farmer are not included in this production.



Regarding the units of measure, two types of units are commonly used worldwide, which are total weight and total number of eggs. AFSIS Sec. recommends using both units for our work. This is because when a certain country reports egg production data using only one unit, and AFSIS Sec. selects a different unit, that country's egg production data may appear as blank. To prevent an increase in missing data, it is important to provide a conversion factor for users when comparing data. The FAO also recommended using this conversion factor for comparison purposes.

This data is expressed either in **metric tons or in thousands of eggs**.

3. Yield

Regarding egg-laying hens, the concept of yield, as defined by FAO, refer to the number of eggs produced per animal observed. This measures the total number of eggs produced by each individual laying hen over a reference period.

The standard reference period is **twelve months within a calendar year**.

This data is expressed either in **kilograms (kg.) per head or in number of eggs per head**.

4. Price

1) Farmgate price

Farmgate price refers to the price received by farmers for their products at the farm level. This price does not include any costs incurred after the product leaves the farm gate, such as transportation, warehousing, processing, or market charges. AFSIS Sec. provides farmgate prices based on the yearly average. Accordingly, egg prices at the farm level should also be reported as a yearly average for the reference year.

2) Wholesale price

Wholesale price refers to the price at which wholesalers sell products to retailers, manufacturers, and industrial users. This price includes transportation charges from farm to wholesaler, incidental expenses at the wholesale level, and the wholesaler's profit margin. However, transportation costs incurred after the product leaves the wholesale are excluded. In the AFSIS database, this figure will also be provided as the average price of the reference year.

Regarding the unit, the farmgate price and wholesale price are expressed in **USD per ton**. Please note that prices are listed in US dollars for international comparison. While each member country may have its own official exchange rate, for reference purposes, price data published in FAOSTAT is also expressed in USD. If a country requires an international exchange rate, FAO recommends using the official exchange rate provided by the International Monetary Fund (IMF).

5. Food balance sheet (FBS)

Before defining the individual components of the food balance sheet, we first revisit the overall concept based on the Guidelines for the Compilation of Food Balance Sheets published by the FAO. According to this document, the fundamental principle is that, for any given country and year, the total supply of a specific food product must equal its total utilization. This principle is commonly represented by two basic equations: either (1) total domestic supply equals total domestic utilization, or (2) total supply equals total utilization.

(1) Domestic supply = domestic utilization:

$$\begin{aligned} &\text{Beginning Stocks} + \text{Production} + \text{Imports} - \text{Exports} \\ &= \text{Food} + \text{Feed} + \text{Seed} + \text{Tourist Food} + \text{Industrial Use} \\ &+ \text{Loss} + \text{Residual Use} + \text{Ending Stocks} \end{aligned}$$

(2) Total supply = total utilization:

$$\begin{aligned} &\text{Beginning Stocks} + \text{Production} + \text{Imports} \\ &= \text{Exports} + \text{Food} + \text{Feed} + \text{Seed} + \text{Tourist Food} + \text{Industrial Use} \\ &+ \text{Loss} + \text{Residual Use} + \text{Ending Stocks} \end{aligned}$$

The guideline presents two equations that differ only in the treatment of exports. In Equation (1), supply is defined based on net trade (i.e., imports minus exports). In Equation (2), imports are recorded as a supply component, while exports are classified underutilization. AFSIS Sec. has adopted Equation (2) in the compilation of its food balance sheets, incorporating selected data items on the demand side.

6. Egg Inventory

Stocks are defined as the aggregate total of products allocated to storage for use at some future point in time. In the food balance sheet, two types of stock are recorded: beginning stock and ending stock. Stocks may be held by various actors, including governments, manufacturers, importers, exporters, and wholesalers. However, stocks held at the retail and household levels are excluded.

AFSIS Sec. uses the calendar year as its reference period, with beginning stocks recorded as of **January 1** and ending stocks as of **December 31**.

7. Production

Production data includes the total quantity of eggs in shell produced, encompassing outputs from both commercial farms and non-commercial sources such as home gardens or smallholder farmers. The data required for this item corresponds to the gross production volumes outlined in Chapter 5-2.

8. Imports and exports

1) Imports

Imports are transboundary flows of goods destined for a final destination country that add to the total supply of goods available in that country.

2) Exports

Exports are transboundary flows of goods from a given country of origin that take away from the total availability of goods in that country.

3) Re-export

Re-export refers to goods that enter and exit a given country without having undergone any type of transformation. In the FBS context, re-exports should be added to exports to fully account for all outgoing trade flows. This is particularly important for those countries that act as transportation hubs (countries that import goods from one destination and then pack them onto a different vessel to ship elsewhere).

9. Food Consumption

Food consumption is defined as the quantity of any substance, whether raw, processed, or semi-processed products that is available for human consumption at the retail level. Any waste or loss occurring at retail or household level is included in this category. Apart from households, the retail and consumer levels also include food services and institutions such as restaurants, hospitals, schools, military bases, and prisons

It should be noted that quantities devoted to the manufacture of inedible products (such as medicine) should be accounted for under industrial use.

The FAO Guidebook also notes that in some countries, particularly small island developing states, accounting for food consumed by tourists is essential for accurately estimating local consumption patterns. However, the current AFSIS database does not include food consumption by tourists.

10. Feed

Feed is defined as all **quantities that are available for feeding** to livestock and poultry.

11. Industrial Usage

Industrial usage is defined as any quantity of a given product used in a non-food transformation or manufacturing process. In the case of hen eggs, a possible utilization is the **production of medicines and paints**.

12. Seed

In general, seed is defined as any quantity of a commodity set aside for reproductive purposes in the following year. In the case of hen eggs, **seed means eggs for hatching**.

13. Loss

Loss refers to quantities of a product that leave the supply chain and are not diverted to other uses. Loss can occur at any node of the supply chain after the harvest and up to the retail/consumption stage (particularly during storage and transportation). However, the category does not include any quantities of food wasted or lost at the consumer or retail level (referring to the food consumption section).

In addition, any volume of product lost in the transformation of primary products into processed products is excluded from loss (typically, the amount of this type of loss is relatively small).

The figures in FBS provided by AFSIS Sec. encompass both edible and inedible parts.

14. Other Uses

In most cases, this figure can be defined as the combined imbalance and accumulated error in the supply equals utilization equation. This category serves as a balancing item and is not independently estimated. If all utilizations within the FBS are accounted for and there is no measurement error, then the item of others would be calculated as zero.

15. Cost

Producing agricultural and livestock products incurs costs such as materials, buildings, machinery, and labor. AFSIS Sec. provides a breakdown of all costs into fixed and variable costs, with a similar breakdown applied to eggs.

$\text{Total production cost} = \text{total fixed cost} + \text{total variable cost}$

1) Fixed cost

There are costs that are generally independent of the quantities produced, such as buildings equipment, generators, and machinery.

2) Variable cost

Variable costs change in proportion to the quantity produced. These may include expenses for day-old chicks, feed, water, electricity, hired labor, marketing, vaccinations, and drugs.

