

# PHILIPPINE NATIONAL STANDARD

PNS/BAFS 412:2025  
ICS 65.060.20

---

---

## Disc Harrow — Specifications



### **BUREAU OF AGRICULTURE AND FISHERIES STANDARDS**

BPI Compound, Visayas Avenue, Vasra, Quezon City 1128 Philippines

Trunkline: **(632) 928-8741 to 64 loc. 3301-3319**

E-mail: **bafs@da.gov.ph**

Website: **www.bafs.da.gov.ph**

Disc Harrow — Specifications  
PNS/BAFS 412:2025  
ICS 65.060.20

Copyright © 2025 by Bureau of Agriculture and Fisheries Standards

All rights reserved. The mention of specific organizations or products does not mean endorsement or recommendation from the Bureau of Agriculture and Fisheries Standards (BAFS) in preference to others of a similar nature that are not included. The BAFS encourages the reproduction and dissemination of the materials upon request. Applications for permissions to reproduce or disseminate these materials and all other queries should be addressed to the publisher

Published by:

Bureau of Agriculture and Fisheries Standards BAFS Building, BPI Compound,  
Visayas Avenue, Diliman, Quezon City info.dabafs@gmail.com | bafs@da.gov.ph  
(+632) 8928 8756 to 65 local 3301 – 3325

Suggested citation: Bureau of Agriculture and Fisheries Standards (BAFS)  
Department of Agriculture (DA). (2025). Disc Harrow — Specifications (PNS/BAFS  
412:2025)

ISBN 978-621-455-609-0 (PDF downloadable)  
ISBN 978-621-455-626-7 (Softbound/Paperback)

[www.bafs.da.gov.ph](http://www.bafs.da.gov.ph)

## Foreword

The Department of Agriculture (DA)-Bureau of Agriculture and Fisheries Standards (BAFS) was mandated under Section 21 (Standards Development and Enforcement) particularly Rule 21.2 of the Implementing Rules and Regulations (IRR) for Republic Act (RA) No. 10601 (Agricultural and Fisheries Mechanization [AFMech] Law) to update existing standards under the Philippine Agricultural Engineering Standards (PAES) in collaboration with concerned agencies.

In 2022, the DA-Bureau of Agricultural and Fisheries Engineering (BAFE) endorsed a list of aged PNS/PAES/PABES with concerns to DA-BAFS to be considered for revision/amendment, which commenced after the standard was presented by the DA-BAFS during the DA-Philippine Council for Agriculture and Fisheries (PCAF)-National Sectoral Committee on Agriculture and Fishery Mechanization (CAFMech) Regular Meeting held on October 30, 2024. Accordingly, PAES 120:2001(Agricultural Machinery — Disc Harrow — Specifications) was included in the 2025 priority list for standardization to update its provisions in line with evolving industry practices and enhance clarity, consistency, and usability for stakeholders. The development of the standard was prompted through a Table Review to validate and re-evaluate the relevance and applicability of specifications against current scientific and technological developments, regulatory, and market requirements, and industry practices while ensuring alignment with related regional and international standards.

The revision was guided by the Technical Working Group (TWG) officially created under Special Order (SO) No. 745, series of 2025 (Composition of Technical Working Groups (TWG) and Project Management Team (PMT) for the Development of the PNS for Agricultural and Fishery Products and Machinery). The TWG was composed of representatives from the relevant government agencies, academe/research institutions/intergovernmental organizations, private sector organizations, and Civil Society Organizations (CSO). The draft PNS underwent a series of TWG writeshops and stakeholder consultations conducted via online platforms and a hybrid setup before its endorsement to the DA Secretary for approval.

This Standard includes the following significant changes compared to the previous version:

- a) Modification on the scope;
- b) Modification on the arrangement in terms of definition and inclusion of plow-harrow and lock nut;
- c) Replacing "tandem" with "double-action" throughout the whole document;
- d) Modification of the illustrations in the classifications and inclusion of an illustration for a tractor-mounted plow-harrow;
- e) Deletion of the section "Size";
- f) Combination with modifications of "Construction requirements" and "Other requirements" into one section --- "Manufacturing requirements" with a more simplified list of requirements;
- g) Modification of performance requirements with a specified minimum bulk density of 1.10 g/cm<sup>3</sup>;

- h) Modifications on the safety, workmanship, and finish;
- i) Inclusion of requirement for safety in accordance with PNS/BAFS 330:2022 (Technical means for ensuring safety – Guidelines);
- j) Inclusion of operator’s manual through PNS/BAFS 390:2024 (Operator’s manual for agricultural and biosystems power and machinery — Guidelines);
- k) Inclusion of after-sales service requirements in conformance with PNS/BAFS 192:2024 (After-sales service — Guidelines);
- l) Inclusion of sampling in accordance with the operator's manual in conformance with PNS/BAFS 391:2024 (Methods of sampling for agricultural and biosystems power and machinery — Guidelines);
- m) Modifications of markings and labeling; and
- n) Inclusion of Occupational safety and health standards - [Rule 1074.01–1074.03]) in Annex A.

