

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





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- **TAMTEST TECHNICAL DEPARTMENTS**
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- **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 “ Tarım 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 m<sup>2</sup> which is 2850 m<sup>2</sup> 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**

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graph TD; TAMTEST[TAMTEST] --- TD[Technical Department]; TAMTEST --- AD[Administrative Department];
```

**Technical Department**

**Administrative Department**

# TAMTEST-Technical Department

```
graph TD; A[TAMTEST-Technical Department] --- B[Tractor and Earth-Moving Machinery]; A --- C[Mechanization of Field Agriculture]; A --- D[Plant Protection Machinery and Component]; A --- E[Machinery Safety Assessment];
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**Tractor and Earth-Moving Machinery**

**Mechanization of Field Agriculture**

**Plant Protection Machinery and  
Component**

**Machinery Safety Assessment**

# TAMTEST-Administrative Department

```
graph TD; A[TAMTEST-Administrative Department] --- B[Staff]; A --- C[Finance]; A --- D[Document]; A --- E[.....];
```

**Staff**

**Finance**

**Document**

.....



# 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**



**ROPS 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**



**Steering 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**



**Hazelnut Thresher**



**Milking Installation**



**Pump test**



**Branch shredder**



**Selector**



**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**

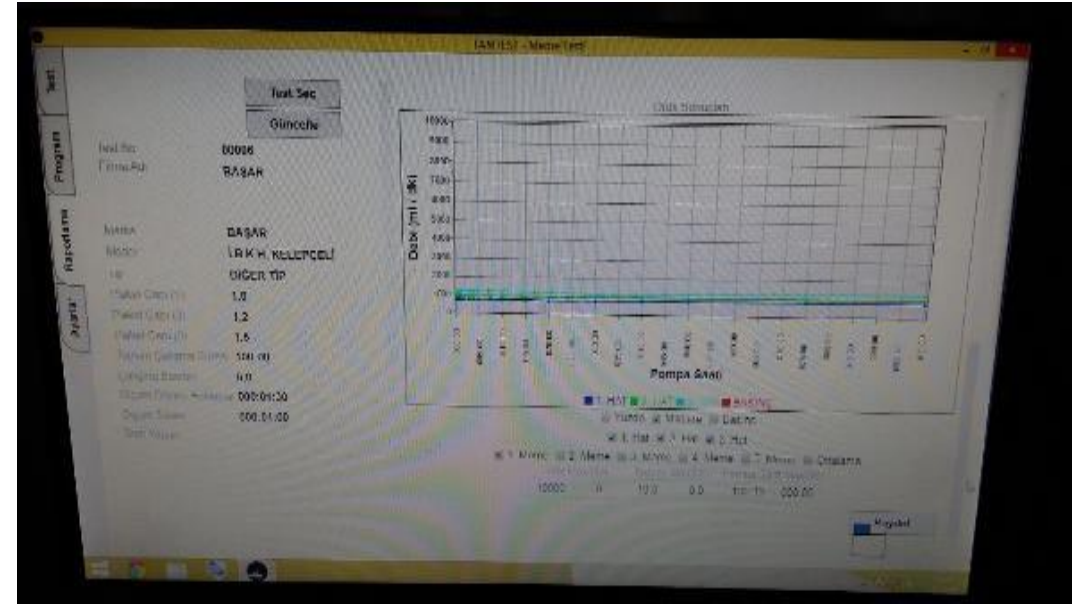