Both fixed cost and variable cost are expressed in **USD per ton**.



6

ENSURING DATA COMPARABILITY IN AFSIS DATABASE

6 ENSURING DATA COMPARABILITY IN AFSIS DATABASE

The commodity data provided by AFSIS Sec. will be based on survey results submitted by member countries. As definitions and measurement units may differ among countries, ensuring data comparability is crucial for effective use by data users. To support this effort, the AFSIS Sec. has requested member countries to submit the definitions and units applied in their respective surveys. The details are as follows:

6.1 Overview of existing data by item

New data on laying hens provided by AFSIS Sec. will follow the structure used for the existing five commodities. While it would be ideal to cover all data items, some are not available in every country. Therefore, the database will include only the items that each country can provide. Before addressing data comparability, it is important to first assess the availability of data.

The following graphs, developed with input from member countries, illustrate data availability by item. The horizontal axis represents percentages, calculated by dividing the number of countries that can provide data (numerator) by the total number of ASEAN member states (10 denominator).

For example: if 7 countries provide data for a certain crop, the percentage shown would be:

$$\frac{7}{10} \times 100 = 70\%$$

In terms of production-related items for laying hens, 90% of countries can provide data on production volume. However, only about half of member countries can provide data on stock and yield. Overall, data availability for laying hens is slightly lower than for the five existing crop commodities.

Regarding prices and costs, price data is available from most countries, while production cost data is available from only 20%. Although the availability of cost data is limited, more countries have official price data for laying hen eggs. In contrast, the Food Balance Sheet (FBS) for the five commodities has nearly complete coverage across ASEAN, whereas the FBS for laying hens is available in only a few countries.