This document cancels and replaces PAES 120:2001, which has been technically revised. This document was written in accordance with the formatting and editorial rules of the Standardization Guide (SG) No. 1 (Writing the PNS) and SG No. 5 (Writing the PNS for Agricultural and Fishery Machinery and Infrastructures) developed by the Standards Development Division (SDD) of the BAFS-DA.

## **Table of Contents**

Foreword.....	ii
Table of Contents .....	iv
1 Scope.....	1
2 Normative References .....	1
3 Terms and Definitions .....	1
4 Classifications.....	5
4.1 Gang orientation.....	5
4.2 Manner of hitching to the tractor .....	6
5 Manufacturing Requirements <sup>10</sup> .....	10
6 Performance Requirements .....	12
7 Safety, Workmanship, and Finish .....	12
8 After-sales Service Requirements .....	12
9 Maintenance and Operation.....	12
10 Sampling.....	13
11 Testing .....	13
12 Markings and Labeling .....	13
Annex A .....	14
References.....	16

## 1 Scope

This Standard specifies the requirements for disc harrows with four-wheel tractors.

## 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.

Agricultural Machinery Testing and Evaluation Center (AMTEC)-University of the Philippines Los Baños (UPLB). (2001). Agricultural machinery — Disc Harrow — Specifications (PNS/PAES 120:2001).

<https://amtec.uplb.edu.ph/wp-content/uploads/2019/07/120.pdf>

Bureau of Agriculture and Fisheries Standards (BAFS)-Department of Agriculture (DA). (2022). Technical means for ensuring safety — Guidelines (PNS/BAFS 330:2022).

BAFS-DA. (2020). Production Machinery — Four-Wheel Tractor — Specifications (PNS 301:2020)

BAFS-DA. (2024). After-sales service — Guidelines (PNS/BAFS 192:2024).

BAFS-DA. (2024). Methods of sampling for agricultural and biosystems power and machinery — Guidelines (PNS/BAFS 391:2024).

BAFS-DA. (2024). Operator's manual for agricultural and biosystems power and machinery — Guidelines (PNS/BAFS 390:2024).

BAFS-DA. (2025). Disc Harrow — Methods of test (PNS/BAFS 413:2025).

Occupational Safety and Health Center (OSHC)-Department of Labor and Employment (DOLE). (2020). Occupational safety and health standards. <https://oshc.dole.gov.ph/wp-content/uploads/2020/02/OSH-Standards-2020-Edition.pdf>

## 3 Terms and Definitions

For the purpose of this Standard, the following definitions shall apply. The preferred terms are written in bold type after the Clause number while admitted terms are listed in italicized type after the definition, which could be interchangeably used in interpreting the provisions of this Standard.

**3.1****concave disc**

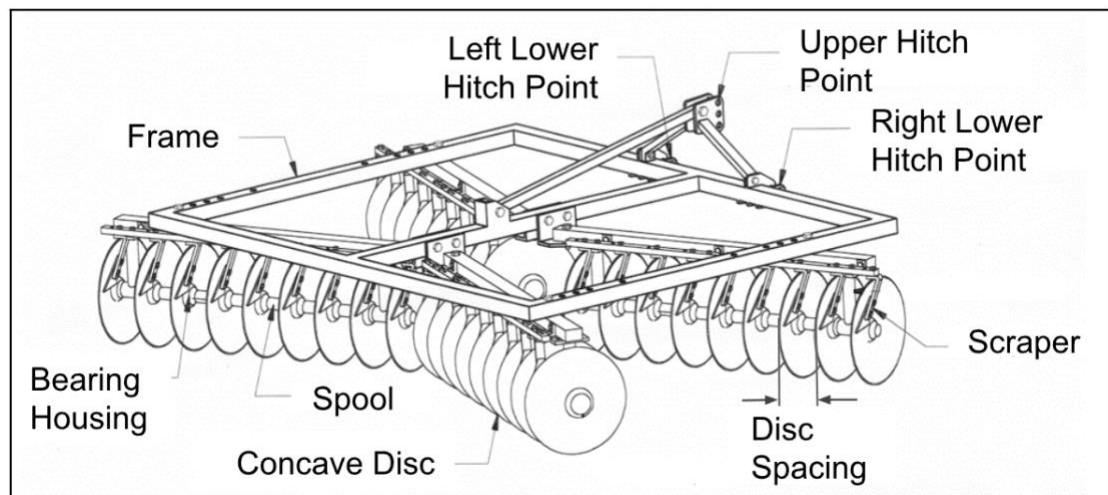
circular concave steel plate used for cutting and inverting the soil (Agricultural Machinery Testing and Evaluation Center [AMTEC]-University of the Philippines Los Baños [UPLB], 2001)

**3.2****disc harrow**

a secondary tillage implement used to pulverize the soil to attain a better soil tilth for the seed germination and growth (AMTEC-UPLB, 2000).