**Field sprayer (Boom) Paternater**



**Single nozzle test stand**



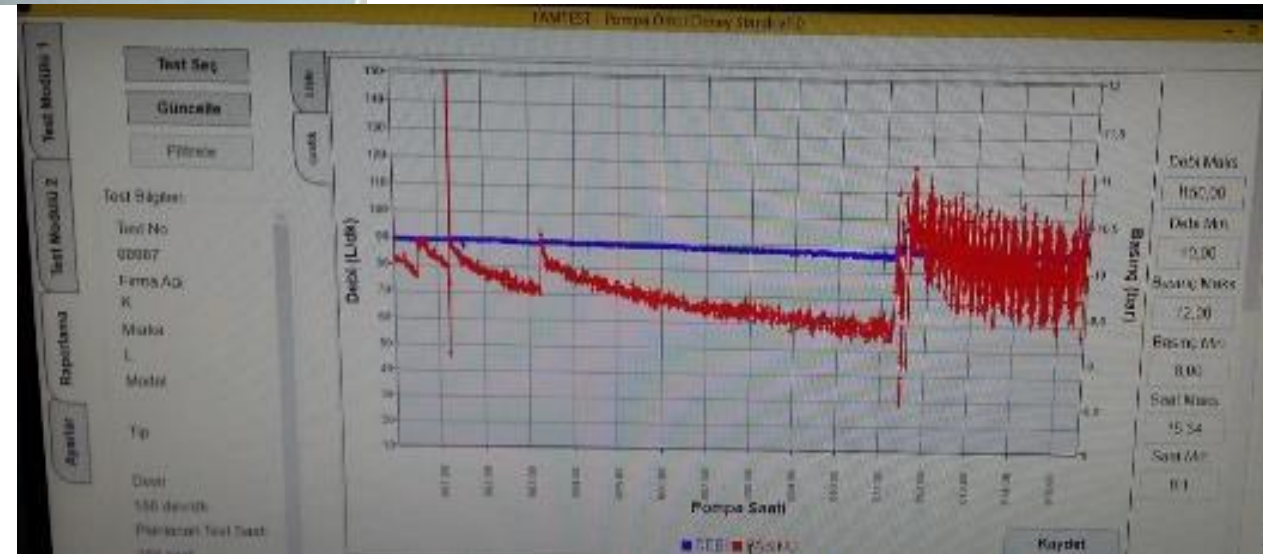
**Test stand of nozzle wear**



**Sprayer pump performance test stand**

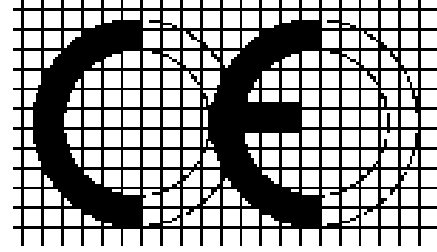


**Sprayer pump survival test stand**



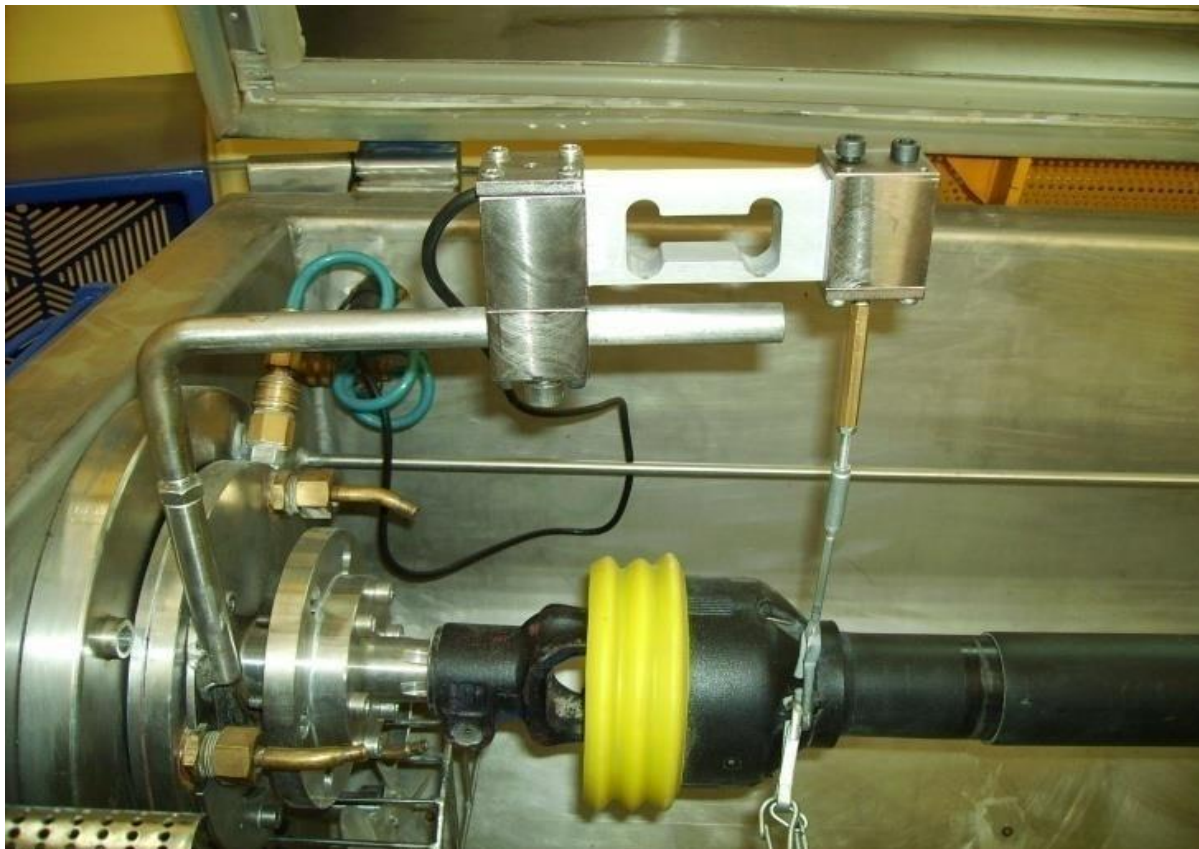


**Drop size analyzer**



## **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.**



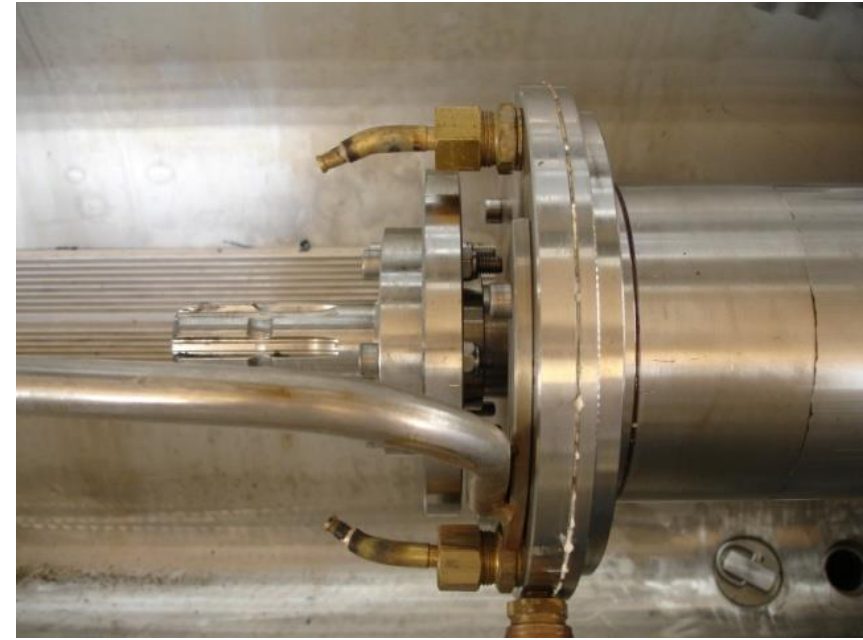
**In This Framework; TAMTEST conducts articulated shaft housing tests**

**The articulated shaft housing tests are carried out in accordance with the EN ISO 5674 standard.**



- **Articulated Shaft Housing Tests**

- **Wear Test**
- **Powder Test**
- **Bearing Corrosion Test**
- **Crash Test**
- **Static and Dynamic Loading Tests**









