REPUBLIC OF TURKEY
MINISTRY OF AGRICULTURE AND FORESTRY
TARIM ALET VE MAKİNE TEST MERKEZİ MUDURLÜGÜ (TAMTEST)
DIRECTORATE OF AGRICULTURAL MACHINERY TESTING CENTER
CONTENTS

• HISTORY
• SETTLEMENT
• MISSIONS
• TAMTEST TECHNICAL DEPARTMENTS
• TAMTEST QUALITY MANAGEMENT SYSTEM
• CERTIFICATION
HISTORY

• Our Directorate which was established as Research and Test Laboratory for agricultural facilities of agricultural equipment and machinery under the body of Central Anatolia Regional Agricultural Research Institute started to work actively by completing its test stands and measuring systems in 1962.

• Our Organization is operated under the name “Tarim Alet ve Makine Test Merkezi Müdürlüğü-Directorate of Agricultural Machinery Testing Center (TAMTEST)” as a directly dependent establishment of the Ministry of Agriculture and Forestry of Republic of Turkey since 1987 with total 77 personnel constituted of 1 Director, 2 Coordinators, 35 Engineers, 12 Technicians, 10 Officials and 22 Workers.
SETTLEMENT

• Our Directorate is located on an area of 30,000 m² which is 2850 m² closed.
• 2 separate buildings,
• Test laboratories,
MISSIONS

• Official OECD Tests for Agricultural and Forestry Tractors,
• Type Approval Tests and Inspections for tractors, components, separate technical units and systems of tractor,
• Plant protection machinery tests according to national legislation,
• Agricultural Mechanization Machinery and tools tests for credit sale.
• Conformity assessments, inspections and tests in accordance with CE marking for Machinery Directive (2006/42/EC),
• Earth moving machinery tests (ROPS, FOPS and noise tests),
• On-demand tests or RD tests
• Collaborate with manufacturers and public enterprises,
• Collaborate with TSE (Turkish Standard Institute) for preparing and revisions of standards,
• Cooperation with international Testing Centers.
TAMTEST-Technical Department

- Tractor and Earth-Moving Machinery
- Mechanization of Field Agriculture
- Plant Protection Machinery and Component
- Machinery Safety Assessment
1- Department of Tractor and Earth-Moving Machinery

1.1. Official OECD Test for Agricultural and Forestry Tractors

- CODE 2: Testing of Tractor Performance
- CODE 3: Dynamic Testing of Roll-over Protective Structure
- CODE 4: Static Testing of Roll-over Protective Structure
- CODE 5: Measurement of Noise at the Driving Position
- CODE 6: Testing of Front-Mounted Protective Structures on Narrow Tractors
- CODE 7: Testing of Rear-Mounted Protective Structures on Narrow Tractors
- CODE 8: Testing of Protective Structures on Track-laying Tractors
- CODE 9: Testing of Protective Structures for Telehandlers
- CODE 10: Testing of Falling Object Protective Structures on Tractors
P.T.O. Performance Test Stand
(500 kW capacity)
P.T.O. Performance Test Stand  (700 HP capacity)
Loadcar (200 kW capacity)
Loadcar (500 kW capacity)
Hydraulic Lifting Force Test (15 t capacity)
Hydraulic power and flow test
FOPS Test
1.2. Type Approval Tests

- 2003/37/EC Tractor Type Approval (Framework Directive)
- 2009/63/EC Maximum Weight
- 2010/62/EC Maximum Speed
- 2009/59/EC Rear View Mirror
- 2008/2/EC Field of Vision
- 2009/66/EC Steering Equipment
- 76/432/EC Braking Devices
- 76/763/EC Passenger Seat
- 2009/76/EC Driver Perceived Noise
- 2009/75/EC Rollover Protective Structure
- 78/764/EC Driver’s Seat
- 2009/61/EC Lighting Installation
- 2009/58/EC Coupling Device and Reverse
- 2009/75/EC Roll-over Protection Structures (Static Test)
- 80/720/EC Operator Space
- 86/297/EC Protection of Power Take-off
- 86/298/EC Rear-Mounted Roll-Over Protective Structures
- 86/415/EC Installation, Location, Operation and Identification of Controls
- 87/402/EC Roll-Over Protective Structures Mounted in Front of the Driver's Seat
- 2009/144/EC Certain Components and Characteristics
1.2. Type Approval Tests

- 167/2013/EU Tractor Type Approval (Framework Directive)
- ..........  