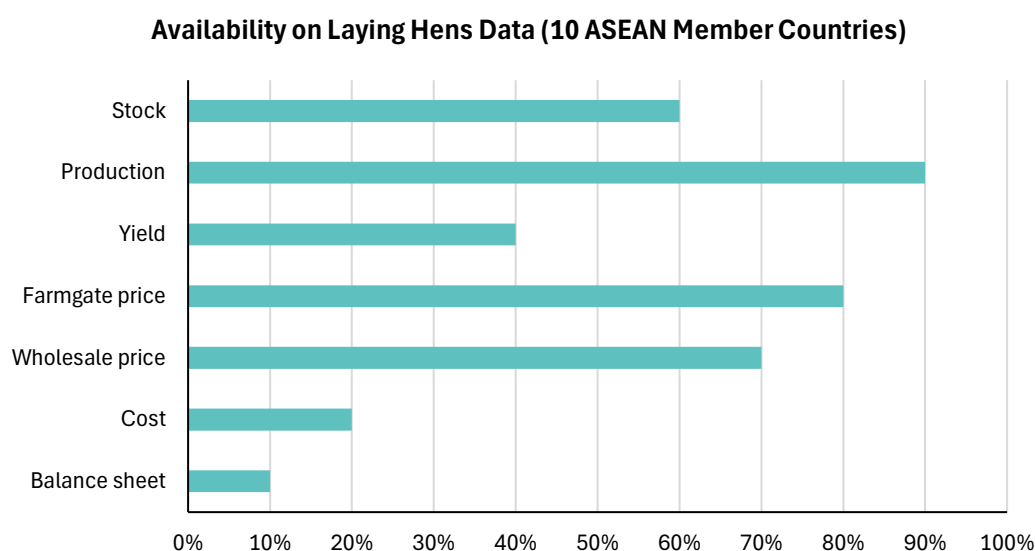


Figure 3: Availability on Laying Hens Data across ASEAN Member Countries

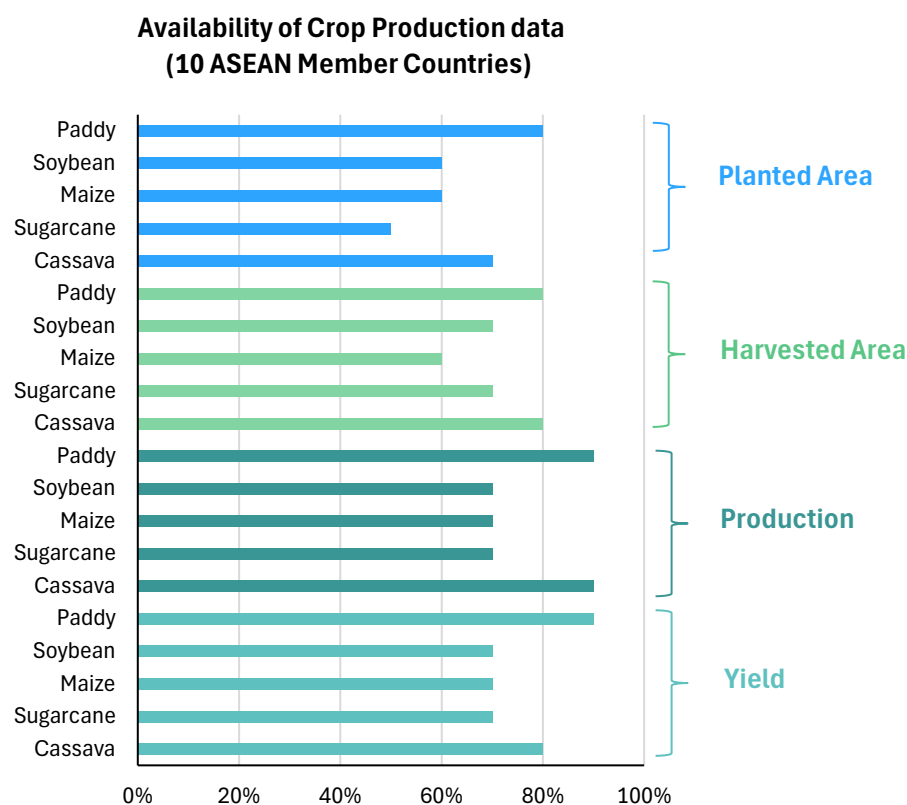


Figure 4: Availability of Crop Production Data for the Current Five Commodities

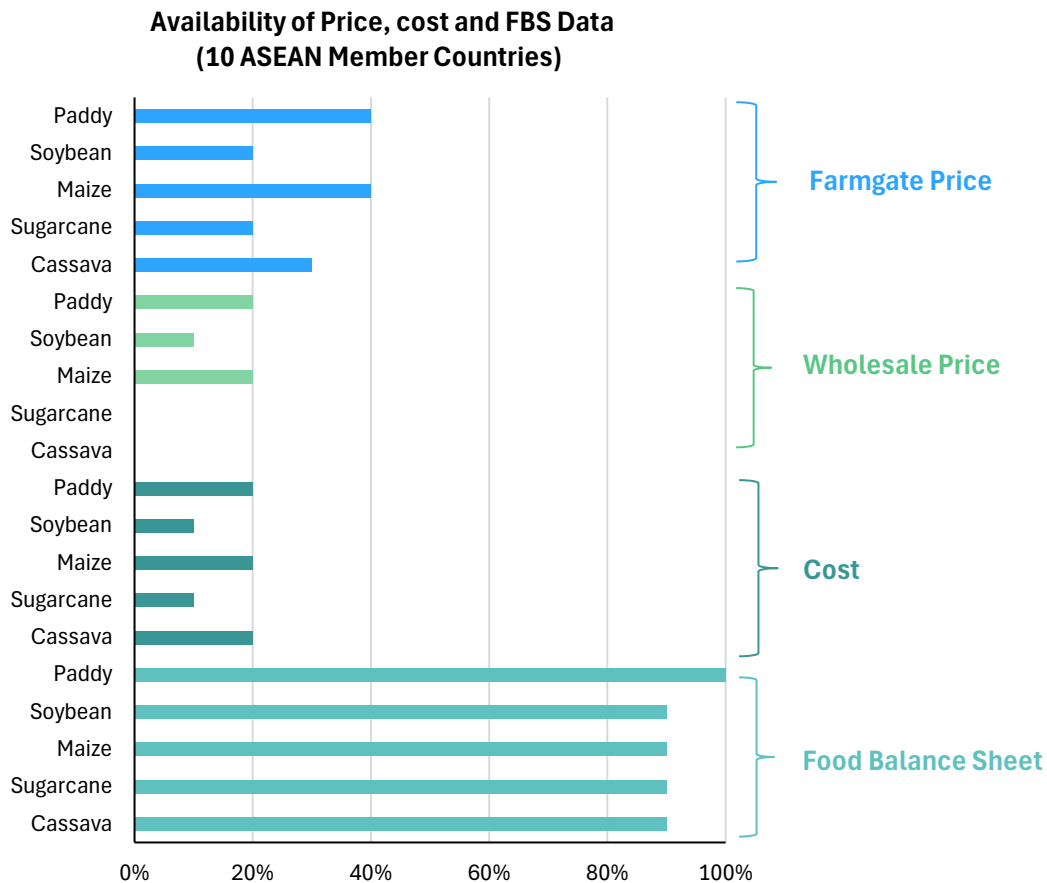


Figure 5: Availability of Price, Cost and FBS for the Current Five Commodities

6.2 Comparison and Harmonization of Item-Specific Definitions and Units for Publication

1. Laying Hen Stock

Stock data refers to the total number of laying hens at a specific point in time; however, countries differ in how they define which laying hens are included in the survey.

Differences and Possibility of Unification

1) Definition of the Number of Laying Hens

In countries with available stock data, nearly 70% of the data is based on counting all hens that have reached laying age, typically around 150 days. The remaining 30% of data is based on counting only those hens that actually laid eggs during the survey year.

Due to the difficulty in unifying these two counting methods, when AFSIS Sec. provides both types of data, precautions must be taken to prevent misleading interpretations by users.

2) Definition on Reference Date

Laying hen numbers show seasonal variations, and having a reference date allows for year-to-year comparison. Approximately 70% of countries have established a reference date for counting the number of birds, while 30% use an average reference year.

There are two main approaches for defining the reference date. Rather than standardizing this definition, **AFSIS Sec. will include the reference date information as the explanatory note above in the statistic table for user reference.**

3) Unit of Measure

According to the information from member countries, all data is expressed in head (individual birds). **AFSIS Sec. doesn't have to take any special measures for data comparison.**

2. Egg production

The definition of egg production is the total amount of eggs produced in a reference year, but it varies depending on how they are used (e.g. commercial use for consumption, including hatching use)

Differences and Possibility of Unification

1) Definition

In egg production, the definitions of gross production, net production, and commercial production are commonly used globally, as outlined by the FAO. From the survey results received from member countries, about 90% of official data adhere to one of these definitions. The remaining 10% of data follows their own definitions. The distribution of the definitions is as follows:

- 33% of official data uses the definition of "gross production."
- 22% adheres to the "net production."
- 33% adheres to the "commercial production."
- 12% have "their own definition."

For data comparison, if all production volumes were standardized to commercial production, it would enable direct comparison. However, some data holders for “gross production” and “net production” do not have information on the percentage of commercial production in relation to total production volume. To address this, **AFSIS Sec. will provide footnotes in every statistical table to clarify the definitions used, for users' reference.**

2) Unit of Measure

Among member countries, there are two types of units: **1) by the number of eggs (33%) and 2) by weight (67%).** Combining these figures together could lead to confusion for users. As AFSIS, we aim to provide as much data as possible while ensuring that all data is not misleading. To improve user convenience, we propose providing available conversion rates.

If each country have their own conversion rates, the AFSIS Sec. will include these information in the explanatory note. In cases where such rates are not available, the AFSIS Sec. will refer to the conversion factors compiled by FAO¹ and include in the explanatory note for user reference.

3. Yield

1) Definition

Yield refers to the number or weight of eggs produced by a chicken in a year.

2) Unit of Measure

In terms of units, all data are expressed as the **number of eggs per head**, with no unit conversion necessary for comparison. However, if a country provides yield data in the future using weight per head, AFSIS Sec. will include an explanatory note to clarify the difference in units among countries.

4. Farmgate price

1) Definition

AFSIS Sec. provided farmgate prices for five crops, defined as the prices of products at the point they leave the farm. For hen eggs, **the farmgate price refers to the price of eggs at the point they leave the farm.** It excludes any costs incurred after leaving the farm, such as transportation to markets, warehousing, processing, or other selling-related costs. All data holders use this consistent definition.

2) Unit of Measures and Currency

Approximately 90% of the data is expressed in price per egg, while the remaining data is provided in price per kilogram. In terms of currency, 25% of the data is reported in USD and 75% in local currency. For comparison purposes, **AFSIS Sec. requests data holders to convert local currency values to USD.**

However, converting between different units (per egg vs. per kilogram) poses challenges. To enhance data usability, **AFSIS Sec. will add explanatory note above database table indicating the presence of both unit types, along with applicable conversion rates** consistent with those provided for production data.

5. Wholesale Price

1) Definition

Similar to the farmgate price, AFSIS Sec. applies a specific definition for the wholesale price, as follows:

- The wholesale price refers to the price at which a wholesaler resells eggs to retailers, manufacturers, and industrial users. This price includes all costs incurred after leaving the farm, such as transportation fees, incidental expenses, and the wholesaler's profit margin.
- All data holders use the same definition.

¹ FAO, Technical Conversion Factors for Agricultural Commodities, https://files-faostat.fao.org/production/QCL/Hen_Eggs_technical_conversion_factor.pdf

2) Unit

As with farmgate prices, two types of units and currencies are used in reporting wholesale prices, with the following proportions:

- **Unit:** 86% of the data is expressed as price per egg, and 14% as price per kilogram.
- **Currency:** 29% is reported in USD, and 71% in local currency.