**NOTE 1** It consists of two or four gangs of concave steel discs.

**NOTE 2** See Figure 1.



**Figure 1.** Double-action disc harrow and its components (AMTEC-UPLB, 2001)

**3.2.1****double-action disc harrow**

consists of two or more gangs, in which a set of two gangs follows behind the front gangs and is arranged in such a way that the discs on the front gangs throw the soil in one direction (usually outward) and the discs on the rear gangs throw the soil in the opposite direction (AMTEC-UPLB, 2001)

*admitted term: tandem disc harrow*

**3.2.2****offset disc harrow**

consists of two gangs wherein one gang is located behind the other at an angle and the harrow is operated in an offset position in relation to the tractor centerline (AMTEC-UPLB, 2001)

**3.2.3****single-action disc harrow**

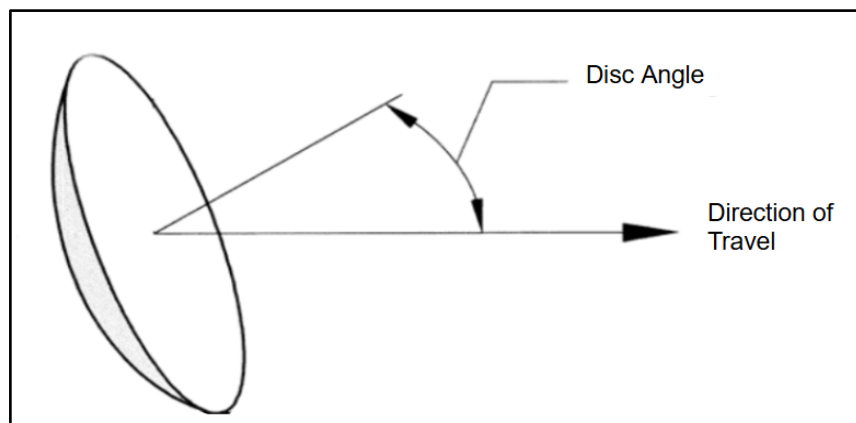
consists of two gangs of discs, placed end-to-end at an angle, which throw the soil in opposite directions (AMTEC-UPLB, 2001)

**3.3****disc angle**

angle, in the soil surface plane, between a tool axis and a line, which is perpendicular to the direction of travel (AMTEC-UPLB, 2001)

*admitted term: side angle*

**NOTE** See Figure 2.



**Figure 2.** Top view of the disc (adapted from AMTEC-UPLB, 2001)

**3.4****disc spacing**

transverse distance between two adjacent disc edges (AMTEC-UPLB, 2001)

**NOTE** This can be obtained by adding thickness of one disc and length of spool.

**3.5****frame**

structure on which the gangs are fitted (AMTEC-UPLB, 2001)

**NOTE** See Figure 1.

**3.6****gang**

set of concave discs, which is mounted on a common shaft and separated by a spool (AMTEC-UPLB, 2001)

**3.7****gang angle**

angle between the axis of gang and the line perpendicular to the direction of motion (AMTEC-UPLB, 2001)

**3.8****gang angling mechanism**

mechanism by which the gang angles are adjusted (AMTEC-UPLB, 2001)

**3.9****gang axle**

shaft on which a set of concave discs are fitted and secured using lock nut at the end (AMTEC-UPLB, 2001)

**3.10****ground clearance**

vertical distance between the ground and the lowest edge of the disc when the trailed harrow is supported on transport mode (AMTEC-UPLB, 2001)

**3.11****hitch**

portion of an implement designed to connect the implement to the power source (AMTEC-UPLB, 2001)

**NOTE** See Figure 1.

**3.12****included angle**

angle between the axes of two adjacent gangs (AMTEC-UPLB, 2001)

**3.13****lock nut**

a fastener used to secure a bearing to prevent loosening under vibrations and torque (Sabhadiya, n.d.)

**3.14****scraper**

component which scrapes the soil adhering to the concave side of the disc (AMTEC-UPLB, 2001)

**NOTE** See Figure 1.

**3.15****spool**

flanged tube mounted on gang axle and placed between two discs to prevent the lateral movement of the discs on the shaft (AMTEC-UPLB, 2001)

**NOTE** See Figure 1.

**3.16****operating width**

transverse distance between the top or bottom cutting edges of the end discs (AMTEC-UPLB, 2001)

**3.17****plow-harrow**

implement which works under the combined principles of the regular disc plow and harrow (AMTEC-UPLB, 2000)

*admitted terms: poly disc plow, poly disc harrow*

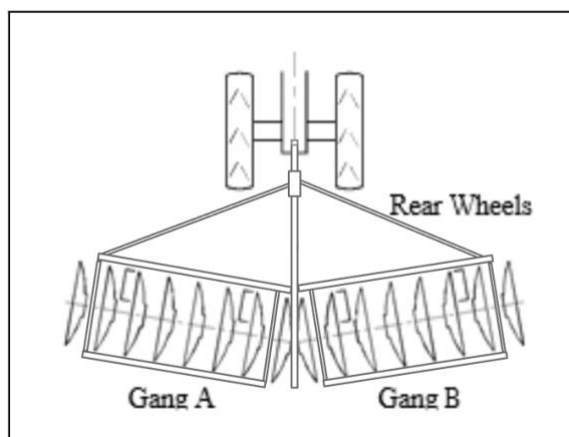
**NOTE** It has a frame, wheel arrangement and depth adjustment of the disc plow but the discs are assembled on a single shaft and turn as a unit similar to a gang of disc harrows.