# QUALITY MANAGER

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graph TD; QM[QUALITY MANAGER] --- VQM[Vice Quality Manager]; QM --- T[Training]; QM --- C[Calibration];
```

**Vice Quality Manager**

**Training**

**Calibration**

## **ACCREDITATION SCOPE ACCORDING TO ISO/IEC 17025**

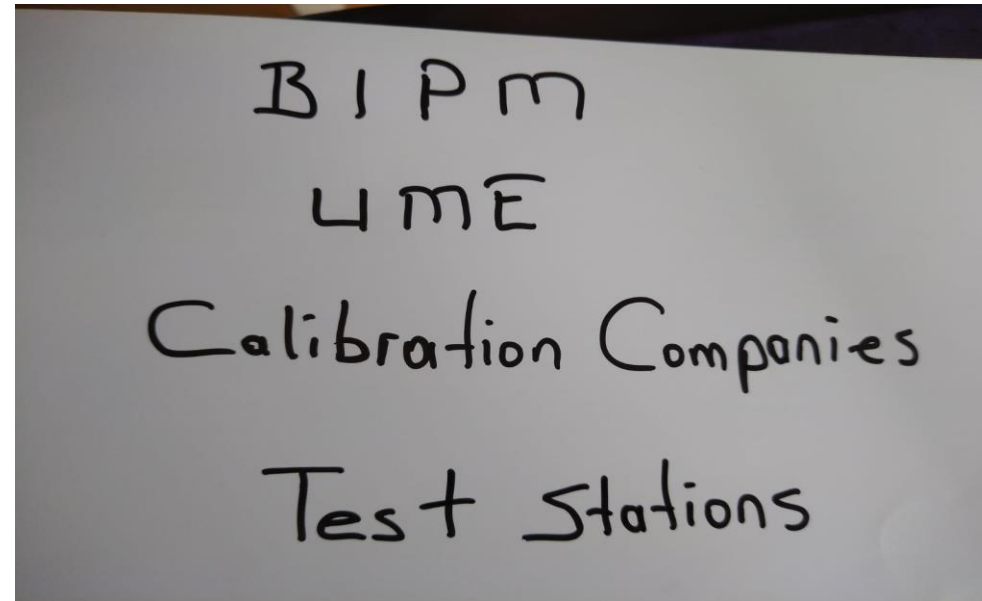
- **OECD Tractor Codes**
  - Code 4
  - Code 5
  - Code 6
  - Code 7
  - Code 8
  - Code 10
- **ISO Standards**
  - ISO 3449
  - ISO 3471
- **European Directives**
  - 78/764/EC
  - 86/298/EC
  - 87/402/EC
  - 2009/75/EC
  - 2009/76/EC
  - 2009/144 /EC Annex-4
- **National Directive**
  - SGM/2002/7
- **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 Chiefs, Test Engineers, Technicians, officials)
- **Procedures**
  - Inspection of Quality (Self Inspection)
  - TAMTEST Procedures
    - Revising, Testing and reporting, sustainability of quality, statistic, data control, calibration (uncertainty, traceability, 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





GİRİŞ



KULLANICI ADI

duran.doganguzel

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GİRİŞ

VAZGEÇ



## İŞ EMİRLERİM

Bekleyen (9) Devam Eden (0) Tamamlanan (239) Askıya Alınan Rapor Yükleme

Başvuru No	Başvuru Türü	Evrak No	Firma Adı	Ek Bilgi	Alet/Makina	Deney Grup Adı	Deney	Sonuç	Başlama Tarihi	Bitiş Tarihi	Hedef Süre	Tamamlanan Gün	Numune
1305	Genel Başvuru	2013-384	HISARLAR	KUBOTO CA...	İŞ MAKİNAL...	ISO 3471- TS ...	YATAY YÜKLEME	Olumsuz	6.09.2013	30.09.2013	15	16	kubota canopy