   It will be in force in 2020
Driver’s Seat Test
Driver Perceived Noise Test
Heating and Cooling System R-2015/208/EU
1.3. ISO Standards Tests for Earth Moving Machinery

- ISO 3449 FOPS Tests
- ISO 3471 ROPS Tests
2- Field Machinery Department
• Seed drill (Seeder),
• Cultivator,
• Fertilizer spreader,
• Harvesting / Threshing machinery, drum mover, lown mover,
• Water pumps,
• Sprinkler, pipe and drip irrigation systems,
• Generators,
• Milking machines and Stationary Milking Facilities,
• Feed Mixing and Dispensing Machines,
• Feed Grender and crushing machines,
• Milk Cooling Tanks,
- Solar Energy Systems,
- Trailers and Tanks,
- Harvesters,
- Portable Motor Saw, Shaking, Pruning etc,
- Sugar beer harvesters,
- Silage Machines,
- Transplanters,
- Baling machine,
- Hazelnut Harvesting Machines,
- Drying machines,
- Strength tests for tractors, trailer and tanks
Bumpy truck
Combine Harvester

Baler

Tillage Machine
3- Department of Plant Protection Equipment

- Sprayers
- Spraying group dispersion uniformity test
- Pump performance test
- Pump survival test
- Single nozzle flow and dispersion test
- Nozzle wear test
- Drop analysis test
Field sprayer (Boom) Paternater

Single nozzle test stand
Test stand of nozzle wear
Sprayer pump performance test stand
Sprayer pump survival test stand
Drop size analyzer
4- Department of Machinery Safety Assessment

➢ All Agricultural Machinery are covered in 2006/42/EC Machinery Directive except tractors.

➢ 2006/42/EC Any machinery under the Machinery Safety Regulations must carry the CE mark.

➢ It is prohibited to sell machines without CE marking on EU market and Turkish market.

➢ Reports are prepared by risk analysis and conformity assessment of machines under the 2006/42/EC Machinery Safety Directive and related harmonized standards.

➢ Manufacturers make the necessary modifications according to these reports and keep these reports in the technical file they prepare for CE marking.
The articulated shaft housing tests are carried out in accordance with the EN ISO 5674 standard.

In This Framework; TAMTEST conducts articulated shaft housing tests.
• Articulated Shaft Housing Tests
  ➢ Wear Test
  ➢ Powder Test
  ➢ Bearing Corrosion Test
  ➢ Crash Test
  ➢ Static and Dynamic Loading Tests
QUALITY MANAGER

Vice Quality Manager

Training

Calibration
ACCREDITION SCOPE ACCORDING TO ISO/IEC 17025

• OECD Tractor Codes
  • Code 4
  • Code 5
  • Code 6
  • Code 7
  • Code 8
  • Code 10

• ISO Standards
  • ISO 3449
  • ISO 3471

• European Directives
  • 78/764/EC
  • 86/298/EC
  • 87/402/EC
  • 2009/75/EC
  • 2009/76/EC
  • 2009/144 /EC Annex-4

• National Directive
  • SGM/2002/7

• All the other tests are carried out in compliance with Quality System
QUALITY SYSTEM

- Quality Manual
  - Mission
  - Targets
  - Organization Scheme
  - Management Requirements
  - Technical Requirements

- Organization
  - Duties
    - Responsibility of staff, absence of anybody who will be in charge of his/her duty (Director, Coordinators, Department Chieves, Test Engineers, Technicians, officials)

- Procedures
  - Inspection of Quality (Self Inspection)
  - TAMTEST Procedures
    - Revising, Testing and reporting, sustainabilily of quality, statistic, data control, calibration (uncertainty, tracebility, test methods, test procedures, purchase

- Instruction
- Forms
- Documents
  - Standards, Codes, regulations,
CALIBRATION

• Traceability
  • BIPM: Bureau International des Poids Mesures
    • UME: Turkish National Metrology Institute
      • Calibration Companies
      • Tests Centers
KULLANICI ADI: duran.doganguzel
ŞİFRE: *