**4 Classifications**

The classifications of a disc harrow shall be based on, but not limited to the following:

**4.1 Gang orientation****4.1.1 Single-action**

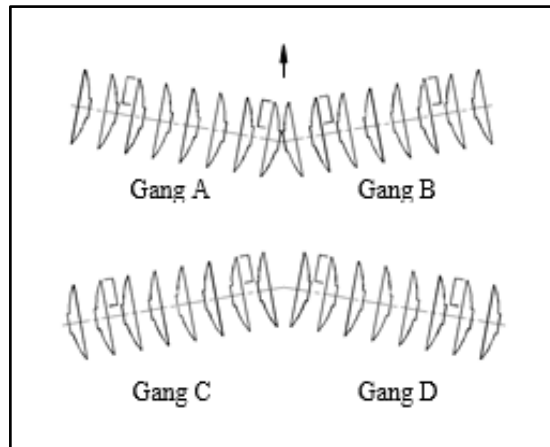
The single-action orientation is shown in Figure 3.



**Figure 3.** Top view of single-action orientation (adapted from AMTEC-UPLB, 2001)

**4.1.2 Double-action**

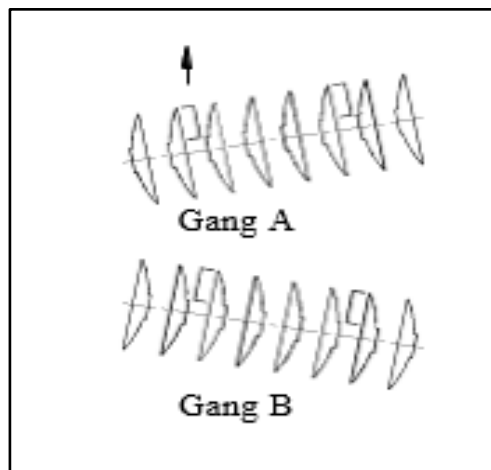
The double-action orientation is shown in Figure 4.



**Figure 4.** Top view of double-action orientation (adapted from AMTEC-UPLB, 2001)

#### 4.1.3 Offset

The offset orientation is shown in Figure 5.



**Figure 5.** Top view of offset orientation (adapted from AMTEC-UPLB, 2001)

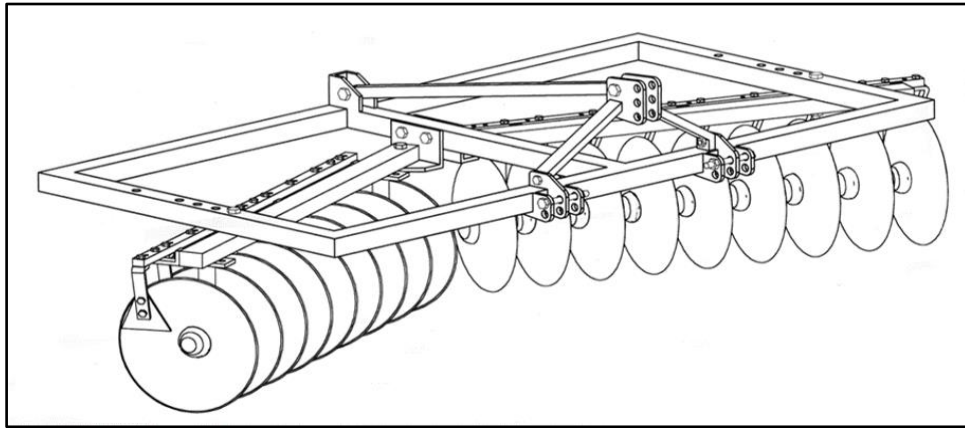
## 4.2 Manner of hitching to the tractor

### 4.2.1 Tractor-mounted disc harrows

These are designed for tractors equipped with hydraulic three-point hitch lift systems.

#### **4.2.1.1 Tractor-mounted single-action disc harrow**

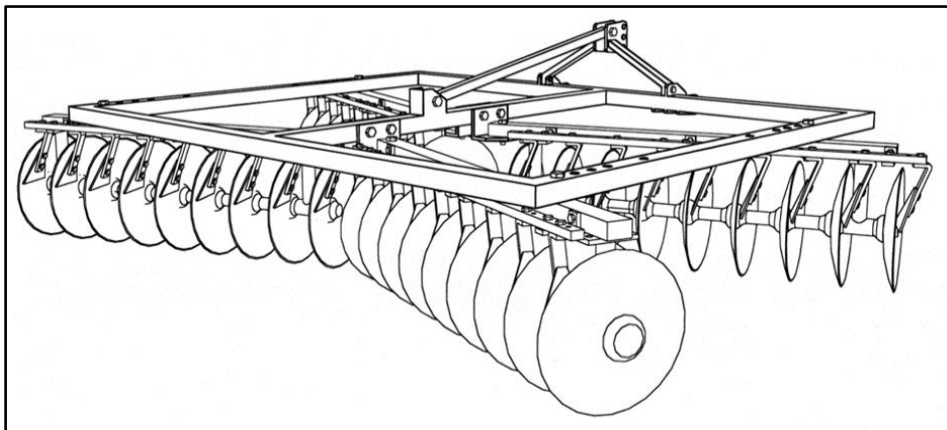
The tractor-mounted single-action disc harrow is shown in Figure 6.