1305	Genel Başvuru	2013-384	HISARLAR	KUBOTO CA...	İŞ MAKİNAL...	ISO 3471- TS ...	DÜŞEY YÜKLEME	Dolaylı Olumsuz	6.09.2013	30.09.2013	15	16	kubota canopy
4753	Genel Başvuru	2017-9312-TİM1	TÜRK TRAKTÖ...	NEWHOLLA...	TRAKTÖR(O...	KOD 2 TRAKT...	TRAKTÖR BİLGİ...	Olumlu	24.11.2017	16.02.2018	40	60	NEW HOLLAND..
5013	Genel Başvuru	2017-9393-TİM1	ERKUNT TRAK...	KİSMET 55E...	TRAKTÖR(O...	KOD 2 TRAKT...	TRAKTÖR BİLGİ...	Olumlu	19.01.2018	14.03.2018	40	39	ERKUNT/KISME.
5013	Genel Başvuru	2017-9393-TİM1	ERKUNT TRAK...	KİSMET 55E...	TRAKTÖR(O...	KOD 2 TRAKT...	DENEYLERİN D...	Olumlu	19.01.2018	15.03.2018	40	40	ERKUNT/KISME.
5014	Genel Başvuru	2017-9394-TİM1	ERKUNT TRAK...	KİSMET 55E...	TRAKTÖR(O...	KOD 2 TRAKT...	TRAKTÖR BİLGİ...	Olumlu	19.01.2018	14.03.2018	40	39	ERKUNT/KISME.
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5051	Genel Başvuru	2017-9424-TİM1	AGCO TARIM M...	MF 3710S 4...	TRAKTÖR(O...	KOD 2 TRAKT...	TRAKTÖR BİLGİ...	Olumlu	22.03.2018	9.04.2018	40	13	MASSEY FERG...
5051	Genel Başvuru	2017-9424-TİM1	AGCO TARIM M...	MF 3710S 4...	TRAKTÖR(O...	KOD 2 TRAKT...	DENEYLERİN D...	Olumlu	22.03.2018	16.04.2018	40	18	MASSEY FERG...
5052	Genel Başvuru	2017-9425-TİM1	AGCO TARIM M...	MF 3710S 4...	TRAKTÖR(O...	KOD 2 TRAKT...	DENEYLERİN D...	Olumlu	22.03.2018	16.04.2018	40	25	MASSEY FERG...

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## İŞ EMİRLERİM

Bekleyen (9) Devam Eden (0) Tamamlanan (239) Askıya Alınan Rapor Yükleme

Başvuru No	Başvuru Türü	Evrak No	Firma Adı	Ek Bilgi	Alet/Makina	Deney Grup Adı	Deney	Sonuç	Başlama Tarihi	Bitiş Tarihi	Hedef Süre	Tamamlanan Gün	Numune	Havale Edilenler
