Sub-Working Group Report: Development of ANTAM Code on Mini-Tiller

ANTAM Test Code 001a-2022

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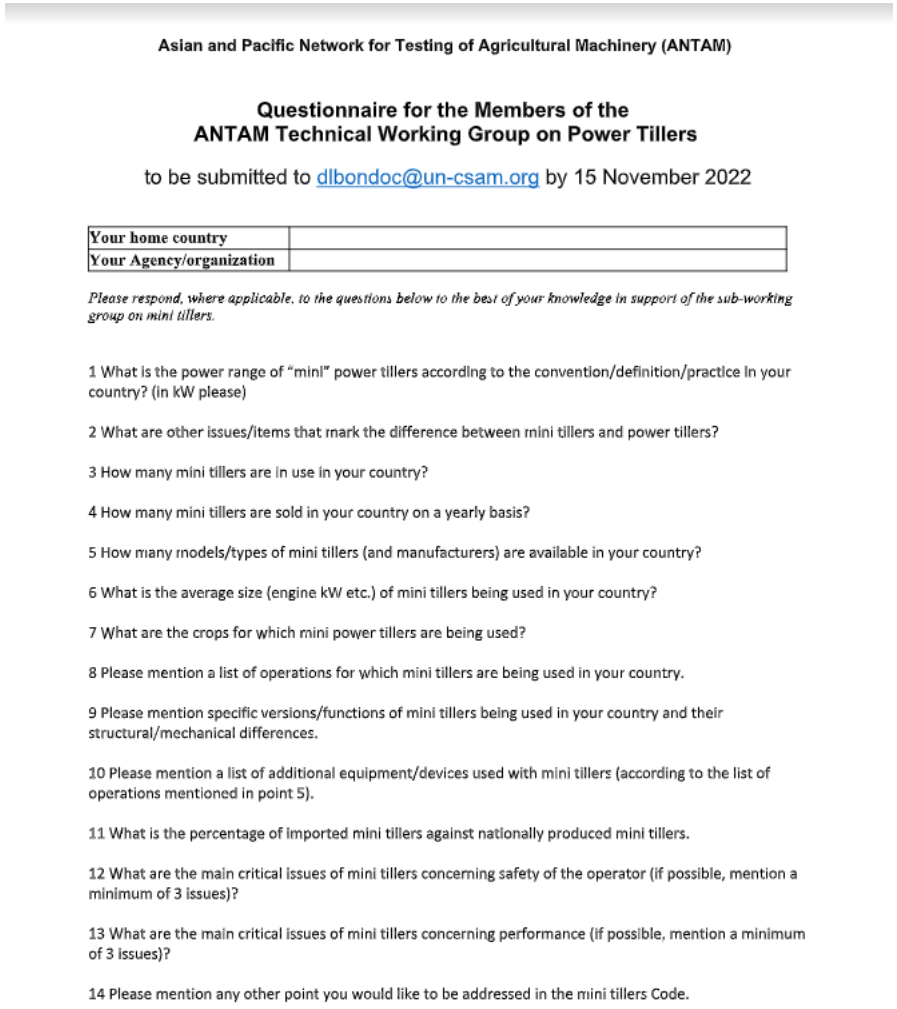
Survey on Mini Tillers



Asian and Pacific Network for Testing of Agricultural Machinery (ANTAM)

Questionnaire for the Members of the ANTAM Technical Working Group on Power Tillers

to be submitted to dlbondoc@un-csam.org by 15 November 2022

Your home country	
Your Agency/organization	

Please respond, where applicable, to the questions below to the best of your knowledge in support of the sub-working group on mini tillers.

1 What is the power range of "mini" power tillers according to the convention/definition/practice in your country? (in kW please)

2 What are other issues/items that mark the difference between mini tillers and power tillers?

3 How many mini tillers are in use in your country?

4 How many mini tillers are sold in your country on a yearly basis?

5 How many models/types of mini tillers (and manufacturers) are available in your country?

6 What is the average size (engine kW etc.) of mini tillers being used in your country?

7 What are the crops for which mini power tillers are being used?

8 Please mention a list of operations for which mini tillers are being used in your country.

9 Please mention specific versions/functions of mini tillers being used in your country and their structural/mechanical differences.