**Figure 6.** Tractor-mounted single-action disc harrow (adapted from AMTEC-UPLB, 2001)

#### **4.2.1.2 Tractor-mounted double-action disc harrow**

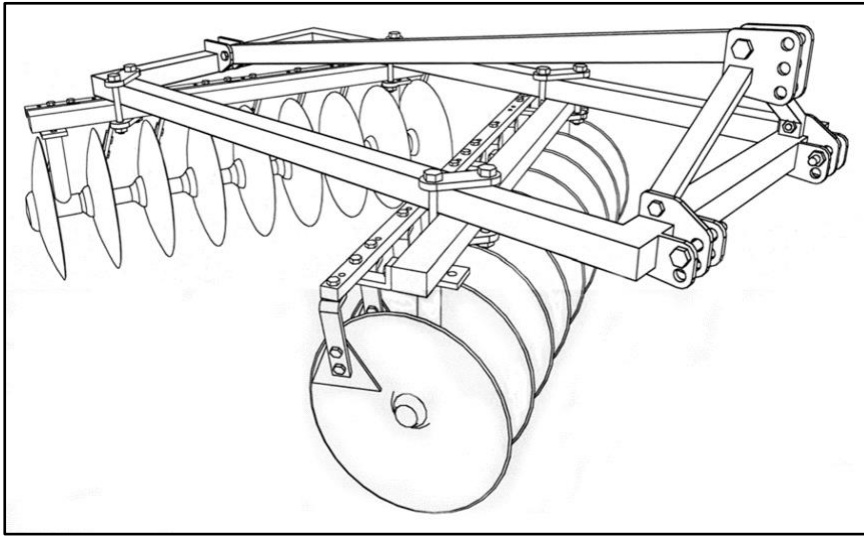
The tractor-mounted double-action disc harrow is shown in Figure 7.



**Figure 7.** Tractor-mounted double-action disc harrow (adapted from AMTEC-UPLB, 2001)

#### **4.2.1.3 Tractor-mounted offset disc harrow**

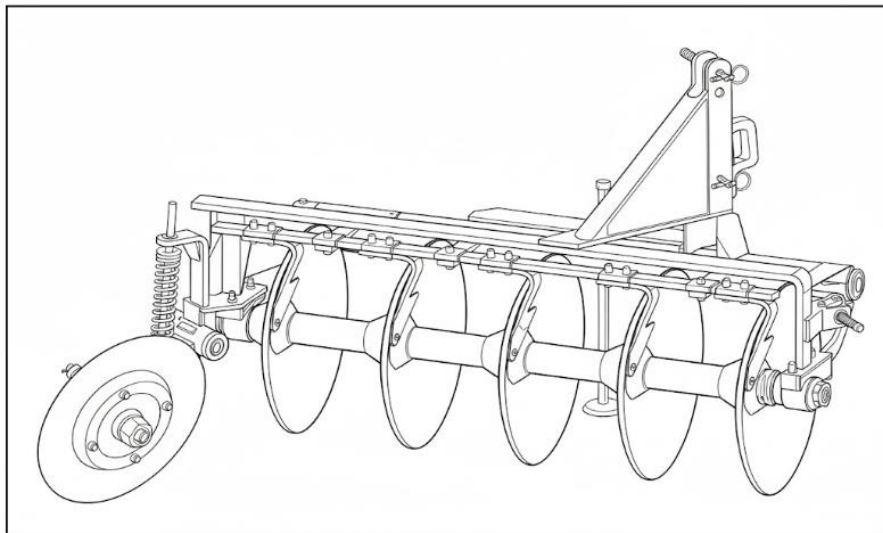
The tractor-mounted offset disc harrow is shown in Figure 8.



**Figure 8.** Tractor-mounted offset disc harrow (adapted from AMTEC-UPLB, 2001)

#### 4.2.1.4 Tractor-mounted plow-harrow

The tractor-mounted plow-harrow is shown in Figure 9.



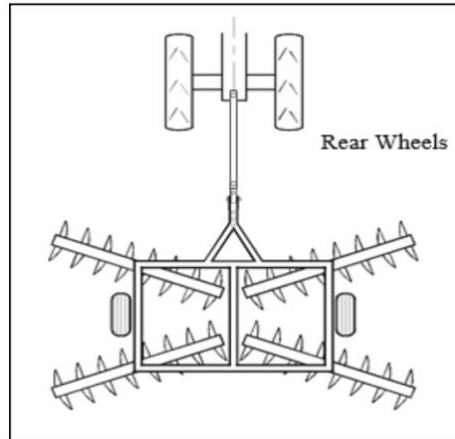
**Figure 9.** Tractor-mounted plow-harrow

#### 4.2.2 Trailing disc harrows

These are hitched to the drawbar of the tractor and pulled by the tractor. Transport wheels can be mechanically or hydraulically actuated.