In order to make the comparison possible, AFSIS Sec. would like to request the following:

- **Unit:** As with farmgate prices, **AFSIS Sec. will include explanatory in the database** clarifying the presence of two different units and will provide conversion rates consistent with those used for production.
- **Currency:** **AFSIS Sec. will request data holders to convert prices from local currency to USD.** If the official exchange rate of the respective country is available, it should be used. In the absence of an official rate, the exchange rate published by the World Bank may be used, available at the following link: <https://data.worldbank.org/indicator/PA.NUS.FCRF>

6. Production Cost

1) Definition

In terms of definitions, AFSIS Sec. provides a general breakdown of production costs into fixed and variable costs. In this context, these definitions are considered to be largely consistent across countries. As AFSIS Sec. plans to publish egg production cost data at a comparable level of detail, no additional measures for data comparison are deemed necessary.

2) Unit

- There are only 20% of countries that are able to provide cost data, which is calculated based on the cost to produce one egg. The unit used is **cost per egg**. To facilitate easier comparison across countries.

3) Currency

- **AFSIS Sec. will request data holders to convert prices from local currency to USD.** If the official exchange rate of the respective country is available, it should be used. In the absence of an official rate, the exchange rate published by the World Bank may be used, available at the following link: <https://data.worldbank.org/indicator/PA.NUS.FCRF>

7. Balance Sheet

In terms of food balance sheets, the data items and units are generally consistent across countries. However, only a few member countries are currently able to provide food balance tables.

1) Unit

Please note that all data should be expressed **in kilograms**. If data are originally reported in number of items, they should be converted to kilograms. In the absence of an internal conversion rate, the conversion factors provided by FAO should be used. This information is available at the following link: <https://www.fao.org/fileadmin/templates/ess/documents/methodology/tcf.pdf>

8. Tables for Data Publication

AFSIS Sec. aims to include as much official data as possible from each country. However, when it is challenging to standardize definitions and units, we plan to implement measures to prevent user confusion and inconvenience. The tables in the AFSIS database will generally follow the structure of the current tables provided by AFSIS Sec.

Currently, AFSIS Sec. provides crop data using five tables: **Production**, **Farmgate Price**, **Wholesale Price**, **Balance Sheet**, and **Cost**. These tables are provided by individual countries, allowing AFSIS Sec. to include specific footnotes by country where necessary, as follows:

8.1) Production table

- **Table columns:** the columns of laying hens will be different from the current five commodities (number of stocks is used for comparison instead of area).
- **Explanatory Notes:** Provided above data table
- **Additional information:** Includes technical conversion factors

The production table for laying hens will include columns for the number of laying hens, production, and yield, with corresponding units: million head, million eggs or metric tons, and egg/head, respectively.

Select Country

Statistic Table

Select Product

Select Type

Start

Until

Brunei

Production

Laying Hens

Products

1983

2025

SEARCH

Export To excel

PRINT

Production table of Laying Hens - Number of Laying hens, Production, and Yield - Brunei

Note:

1) Definitions may vary by country. Use caution when comparing data across countries.

2) The number of laying hen will be described as of the reference DD/MM or average in a certain period depends on that country

3) Each country definition of production will be described under the table

4) Tables for other countries may use different units, country-specific conversion factors are provided via (link)

Year	Number of Laying hens ^{1,2} (Million Head)	Production ³ (Million eggs or Metric tons)	Yield (Egg/Head)
1983			
1984			
1985			
1986			
1987			
1988			
1989			
1990			
1991			
1992			
1993			

Figure 6: Example of Production Table for Laying Hens on AFSIS's Website

According to figure 6, since the definition of laying hens varies by country as mentioned in page 24 (item 1. Laying hen stock), the AFSIS Sec. will add **note 1** to explain that these definitions differ across countries and clarify the specific definitions used in compiling this table. **Note 2** will address that the stock of laying hens is not constant throughout the year. We will provide the reference date—or, in some cases, the average number of laying hens—on which the count is based, to offer context and enhance the understanding of data users.

According to item 2 Egg production (page 24), ASEAN countries use a variety of definitions to estimate egg production. As a result, when different definitions are applied, production data cannot be directly compared between countries. To avoid a confusion, **note 3** explains the range of egg production amounts provided in each table varies and specifies which definition of production is used for the figures shown in this table.

There are two types of units used for egg production. **AFSIS Sec. will not standardize these units through a conversion rate but will provide the explanation as shown below for clarity (Note 4)**, along with a guideline from FAO titled “**Technical Conversion Factor (TCF)**,” which users can reference for comparisons.

Note 4: Users are advised to be careful when comparing data, as ASEAN member countries use different units for production. For data comparison guidelines, please refer to <https://www.fao.org/fileadmin/templates/ess/documents/methodology/tcf.pdf>

8.2) Price table

- **Table columns:** The table columns will be the same as those for the current five commodities.
- **Explanatory Notes:** Provided above data table
- **Additional information:** Includes technical conversion factors

Select Country	Statistic Table	Select Product	Select Type	Start	Until
Japan	Farmgate Price	Laying Hens	Pellets	1983	2025
SEARCH					
Export To excel PRINT					
Farmgate Price - Cambodia					
Note: 1) Definitions may vary by country. Use caution when comparing data across countries. 2) The number of laying hen will be described as of the reference DD/MM or average in a certain period depends on that country 3) Each country definition of production will be described under the table 4) Tables for other countries may use different units, country-specific conversion factors are provided via (link)					
Year		Hen Eggs		Unit : US\$/ton	
1983					N/A
1984					N/A
1985					N/A
1986					N/A
1987					N/A
1988					N/A
1989					N/A
1990					N/A
1991					2,566.07
1992					2,785.86

Figure 7: Example of Farmgate Price Table for Laying Hens on AFSIS's Website

Select Country: **Japan** Statistic Table: **Wholesale Price** Select Product: **Laying Hens** Select Type: **Pullets** Start: **1983** Until: **2025**

SEARCH

Export To excel **PRINT**

Wholesale Price - Indonesia

Note:

- 1) Definitions may vary by country. Use caution when comparing data across countries.
- 2) The number of laying hen will be described as of the reference DD/MM or average in a certain period depends on that country
- 3) Each country definition of production will be described under the table
- 4) Tables for other countries may use different units, country-specific conversion factors are provided via [\(link\)](#)

		Unit : US\$/ton
Year	Hen Eggs	
1983		N/A
1984		N/A
1985		N/A
1986		N/A
1987		N/A
1988		N/A
1989		N/A
1990		N/A
1991		2.566.07

Figure 8: Example of Wholesale Price Table for Laying Hens on AFSIS's Website

In **chapters 6-4 and 5**, two types of units are used by each country: 1) price per egg and 2) price per unit weight. These tables include a note to highlight the mixing of different units, which may lead to misunderstandings in comparison. Links to the FAO TCF will be provided, similar to the production table, for users' reference.

8.3) Food Balance Sheet (FBS) and production cost

- **Table columns:** The table columns will be the same as those for the current five commodities.
- **Explanatory Notes:** No explanatory note
- **Additional information:** No additional information

For the FBS and Production Cost tables, AFSIS Sec. will include only official figures from member countries in the database.