10 Please mention a list of additional equipment/devices used with mini tillers (according to the list of operations mentioned in point 5).

11 What is the percentage of imported mini tillers against nationally produced mini tillers.

12 What are the main critical issues of mini tillers concerning safety of the operator (if possible, mention a minimum of 3 issues)?

13 What are the main critical issues of mini tillers concerning performance (if possible, mention a minimum of 3 issues)?

14 Please mention any other point you would like to be addressed in the mini tillers Code.

Bangladesh
Bhutan
Indonesia
Republic of Korea
Pakistan
Philippines
Russian Federation

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1. The power range was noted, with a maximum reported of 7.8 kW for the definition of mini tiller. It was also noted that the maximum engine power range for mini tiller will be the basis of the minimum for the Power Tiller Code.

2. The smaller size of the mini tiller was noted, which makes them more suitable for small areas and for specific operations.

3. The high number of mini tillers used in different countries confirms the need to have a specific code dedicated to mini tillers.

4. The TRU estimated average life of the mini tiller to be around 10 years, as deducted from survey results.

Survey on Mini Tillers

5. It appears that some countries have limited number of models since most of the mini tiller available are imported from other countries in the region.

6. The average engine power of mini tiller falls under the maximum power of 7.8 kW.

7. As per survey answers, mini tillers are used in horticulture applications with high value crops, by small scale farmers in small scale plots of land.

8. Multi-purpose type is also used for different field operations with the attachment of specific implements for the desired operations. PTO powered mini tillers give more work operations available.

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9. Different types of mini tillers are available for most of the countries since it is considered as a multi-purpose mini tiller.

10. The list of operations and implements could be included in the code because they become part of the machine depending on the need of the farmer.

11. Most countries that responded import mini tillers and only some are producing. Therefore the code is not only important to the producing countries but also to the importing countries because they can give preference to import tested machines.

Survey on Mini Tillers

12. The survey responses illustrated the importance of covers of moving parts, better design of running/maintenance, safety when backing, ergonomics, and safety brake to avoid possible accidents before, during, and after operation.

13. Other issues encountered by the countries are in relation to engine information, quality of materials, information on safe use, operation and maintenance, availability of spare parts, and training of operators.

14. Implements should not affect safety and quality performance and thus should be made with high quality materials.

ANTAM Code: Mini Tiller

SCOPE: This Test Code covers the terminology, general guidelines and tests to be conducted on mini power tillers with petrol/diesel engine with max power of the engine of 6 kW. It also covers methodology for checking of machine specifications, engine performance, rotary shaft performance, vibration level, ~~drawbar performance, turning ability, parking brake ability,~~ noise measurement, waterproof ability and basic safety requirements.

The tests are conducted for establishing performance characteristics of power tillers that are ready for commercial production or already in production. The manufacturer must specify whether the test is confidential or for commercial purpose.

This publication is referring to ANTAM Standard Code for testing of Mini Power Tillers (ANTAM 001a-2022).

Mini Tiller

self-propelled agricultural machinery used for various field operations with max power of the engine of 6 kW. It can be a multi-purpose type with PTO and/or hitch or single purposed without PTO whose implements are usually directly attached to the driving/travelling shafts for tillage or weeding.

ANTAM Code: Mini Tiller

Measuring Tolerances: Removal of fuel consumption for drawbar test (g/h or l/h)

Test: Removal of the following test under the Compulsory tests:

- Drawbar performance
- Turning ability
- Parking brake

ANTAM Code: Mini Tiller

ENGINE TEST:

General:

Referring to the engine test two options are available:

Option 1: no test will be conducted by the testing station if the manufacturer/applicant provides test data from an officially accredited testing station belonging to an ANTAM Member country or recognized by the Testing Station. Data will be collected from the homologation documents.

Option 2: the testing station will perform the engine test according to this "ANTAM Code – Chapter 8 – Engine Test" and collect resulting data.

THANK YOU!

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