#### 4.2.2.1 Trailing double-action disc harrow

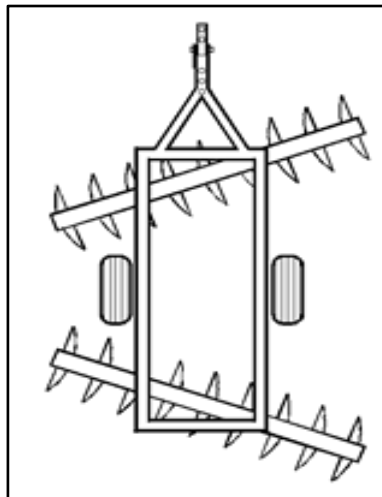
The trailing double-action disc harrow is shown in Figure 10.



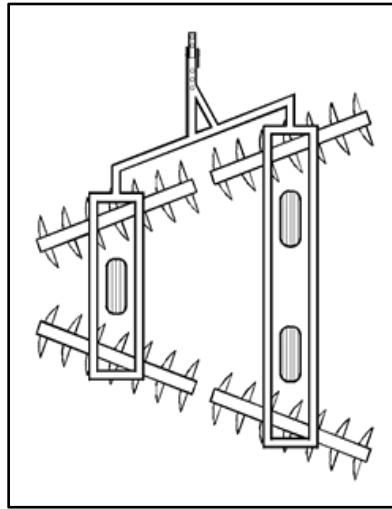
**Figure 10.** Top view of trailing double-action disc harrows (adapted from AMTEC-UPLB, 2001)

#### 4.2.2.2 Trailing offset disc harrows

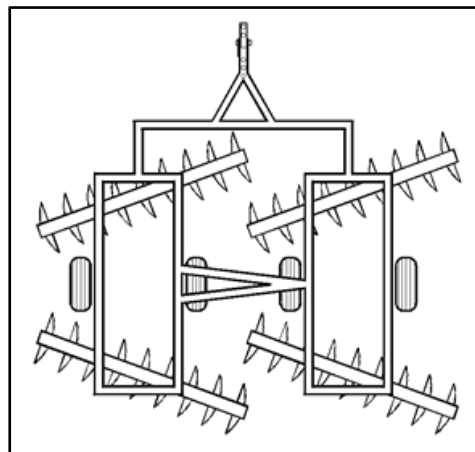
The trailing offset disc harrows are shown in Figure 11.



a) Offset with rigid gangs



b) Offset with flexible in-line gang beams



c) Offset with squadron arrangement

**Figure 12.** Top view of trailing offset disc harrows (adapted from AMTEC-UPLB, 2001)

## 5 Manufacturing Requirements

- 5.1 Mild steel shall be used in the manufacture of the frame, gang axle, scraper, gang angling mechanism, and hitch.
- 5.2 Cast iron shall be used in the manufacture of spool.
- 5.3 Carbon steel shall be used in the manufacture of the hitch pin.

- 5.4** Carbon steel with at least 0.75% carbon content (e.g. AISI 1080) or alloy steel with at least 0.0005% boron content should be used in the manufacture of the disc blades (AMTEC-UPLB, 2001).
- 5.5** The disc harrow shall conform to the following requirements as shown in Table 1:

**Table 1.** Disc Harrow Specification Requirements (AMTEC-UPLB, 2001 modified)

Items	Requirements
a) Number of gangs	minimum of 2 for offset disc harrow; minimum of 4 for double-action disc harrow
b) Number of discs	minimum of 4 in each gang
c) Diameter of disc, mm	In accordance with the manufacturer's declared specifications
d) Thickness of disc, mm	4 to 6

- 5.6** The frame shall be rigid and durable.
- 5.7** The gangs shall be so attached that their angles can be easily changed to the desired position with the gang angling mechanism.
- 5.7.1** The rear gang/s in offset and double-action disc harrows shall be so arranged that the disc/s of rear gang/s shall not make the same path formed by the front gang/s.
- 5.7.2** Bumpers may be provided in the inside end of the front gangs of the single-action and double-action disc harrows to prevent the inside discs from rubbing each other at any gang angle in which the gangs are set.
- 5.7.3** The discs in each gang shall be firmly fixed by spools and there shall not be any relative movement between the disc and the axle.
- 5.8** The scrapers should be set in such a way that they shall not touch the face of the disc and shall be able to scrape the soil effectively. Arrangement for adjusting the scrapers shall be provided.
- 5.9** Adequate arrangement of bearings for lubrication shall be provided. The bearings shall be reasonably dust-proof and shall be properly aligned.
- 5.10** Ball or tapered roller bearings with special dirt seals shall be used.
- 5.11** Both faces of the spool coming in contact with the disc face shall be finished for proper gripping.

- 5.12** The hitch of disc harrow shall be compatible with the hydraulic system and the three-point hitch of the tractor specified in PNS/BAFS 301:2020 (Production Machinery — Four-Wheel Tractors — Specifications).
- 5.13** In single-action disc harrow, provision may be made for attaching a shovel or a sweep to cut and uncut the soil between two gangs.