Select Country: **Japan** Statistic Table: **Balance Sheet** Select Product: **Laying Hens** Select Type: **Pullets** Start: **1983** Until: **2025**

SEARCH

Export To excel **PRINT**

Table laying hens balance sheet of - Myanmar

														Unit : 1000 tons
Year	Supply				Demand							Exports	Ending Stock	Total
	Beginning Stock	Production	Imports	Total	Food Consumption	Feed	Industrial Usage	Seed	Others (waste, etc.)	Unspecified	Total			
1983	N/A	10,366.00	18.00	10,384.00	9,984.00	22.00	671.00	98.00	204.00	N/A	10,979.00	384.00	N/A	11,363.00
1984	N/A	11,878.00	165.00	12,043.00	9,989.00	20.00	625.00	100.00	204.00	N/A	10,938.00	0.00	N/A	10,938.00
1985	N/A	11,662.00	30.00	11,692.00	9,962.00	18.00	570.00	96.00	203.00	N/A	10,849.00	0.00	N/A	10,849.00
1986	N/A	11,647.00	41.00	11,688.00	9,859.00	18.00	628.00	90.00	201.00	N/A	10,796.00	0.00	N/A	10,796.00
1987	N/A	10,627.00	39.00	10,666.00	9,709.00	17.00	643.00	80.00	198.00	N/A	10,647.00	0.00	N/A	10,647.00
1988	N/A	9,935.00	43.00	9,978.00	9,617.00	16.00	677.00	78.00	196.00	N/A	10,584.00	0.00	N/A	10,584.00
1989	N/A	10,347.00	50.00	10,397.00	9,571.00	17.00	671.00	73.00	195.00	N/A	10,527.00	0.00	N/A	10,527.00
1990	N/A	10,499.00	50.00	10,549.00	9,554.00	13.00	650.00	72.00	195.00	N/A	10,484.00	0.00	N/A	10,484.00
1991	N/A	9,604.00	57.00	9,661.00	9,573.00	15.00	659.00	71.00	195.00	N/A	10,513.00	0.00	N/A	10,513.00
1992	N/A	10,573.00	92.00	10,665.00	9,581.00	11.00	643.00	71.00	196.00	N/A	10,502.00	0.00	N/A	10,502.00
1993	N/A	7,834.00	1,049.00	8,883.00	9,535.00	10.00	665.00	71.00	195.00	N/A	10,476.00	0.00	N/A	10,476.00
1994	N/A	11,981.00	1,835.00	13,816.00	9,149.00	12.00	602.00	72.00	187.00	N/A	10,022.00	0.00	N/A	10,022.00
1995	N/A	10,748.00	495.00	11,243.00	9,398.00	10.00	619.00	71.00	192.00	N/A	10,290.00	581.00	N/A	10,871.00
1996	N/A	10,344.00	634.00	10,978.00	9,345.00	9.00	578.00	66.00	191.00	N/A	10,189.00	6.00	N/A	10,195.00

Figure 9: Example of Food Balance Sheet Table for Laying Hens on AFSIS's Website

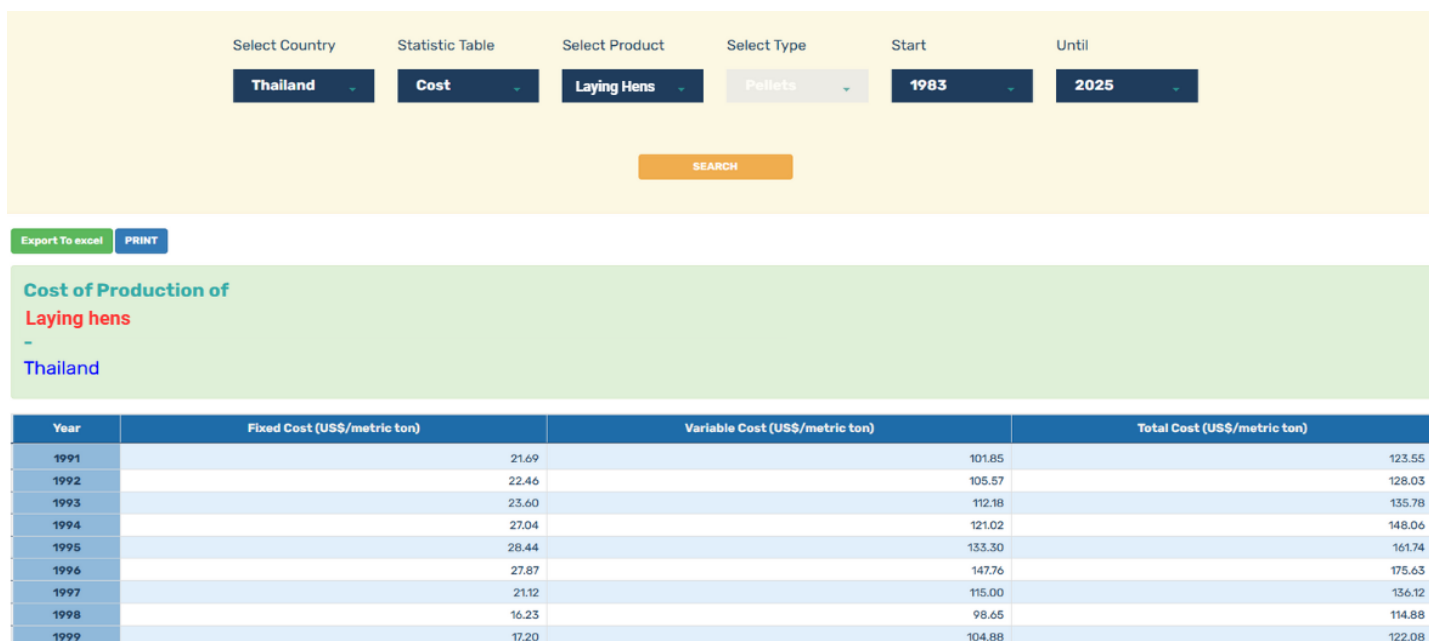


Figure 10: Example of Cost of Production Table for Laying Hens on AFSIS's Website



7

AGRICULTURAL COMMODITY OUTLOOK (ACO) REPORT

7 AGRICULTURAL COMMODITY OUTLOOK (ACO) REPORT

7.1 Comparison of the characteristics of the production cycle between laying hens and rice

1) In the case of rice, the ideal harvest time generally falls:

- **Late-maturing varieties:** 130 to 136 days after sowing
- **Medium-maturing varieties:** 113 to 125 days after sowing²
- **Early-maturing varieties:** around 110 days after sowing

In Thailand, there are two main rice cultivation seasons with corresponding harvesting periods:

- **Wet-season rice:** August to the following May (mainly September to December)
- **Dry-season rice:** February to October (mainly March to May)

2) In the case of laying hens:

Hens, depending on the breed, typically begin producing eggs at 18–22 weeks of age. Most commercial layers are kept for 2–3 years, as their egg production declines after this period. It takes approximately 26 hours for an egg to fully form, including the formation of the egg white and shell.³

Regarding annual variations in egg production, the total output can change significantly when a commercial farm expands or reduces its farm size. However, most commercial farms adopt an All-in-All-out system.⁴ Under this system, if there are no major changes in farm size or serious incidents, total egg production tends to remain fairly stable throughout the year.