GİRİŞ | VAZGEÇ
<table>
<thead>
<tr>
<th>Başvuru No</th>
<th>Başvuru Tarihi</th>
<th>EVR No</th>
<th>Firma Adı</th>
<th>Gönderilen Adı</th>
<th>Makina/İş Makinaları</th>
<th>Başvuru Tarihi</th>
<th>TVT Basın Tarihi</th>
<th>TVT Sür</th>
<th>Tamamlandı</th>
<th>Notlar</th>
</tr>
</thead>
<tbody>
<tr>
<td>1305</td>
<td>2012.12.31</td>
<td>10.12</td>
<td>HISARLAR</td>
<td>KUBOTA CA.</td>
<td>İŞ MAKINALARI</td>
<td>06.02.2013</td>
<td>30.06.2013</td>
<td>15</td>
<td>16</td>
<td>kubota canopy</td>
</tr>
<tr>
<td>1305</td>
<td>2012.12.31</td>
<td>10.12</td>
<td>HISARLAR</td>
<td>KUBOTA CA.</td>
<td>İŞ MAKINALARI</td>
<td>06.02.2013</td>
<td>30.06.2013</td>
<td>15</td>
<td>16</td>
<td>kubota canopy</td>
</tr>
<tr>
<td>4753</td>
<td>2017.01.01</td>
<td>10.01</td>
<td>YATAY YÜKLEME</td>
<td>ISO 3471- TS</td>
<td>KOD 2 TRAKT.</td>
<td>24.11.2017</td>
<td>16.02.2017</td>
<td>40</td>
<td>60</td>
<td>NEW HOLLAND</td>
</tr>
<tr>
<td>5013</td>
<td>2017.02.02</td>
<td>10.02</td>
<td>YATAY YÜKLEME</td>
<td>ISO 3471- TS</td>
<td>KOD 2 TRAKT.</td>
<td>19.01.2018</td>
<td>14.03.2018</td>
<td>40</td>
<td>39</td>
<td>ERKUNT/KİSMET</td>
</tr>
<tr>
<td>5013</td>
<td>2017.02.02</td>
<td>10.02</td>
<td>YATAY YÜKLEME</td>
<td>ISO 3471- TS</td>
<td>KOD 2 TRAKT.</td>
<td>19.01.2018</td>
<td>14.03.2018</td>
<td>40</td>
<td>39</td>
<td>ERKUNT/KİSMET</td>
</tr>
<tr>
<td>5014</td>
<td>2017.03.03</td>
<td>10.03</td>
<td>YATAY YÜKLEME</td>
<td>ISO 3471- TS</td>
<td>KOD 2 TRAKT.</td>
<td>19.01.2018</td>
<td>14.03.2018</td>
<td>40</td>
<td>39</td>
<td>ERKUNT/KİSMET</td>
</tr>
<tr>
<td>5014</td>
<td>2017.03.03</td>
<td>10.03</td>
<td>YATAY YÜKLEME</td>
<td>ISO 3471- TS</td>
<td>KOD 2 TRAKT.</td>
<td>19.01.2018</td>
<td>14.03.2018</td>
<td>40</td>
<td>39</td>
<td>ERKUNT/KİSMET</td>
</tr>
<tr>
<td>5051</td>
<td>2017.04.05</td>
<td>10.05</td>
<td>YATAY YÜKLEME</td>
<td>ISO 3471- TS</td>
<td>KOD 2 TRAKT.</td>
<td>22.03.2018</td>
<td>04.06.2018</td>
<td>40</td>
<td>18</td>
<td>MASSEY FERG.</td>
</tr>
<tr>
<td>5051</td>
<td>2017.04.05</td>
<td>10.05</td>
<td>YATAY YÜKLEME</td>
<td>ISO 3471- TS</td>
<td>KOD 2 TRAKT.</td>
<td>22.03.2018</td>
<td>04.06.2018</td>
<td>40</td>
<td>18</td>
<td>MASSEY FERG.</td>
</tr>
<tr>
<td>Başvuru No</td>
<td>Başvuru Tarihi</td>
<td>Evrak No</td>
<td>Hazine Adı</td>
<td>El BİLGİ</td>
<td>Asıl/Makina</td>
<td>Deney Grup Adı</td>
<td>Deney</td>
<td>Sona</td>
<td>Başvuru Taşı</td>
<td>Birlik Taşı</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------</td>
<td>---------</td>
<td>------------</td>
<td>----------</td>
<td>-------------</td>
<td>---------------</td>
<td>--------</td>
<td>--------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>4753</td>
<td>2017-5312-TIM1</td>
<td></td>
<td>TÜRK TRAKTO...</td>
<td>NEWHOLLAND</td>
<td>TRAKTORO...</td>
<td>KOD 2 TRAKT...</td>