## **6 Performance Requirements**

- 6.1** During operation, the harrow shall have the ability to harrow throughout the complete implement width and the computed actual field capacity shall achieve the declared field capacity.
- 6.2** The tilled soil shall attain a minimum bulk density of  $1.10 \text{ g/cm}^3$ .
- 6.3** The disc harrow shall have no major breakdowns or malfunctions (i.e., failure of components, etc.) during operation

## **7 Safety, Workmanship, and Finish**

- 7.1** The machine shall be free from defects that may be detrimental to its use and shall be free from sharp edges and surfaces that may harm the operator. All metal parts should be machine-bent, pressed and cut, and all rough surfaces should be machine-finished and smoothed.
- 7.2** Warning notices shall be provided in conformance with PNS/BAFS 330:2022 (Technical means for ensuring safety — Guidelines).
- 7.3** The use of disc harrow in terms of operator's exposure to permissible noise level shall conform to Annex A (Occupational safety and health standards - [Rule 1074.01– 1074.03]).
- 7.4** If the machine exceeds the noise level of 92 dB(A), an ear protective device shall be provided by the manufacturer.

## **8 After-sales Service Requirements**

Requirements for after-sales services shall be in conformance with PNS/BAFS 192:2024 (After-sales service — Guidelines).

## **9 Maintenance and Operation**

- 9.1** Each unit of the disc harrow shall be provided with a set of standard tools for operation and basic maintenance as prescribed by the manufacturer.

- 9.2** An operator’s manual for the disc harrow shall be provided in conformance with PNS/BAFS 390:2024 (Operator’s manual for agricultural and biosystems power and machinery — Guidelines). The operator’s manual shall include emphasis on the safety and health hazards, especially the use of basic personal protective equipment.

## **10 Sampling**

The disc harrow shall be sampled for testing in conformance with PNS/BAFS 391:2024 (Methods of sampling for agricultural and biosystems power and machinery — Guidelines) or other suitable method of selection validated by the testing authority.

## **11 Testing**

The sampled disc harrow shall be tested in conformance with PNS/BAFS 413:2025 (Disc harrow — Methods of test).

## **12 Markings and Labeling**

- 12.1** Each unit of disc harrow shall be engraved or embossed with the following information, either on the body or on a metal nameplate/s permanently attached at the most conspicuous place:

- a) Registered trademark of the manufacturer;
- b) Brand;
- c) Model;
- d) Serial number;
- e) Date of manufacture; and
- f) Country of manufacture/origin (if imported) / “Made in the Philippines” (if manufactured in the country).

- 12.2** Reflectors shall be attached at the rear of the disc harrow for safety during transport.

- 12.3** Other markings and labeling shall comply with the applicable regulations set by the competent authority.

**Annex A**  
(Informative)

**Occupational safety and health standards (Rule 1074.01–1074.03)**

**A.1 Threshold limit values for noise**

- A.1.1** The threshold limit values refer to sound pressure that represents conditions under which it is believed that nearly all workers may be repeatedly exposed without adverse effect on their ability to hear and understand normal speech.
- A.1.2** Feasible administrative or engineering controls shall be utilized when workers are exposed to sound levels exceeding those specified in Table A.1 hereof when measured on a scale of a standard sound level meter at slow response. If such controls fail to reduce sound within the specified levels, ear protective devices capable of bringing the sound level to permissible noise exposure shall be provided by the employer and used by the worker.

**Table A.1.** Permissible noise exposure (OSHC-DOLE, 2020)

<b>Duration per day, h</b>	<b>Sound levels (slow response), dB(A)</b>
8	90
6	92
4	95
3	97
2	100
1½	102
1	105
½	110
¼	115

**A.2 Permissible noise exposure**

- A.2.1** The values specified in Table A.1 apply to the total time of exposure per working day, regardless of whether this is one continuous exposure or a number of short-term exposures, but do not apply to impact or impulsive types of noise.
- A.2.2** If the variation in noise level involves maximum intervals of one second or less, it shall be considered as continuous. If the interval is over one second, it becomes impulse or impact noise.
- A.2.3** When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered rather than the effect of each.

**A.2.4** If the sum of the fractions in Equation 1 exceeds one, then the mixed exposure should be considered to exceed the threshold limit value. *C* indicates the total time exposure at a specified noise level, and *T* indicates the total time of exposure permitted at the level. However, the permissible levels indicated in Table A.1 shall not be exceeded for the corresponding number of hours per day allowed. Noise exposures of less than 90 dB(A) are not covered by Equation 1.

$$X = \frac{C_1}{T_1} + \frac{C_2}{T_2} + \frac{C_3}{T_3} + \dots + \frac{C_n}{T_n} \quad (1)$$

where:

- X* is the sum of the ratios of *C* and *T*
- C* is the total time of exposure at a specified noise level
- T* is the total time of exposure permitted at the level