In Japan, to maintain consistent annual production, commercial farms manage their chicken coops on a rotation basis.

7.2 How to obtain production data for the current ACO report in the case of rice

The ACO report is published twice a year, in June and December, to provide an overview of the supply and demand situation for major agricultural commodities. Each edition presents an analysis of the current year and projections for the following year, serving as a key reference for policymakers and stakeholders in the region.

One of the most critical steps in preparing the ACO is estimating production volumes, as accurate production data directly influences the reliability of supply and demand forecasts. This guideline provides an example of how production volume is estimated in Thailand, which can serve as a reference for preparing the current ACO report, particularly for rice.

² IRRI Knowledge Bank. *Harvesting Rice*. International Rice Research Institute (IRRI). <https://www.knowledgebank.irri.org/step-by-step-production/growth/harvest>.

³ University of Wisconsin Extension. *Life Cycle of a Laying Hen*. <https://livestock.extension.wisc.edu/articles/life-cycle-of-a-laying-hen/>

⁴ Please refer to the term “All-in-All-out” in the *Glossary of Commonly Used Poultry Layer Terms*. <https://www.thepoultrysite.com/articles/glossary-of-commonly-used-poultry-layer-terms>.

1) June Edition

Current Crop Year Production

- **Wet Season Rice**

The main harvesting period ends in November of the previous year, and all harvesting activities are completed by May. By the time the June edition is prepared, almost all rice has been harvested, with wet season rice accounting for approximately 75% of total production. Therefore, both actual production data and highly accurate production estimates based on planted area can be used.

- **Dry Season Rice**

The main harvesting period ends in May, with harvesting continuing until October. By June, some actual production data is already available and can be used to calculate total production. The remaining production can be estimated using data on planted area, yield, and damaged area. Dry season rice typically accounts for around 25% of total production.

Next Crop Year Production

The main planting periods are August for wet season rice and January of the following year for dry season rice. At this stage, it is not possible to estimate production volume based on total planted area, as planting is still in progress. Therefore, alternative methods are required, such as:

- Forecasting models; or
- Government-provided target planted area.

These sources can be used to estimate the total rice production for the upcoming crop year.

2) December Edition

Current Crop Year Production

- **Wet Season Rice**

The harvesting period ends in May, so the total production volume is already determined by that time.

- **Dry Season Rice**

All harvesting activities are completed by October. By the time the December edition is prepared, the total cultivated volume of dry season rice is almost fully known. Both actual production data and, where necessary, highly accurate production estimates based on planted area data can be used.

Next Crop Year Production

- **Wet Season Rice**

The harvesting period continues until May of the following year, with the main harvesting months being October and November. By December, some production and yield data are already available and can be used to estimate total production. If estimation is conducted using the formula (yield × planted area), the total planted area in the main planting season can be used. However, this method tends to result in underestimation.

- **Dry Season Rice**

The main planting season begins in November and continues until February of the following year. At this stage, no reliable field data is available for estimation. Therefore, alternative methods are required, such as:

- Forecasting models; or
- Government-provided target planted area.

These methods can help estimate the total amount of rice production for the next crop year.

7.3 How to Obtain Egg Production Data for the ACO report?

In many cases, total egg production data is compiled on a calendar-year basis, and official figures are only available in the following year. Therefore, it is necessary to estimate total production using alternative data sources.

Common methods include:

- **Number of laying hens and egg yield** – Estimating production by multiplying the number of laying hens by their average egg production rate. In many countries, the number of laying hens is officially recorded in **December**.
- **Government targets** – Using government-provided targets for egg production as a reference.

These alternative methods allow for a reasonable estimation of egg production when official statistics are not yet available.

1) June Edition

Current Year Production

When preparing the June report, official total production data for the current year is not yet available. Therefore, estimation is required, which can be done as follows:

- Use the number of laying hens recorded in December of the previous year and multiply by the average egg yield to estimate production.
- If the government provides a target for egg production, this figure can be used as the total production estimate.

Next Year Production

- Official data on the number of laying hens is not yet updated at this stage.
- If the official egg yield data is also not updated, the estimated total production can be assumed to be the same as the current year.
- However, if there is a government policy or target for egg production, that figure can be used as the production estimate.

2) December Edition

The availability of official data is not significantly different from the situation in the June edition. However, some countries are able to update the number of laying hens and egg yield.

3) Comparison with the Rice Situation

For rice production, there are many official data sources available to estimate total production, mainly for the current crop year. In addition, some official field data can be used to estimate production for the coming year. However, the situation is different for egg production due to the lack of official data for estimation. In many countries, only estimated data are available for the current year in both the June and December editions. Some countries, however, can use quarterly production data.

Another difference between rice and egg production is the reference period. Rice production is based on the crop year (including part of the previous year's production), whereas egg production is based on the calendar year. Even in the December edition, official data on total egg production are not available.

Given this situation, **the ACO report for egg production should be issued once a year**. Its content should explain the **situation of the previous year and provide an estimation of the current year's situation** based on available data and information.

7.4 How to enter data and information into the new country reporting format for hen egg

Table 1. Hen egg production

These cells will be populated with official data.

Please note that the unit of each item will be specified by each country.

	(1)	(2)	(3)
	Number of Laying Hen (Head)	Production (ton)	Yield (kg/head)
2023 (Two years before)			
2024 (Previous year)			
2025 (Current year)			

Note: (3) = (2) x 1,000 / (1) or (2) = (1) x (3) / 1,000

If you have official data for the current year, please enter it here. If not, please enter production target in your government or an estimate that takes into account recently trend. In case there was disaster to reduce number of laying hen, please affect figure in this cell.

Reference: In case of Japan, if a large number of egg-laying hens die, it is said that it takes six months to a year to restore egg production to its same level.

Table 2. Events affecting production in 2024

2.1 Please check (✓) all applicable boxes to indicate the reasons for **the change in the number of laying hens** in **2024 compared to 2023**.

Increase due to		Decrease due to	
☐	Farmers respond to price increase	☐	Farmers respond to price decrease
☐	Decrease mortality rate (specify).....	☐	Increase mortality rate (specify).....
☐	Favorable price of input (specify)..... <i>Such as feed, electricity cost, labor cost etc.</i>	☐	Increase price of input (specify)..... <i>Such as feed, electricity cost, labor cost etc.</i>
☐	Government Policy	☐	Government Policy
☐	Others (specify).....	☐	Others (specify).....

This table will help us understand the reasons for changes in the number of laying hens last year compared to two years ago.

For example, farmers increased their number of laying hens in anticipation of rising egg prices. However, an outbreak of avian influenza caused many hens to die, resulting in only a slight overall decline.