<td>TRAKTOR BİLGİ...</td>
<td>Olmamız</td>
<td>24.11.2017</td>
<td>16.02.2018</td>
</tr>
<tr>
<td>5013</td>
<td>2017-5333-TIM1</td>
<td></td>
<td>ERKUNT TRAK...</td>
<td>KİSMET 55E...</td>
<td>TRAKTORO...</td>
<td>KOD 2 TRAKT...</td>
<td>TRAKTOR BİLGİ...</td>
<td>Olmamız</td>
<td>19.01.2018</td>
<td>14.03.2018</td>
</tr>
<tr>
<td>5013</td>
<td>2017-5333-TIM1</td>
<td></td>
<td>ERKUNT TRAK...</td>
<td>KİSMET 55E...</td>
<td>TRAKTORO...</td>
<td>KOD 2 TRAKT...</td>
<td>TRAKTOR BİLGİ...</td>
<td>Olmamız</td>
<td>15.01.2018</td>
<td>15.03.2018</td>
</tr>
<tr>
<td>5014</td>
<td>2017-5334-TIM1</td>
<td></td>
<td>ERKUNT TRAK...</td>
<td>KİSMET 55E...</td>
<td>TRAKTORO...</td>
<td>KOD 2 TRAKT...</td>
<td>TRAKTOR BİLGİ...</td>
<td>Olmamız</td>
<td>19.01.2018</td>
<td>14.03.2018</td>
</tr>
<tr>
<td>5014</td>
<td>2017-5334-TIM1</td>
<td></td>
<td>ERKUNT TRAK...</td>
<td>KİSMET 55E...</td>
<td>TRAKTORO...</td>
<td>KOD 2 TRAKT...</td>
<td>TRAKTOR BİLGİ...</td>
<td>Olmamız</td>
<td>19.01.2018</td>
<td>14.03.2018</td>
</tr>
<tr>
<td>5051</td>
<td>2017-5424-TIM1</td>
<td></td>
<td>AGÇO TARIM M...</td>
<td>MF 371DS 4...</td>
<td>TRAKTORO...</td>
<td>KOD 2 TRAKT...</td>
<td>TRAKTOR BİLGİ...</td>
<td>Olmamız</td>
<td>22.03.2018</td>
<td>0.04.2018</td>
</tr>
<tr>
<td>5051</td>
<td>2017-5424-TIM1</td>
<td></td>
<td>AGÇO TARIM M...</td>
<td>MF 371DS 4...</td>
<td>TRAKTORO...</td>
<td>KOD 2 TRAKT...</td>
<td>TRAKTOR BİLGİ...</td>
<td>Olmamız</td>
<td>22.03.2018</td>
<td>16.04.2018</td>
</tr>
<tr>
<td>5051</td>
<td>2017-5424-TIM1</td>
<td></td>
<td>AGÇO TARIM M...</td>
<td>MF 371DS 4...</td>
<td>TRAKTORO...</td>
<td>KOD 2 TRAKT...</td>
<td>TRAKTOR BİLGİ...</td>
<td>Olmamız</td>
<td>22.03.2018</td>
<td>16.04.2018</td>
</tr>
</tbody>
</table>
TEST CONTROL SYSTEM
➢ Standard, Code or Regulation
➢ Test(s), inspection, checking
➢ Machine to be tested (make, model and type)
➢ Customer
➢ Application number
➢ Who is in charge of test(s)
➢ Test devices, instruments for each test
➢ Calibration,
☐ If yes: go on
☐ If no: you can’t test
➢ Test date (each test for this machine
➢ Test period
➢ Test Commission
TEST CONTROL SYSTEM

➢ Each person has different or common view depending on the responsibility and in charge of
  ➢ Director, Coordinator, Department Chief, Test Engineer depending on the department or test
CERTIFICATION
1- Credit Sales

- All machinery and Tractor tested
  - Tractor is tested only in TAMTEST
  - The other machinery are tested in TAMTEST and Universities

Ministry of Agriculture and Forestry
2- Mandatory Tests for License

➢ Plant Protection Machinery

➢ All machinery are tested in TAMTEST
3- Mandatory Tests for Production

➢ Tractors

➢ Type Approval tests
  ➢ TAMTEST and the other Technical Services

Ministry of Trade and Technology
4- CE Marking

➢ Machine

➢ Tests, Inspection

Notified Body
THANK YOU