**A.2.5** Exposures to impulsive or impact noise shall not exceed 140 dB(A) peak sound pressure level (ceiling value).

## References

- Agricultural Machinery Testing and Evaluation Center (AMTEC)-University of the Philippines Los Baños (UPLB). (2000). Agricultural machinery — Soil Tillage and Equipment — Terminology (PAES 106:2000).  
<https://amtec.uplb.edu.ph/wp-content/uploads/2019/07/PAES-106-2000-Agricultural-Machinery-Soil-Tillage-and-Equipment-Terminology.pdf>.
- Agricultural Machinery Testing and Evaluation Center (AMTEC)-University of the Philippines Los Baños (UPLB). (2001). Agricultural machinery — Disc Harrow — Specifications (PAES 120:2001). <https://amtec.uplb.edu.ph/wp-content/uploads/2019/07/120.pdf>.
- Bureau of Agriculture and Fisheries Standards (BAFS)-Department of Agriculture (DA). (2020) Production Machinery – Four-Wheel Tractor – Specifications (PNS 301:2020)
- Bureau of Agriculture and Fisheries Standards (BAFS)-Department of Agriculture (DA). (2022). Technical means for ensuring safety — Guidelines (PNS/BAFS 330:2022).
- Bureau of Agriculture and Fisheries Standards (BAFS)-Department of Agriculture (DA). (2024). After-sales service — Guidelines (PNS/BAFS 192:2024).
- Bureau of Agriculture and Fisheries Standards (BAFS)-Department of Agriculture (DA). (2024). Methods of sampling for agricultural and biosystems power and machinery — Guidelines (PNS/BAFS 391:2024).
- Bureau of Agriculture and Fisheries Standards (BAFS)-Department of Agriculture (DA). (2024). Operator’s manual for agricultural and biosystems power and machinery — Guidelines (PNS/BAFS 390:2024).
- Bureau of Agriculture and Fisheries Standards (BAFS)-Department of Agriculture (DA). (2025). Disc harrow — Methods of test (PNS/BAFS 413:2025).
- Occupational Safety and Health Center (OSHC)-Department of Labor and Employment (DOLE). (2020). Occupational safety and health standards.  
<https://oshc.dole.gov.ph/wp-content/uploads/2020/02/OSH-Standards-2020-Edition.pdf>
- Sabhadiya, Shivansh (n.d.) What is Locknut? - Definition, Types and How it Works. The Engineering Choice, retrieved from <https://www.theengineeringchoice.com/what-is-locknu>

**Department of Agriculture (DA)  
Bureau of Agriculture and Fisheries Standards (BAFS)**

**Technical Working Group (TWG) for the Philippine National Standard (PNS) on  
Disc Harrow — Specifications**

**Chairperson**

Ampo, Mel Vincent, ABE  
Valencia, Ronnie, ABE

**Center of Agri-Fisheries and Biosystems Mechanization (BIOMECH)-  
University of the Philippines Los Baños (UPLB)**

**Vice Chairperson**

Fajardo, Arthur, PhD  
Reyes, Marie Jehosa, ABE

**Agricultural Machinery Testing and Evaluation Center (AMTEC)-UPLB**

**Members**

- |   |   |    |  |
|---|---|----|--|
| 1 | Bontogon, Abbygail, ABE   | 10 | Ranches, Mark Angelo, ABE  |
| 2 | Bore, Jefferson, ABE  | 11 | Zubia, Omar, PhD   |
|   | <b>Bureau of Agricultural and<br/>Fisheries Engineering (BAFE)-DA</b> |    | <b>Institute of Agricultural and<br/>Biosystems Engineering (IABE)-<br/>UPLB</b>               |
| 3 | Bentulan, Em, ABE   | 12 | Falic, Ma. Eden, ABE   |
| 4 | Melendez, Peachie, ABE  | 13 | Tamayo, Rodolfo  |
|   | <b>Philippine Council for Agriculture<br/>and Fisheries (PCAF)-DA</b> |    | <b>Agricultural Machinery<br/>Manufacturers and Distributors<br/>Association (AMMDA), Inc.</b> |
| 5 | Miano, Joey, ABE  | 14 | Mangaoang, Crestituto, ABE   |
|   | <b>Philippine Rice Research Institute<br/>(PhilRice)-DA</b>           |    | <b>Philippine Society of Agricultural<br/>and Biosystems Engineering<br/>(PSABE), Inc.</b>     |
| 6 | Aguilar, Jan-Jan, ABE   | 15 | Espinar, Henry, ABE  |
| 7 | Jardin-Millare, Triniza, ABE  | 16 | Mora, Peter Paul, ABE  |
|   | <b>DA Regional Field Office (RFO) -<br/>CALABARZON</b>                |    | <b>DA RFO- Bicol</b>   |
| 8 | Balao, Katherine, ABE   |    |  |
| 9 | Eslava, Eva, ABE  |    |  |
|   | <b>DA RFO- Cagayan Valley</b>   |    |  |

**Management Team**

Lanuza, Alpha, DVM /  
Hernandez, Gari Pellinor, DVM /  
Marimla, Clark Gerald, ABE  
Olarte, Madellaine, ABE  
Villacentino, Sheila Mae  
**BAFS-DA**

**Adviser**

Mandigma, Mary Grace, PFT  
**BAFS-DA**



---

---

## **BUREAU OF AGRICULTURE AND FISHERIES STANDARDS**

**BPI Compound, Visayas Avenue, Vasra, Quezon City 1128 Philippines**  
**T/ (632) 928-8741 to 64 loc. 3301-3319**  
**E-mail: [bafs@da.gov.ph](mailto:bafs@da.gov.ph)**  
**Website: [www.bafs.da.gov.ph](http://www.bafs.da.gov.ph)**