2.2 Please check (✓) all applicable boxes to indicate the reason(s) for **the change in yield in 2024 compared to 2023**

Increase due to		Decrease due to	
☐	Favorable breeding environment (specify) <i>Such as water/feed quality, housing facility, stock density etc.</i>	☐	Unfavorable breeding environment (specify)..... <i>Such as water/feed quality, housing facility, stock density etc.</i>
☐	Increasing average weight and size	☐	Decreasing average weight and size
☐	Introducing or improving vaccinations	☐	Increasing abnormal eggs
☐	Changing high quality laying hen breeds	☐	Diseases(specify).....
☐	Others (specify).....	☐	Others (specify).....

This table will help us understand the factors behind changes in hen egg yield last year compared to two years ago (Please mark all that apply).

2.3 Please check (✓) all applicable boxes to **the information of disaster affected egg production for 2024**

Please make sure to mark one of the two boxes indicating whether there was any damage that affected egg production in the previous year.

☐	No damage	☐	Damaged	
Causes of Damage		Affected number of laying hen (head)	Location (region/province)	Remarks
☐	Thunderstorms, Tornados, Storms, Typhoons			
☐	Floods			
☐	Droughts			
☐	Landslides and Mudslides			
☐	Seasonal Diseases			
☐	Earthquake			
☐	Wildfire			
☐	Others (specify)			
Total				

If there was damage to laying hens, please indicate the type of damage, its location, and the number of affected hens in this table (Please mark all that apply).

Note: Please note that this includes damage caused **not only by natural disasters but also by man-made disasters**. In such cases, please specify the "Others" field.

Examples of man-made disasters include power outages, transportation accidents, overuse of antibiotics or improper feed practices, and construction projects near farms, and etc.

Table 3: Events Affecting Production in Current Year (2025)

3.1 Please check (✓) all applicable boxes to indicate the reasons for the change in **the number of laying hens** in **2025 compared to 2024**.

Increase due to		Decrease due to	
☐	Farmers respond to price increase	☐	Farmers respond to price decrease
☐	Decrease mortality rate (specify).....	☐	Increase mortality rate (specify).....
☐	Favorable price of input (specify)..... <i>Such as feed, electricity cost, labor cost etc.</i>	☐	Increase price of input (specify)..... <i>Such as feed, electricity cost, labor cost etc.</i>
☐	Government Policy	☐	Government Policy
☐	Others (specify).....	☐	Others (specify).....

This table is used to collect ideas about the likely increase or decrease in the number of laying hens in this year compared to last year, along with the reasons for these changes (Please mark all that apply).

3.2 Please check (✓) all applicable boxes to indicate the reason(s) for **the change in yield in 2025 compared to 2024**

Increase due to		Decrease due to	
☐	Favorable breeding environment (specify) <i>Such as water/feed quality, housing facility, stock density etc.</i>	☐	Unfavorable breeding environment (specify)..... <i>Such as water/feed quality, housing facility, stock density etc.</i>
☐	Increasing average weight and size	☐	Decreasing average weight and size
☐	Introducing or improving vaccinations	☐	Increasing abnormal eggs
☐	Changing high quality laying hen breeds	☐	Diseases(specify).....
☐	Others (specify).....	☐	Others (specify).....

table is used to gather information on the expected increase or decrease in yield this year compared to last year, along with the reasons for these changes. (Please mark all that apply.)

3.3 Please check (✓) all applicable boxes to the information of disaster affected egg production for 2025

Please make sure to mark one of the two boxes indicating whether there was any damage that affected egg production in the previous year.

☐	No damage	☐	Damaged	
Causes of Damage		Affected number of laying hen (head)	Location (region/province)	Remarks
☐	Thunderstorms, Tornados, Storms, Typhoons			
☐	Floods			
☐	Droughts			
☐	Landslides and Mudslides			
☐	Seasonal Diseases			
☐	Earthquake			
☐	Wildfire			
☐	Others (specify) _____			
Total				

If there was damage to laying hens, please indicate the type of damage, its location, and the number of affected hens in this table (Please mark all that apply).

Note: Please note that this includes damage caused **not only by natural disasters but also by man-made disasters**. In such cases, please use the "Others" field.

Table 4: Balance Sheet for Three Years (2023 – 2025)

For this table, please enter the official data for 2023 and 2024. For 2025, kindly provide the estimated data available from your organization

Unit: Ton

Year	Supply		Demand							Stock change
	Production	Import	Domestic Utilization						Export	
			Food Consumption	Feed	Industrial Usage	Hatching	Other (waste,etc.)	Sub-total		
2023	-							-		
2024	-							-		
2025	-							-		

Note: Please fill in data into yellow cell

Production data are automatically sourced from Table 1.

The sub-total is calculated using data from the Domestic Utilization Table.

Stock change is calculated based on supply and demand data.

Table 5 and 6: Quantity and Value of Eggs Export/Import by Countries of Destination

For import/export data, please enter the actual figures for the current year. If you need data on eggs in international trade, please refer to code “AHTN” (ASEAN Harmonized Tariff. Nomenclature) from <https://asean.org/annex-2-tariff-schedules/>

Country	Quantity (Ton)	Value (US\$)
Within ASEAN		
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
Subtotal	0	0
Outside ASEAN		
1.		
2.		
3.		
4.		
5.		
Others		
Subtotal	0	0
Total	0	0

For trade within ASEAN, please complete the information for all relevant countries.

Please enter the trade value in US dollars (USD).

For trade outside ASEAN, please enter the top 5 countries and provide a total for all other countries.

The following section is for member countries to identify any emerging issues that affect to the commodity, propose relevant policy measures to prevention or improvement, as well as to share any other relevant information.

Emerging Issue/Policy

Additional Information/Other Comments



8

EARLY WARNING INFORMATION (EWI) REPORT

8 EARLY WARNING INFORMATION (EWI) REPORT

8.1 How to Enter Data and Information into the New Country Reporting Format for Hen Eggs

Table 1: Weather Information for the Past Year

(fill in all that apply)

Favorable weather	Unfavorable weather
☐ Proper temperature for laying hen (specify)..... °C	☐ Improper temperature (specify)..... °C
☐ Sufficient sunlight for laying hen	☐ Insufficient sunlight (dark sky)
☐ Others (specify).....	☐ Others (specify).....

Please indicate the reason If egg production has significantly increased or decreased due to weather conditions over the past year

Note: For man-made disasters, please enter the information in the next section.

Table 2: Information on Disasters Affecting Egg Production Over the Past Year

(fill in all that apply)

Types of disaster	Area
	(City, Region or Province)
☐ Thunderstorms, Tornados, Storms, Typhoons	Specify.....
☐ Floods	Specify.....
☐ Droughts	Specify.....
☐ Landslides and Mudslides	Specify.....
☐ Seasonal Diseases	Specify.....
☐ Earthquake	Specify.....
☐ Wildfire	Specify.....
☐ Others (specify).....	Specify.....

Please select the type of disaster (including man-made disasters) that has affected egg production and specify the affected areas over the past year.

Table 3: Change in Number of Laying Hens and Egg Production in the Current Year Compared to the Previous Year

Please select all reasons for the increase or decrease in the number of laying hens.

(fill in all that apply)

Number of Laying Hens Increases due to	Number of Laying Hen Decreases Due to
☐ Farmers respond to price increase	☐ Farmers respond to price decrease
☐ Normal mortality rate (specify).....	☐ Increase mortality rate (specify).....
☐ Favorable price of input (specify)..... <i>Such as feed, electricity cost, labor cost etc.</i>	☐ Increase price of input (specify)..... <i>Such as feed, electricity cost, labor cost etc.</i>
☐ Government Policy (specify).....	☐ Government Policy (specify).....
☐ Others (specify).....	☐ Others (specify).....
Egg production Rate Increases due to	Egg production Rate Decreases due to
☐ Favorable breeding environment (specify)..... <i>Such as water/feed quality, housing facility, stock density etc.</i>	☐ Unfavorable breeding environment (specify) <i>Such as water/feed quality, housing facility, stock density etc.</i>
☐ Increasing average weight and size	☐ Decreasing average weight and size
☐ Introducing or improving vaccinations	☐ Increasing abnormal eggs
☐ Changing high quality laying hen breeds	☐ Diseases(specify).....
☐ Others (specify).....	☐ Others (specify).....

Please select all reasons for the increase or decrease in egg production.

Table 4: Monthly quantities and value on hen eggs of import and export over the past two years

Please enter year	
Please select the report edition	▼ March September

Please enter the year of EWI publication

Click the drop-down menu, then select the appropriate edition (March or September)

Table 4: Monthly quantities and value on hen eggs of import and export over the past two years (cont.)

Please enter year		2025	
Please select the report edition		March September	

(fill in all that apply)

Year/Month		Import		Export	
		Value	Quantity	Value	Quantity
		(US\$)	(Ton)	(US\$)	(Ton)
2023	January				
	February				
	March				
	April				
	May				
	June				
	July				
	August				
	September				
	October				
	November				
	December				
2024	January				
	February				
	March				
	April				
	May				
	June				
	July				
	August				
	September				
	October				
	November				
	December				
2025	January				
	February				
	March				
	April				
	May				
	June				

The data will automatically update based on the year entered

Please provide data for the past two years only.

- **March edition:** covers February to January
- **September edition:** covers July to June

A yellow guide bar will automatically appear based on the chosen report edition so you can entry data of that period

If you select the September report edition, please enter monthly data in the blue area followed the yellow guide bar

Table 5: Situation of import and export compared to a year ago

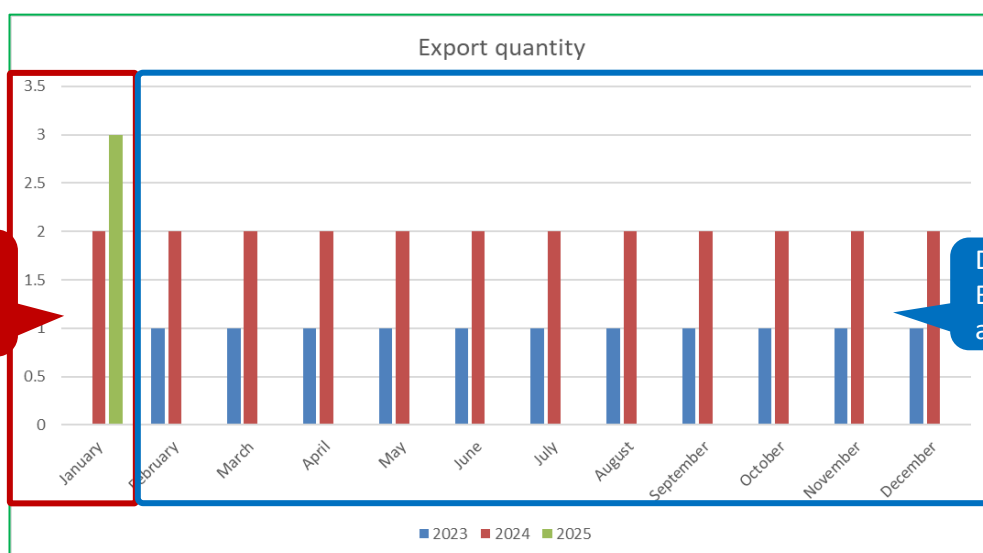
(fill in all that apply)

Import	☐ Increased due to	(specify).....
	☐ Decrease due to	(specify).....
Export	☐ Increased due to	(specify).....
	☐ Decrease due to	(specify).....

Please specify the reason for any fluctuations in import and export values

The graphs below illustrate the increase or decrease in trade volume compared to the same month of the previous year. The graphs will update automatically based on the entered data.

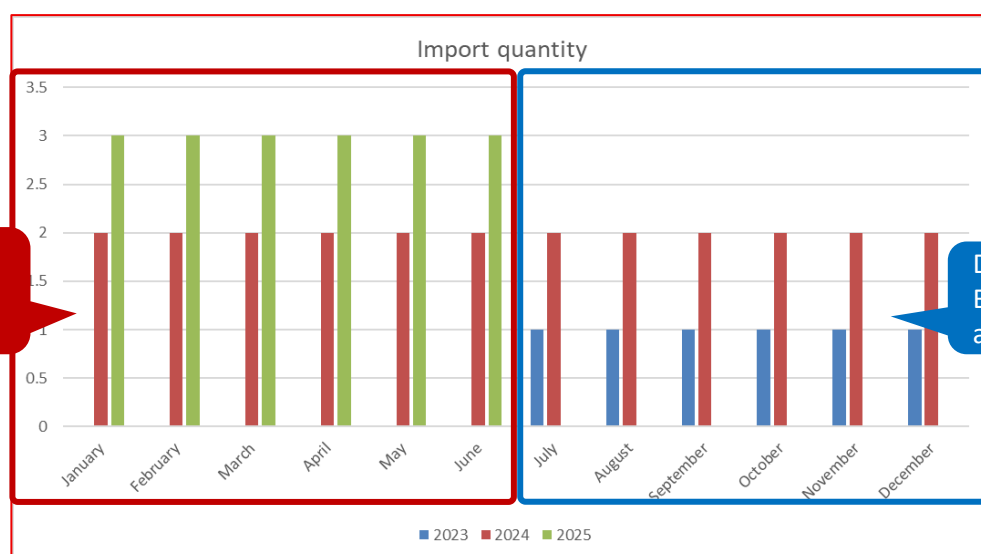
Example of March Edition:



Data Comparison Between 2024 and 2025

Data Comparison Between 2023 and 2024

Example of September Edition:



Data Comparison Between 2024 and 2025

Data Comparison Between 2023 and 2024



Project for Strengthening ASEAN Food Security
Information System Function for Emergency (SAFER project)



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