1305	Genel Başvuru	2013-384	HISARLAR	KUBOTO CA...	İŞ MAKİNAL...	ISO 3471- TS ...	YATAY YÜKLEME	Olumsuz	6.09.2013	30.09.2013	15	16	kubota canopy	AHMET AKYÜZ,...
1305	Genel Başvuru	2013-384	HISARLAR	KUBOTO CA...	İŞ MAKİNAL...	ISO 3471- TS ...	DÜŞEY YÜKLEME	Dolaylı Olumsuz	6.09.2013	30.09.2013	15	16	kubota canopy	AHMET AKYÜZ,...
4753	Genel Başvuru	2017-9312-TİM1	TÜRK TRAKTÖ...	NEWHOLLA...	TRAKTÖR(O...	KOD 2 TRAKT...	TRAKTÖR BİLGİ...	Olumlu	24.11.2017	16.02.2018	40	60	NEW HOLLAND.	DURAN DOĞAN...
5013	Genel Başvuru	2017-9393-TİM1	ERKUNT TRAK...	KISMET 55E...	TRAKTÖR(O...	KOD 2 TRAKT...	TRAKTÖR BİLGİ...	Olumlu	19.01.2018	14.03.2018	40	39	ERKUNT/KISME	DURAN D DURAN DOĞAN...
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5051	Genel Başvuru	2017-9424-TİM1	AGCO TARIM M...	MF 3710S 4...	TRAKTÖR(O...	KOD 2 TRAKT...	TRAKTÖR BİLGİ...	Olumlu	22.03.2018	9.04.2018	40	13	MASSEY FERG...	DURAN DOĞAN...
5051	Genel Başvuru	2017-9424-TİM1	AGCO TARIM M...	MF 3710S 4...	TRAKTÖR(O...	KOD 2 TRAKT...	DENEYLERİN D...	Olumlu	22.03.2018	16.04.2018	40	18	MASSEY FERG...	DURAN DOĞAN...
5052	Genel Başvuru	2017-9425-TİM1	AGCO TARIM M...	MF 3710S 4...	TRAKTÖR(O...	KOD 2 TRAKT...	DENEYLERİN D...	Olumlu	22.03.2018	16.04.2018	40	18	MASSEY FERG...	DURAN DOĞAN...

KAPAT

## **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**

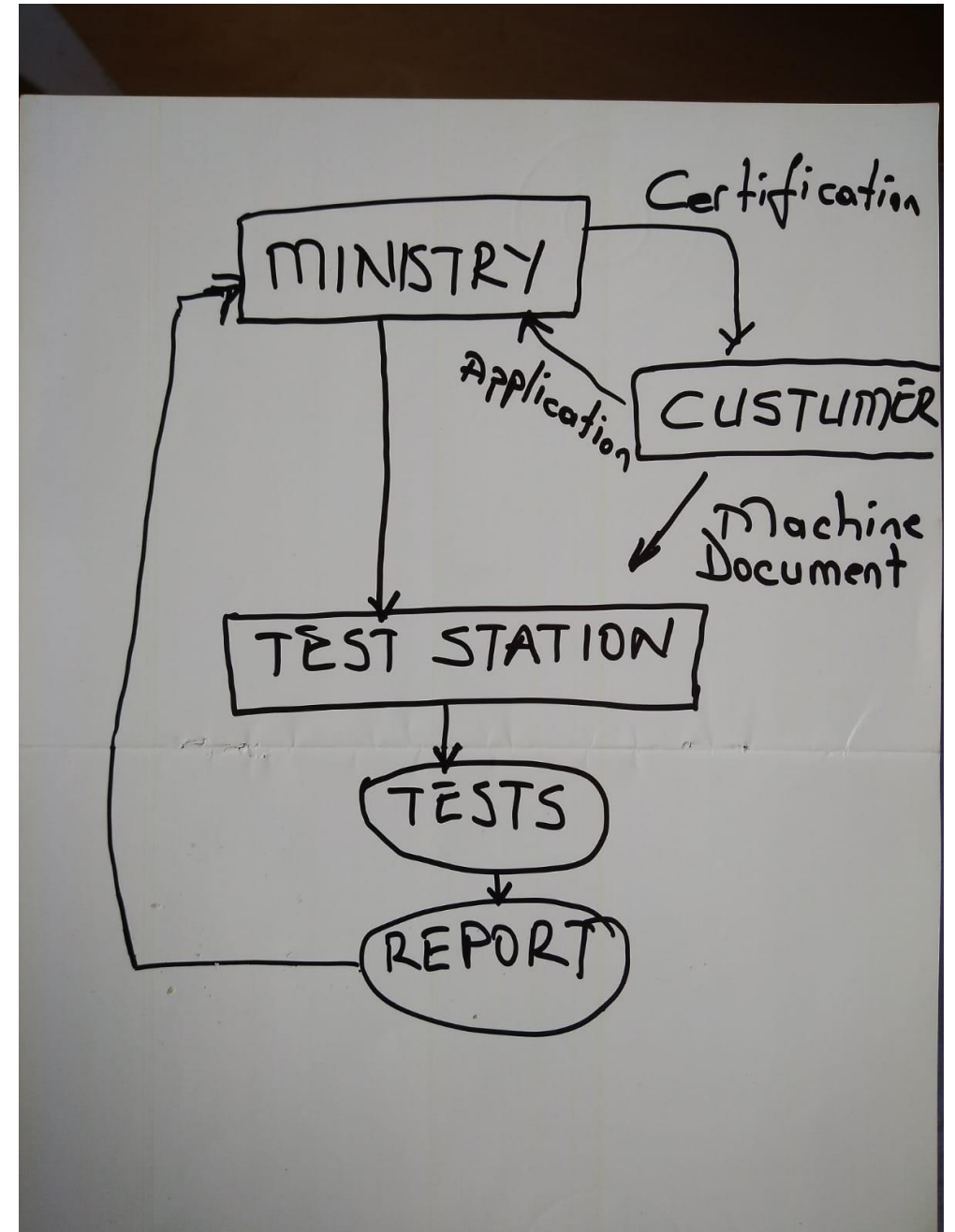
# 1- Credit Sales

➤ All machinery and Tractor tested

According to Code 2

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

Ministry of Agriculture and Forestry

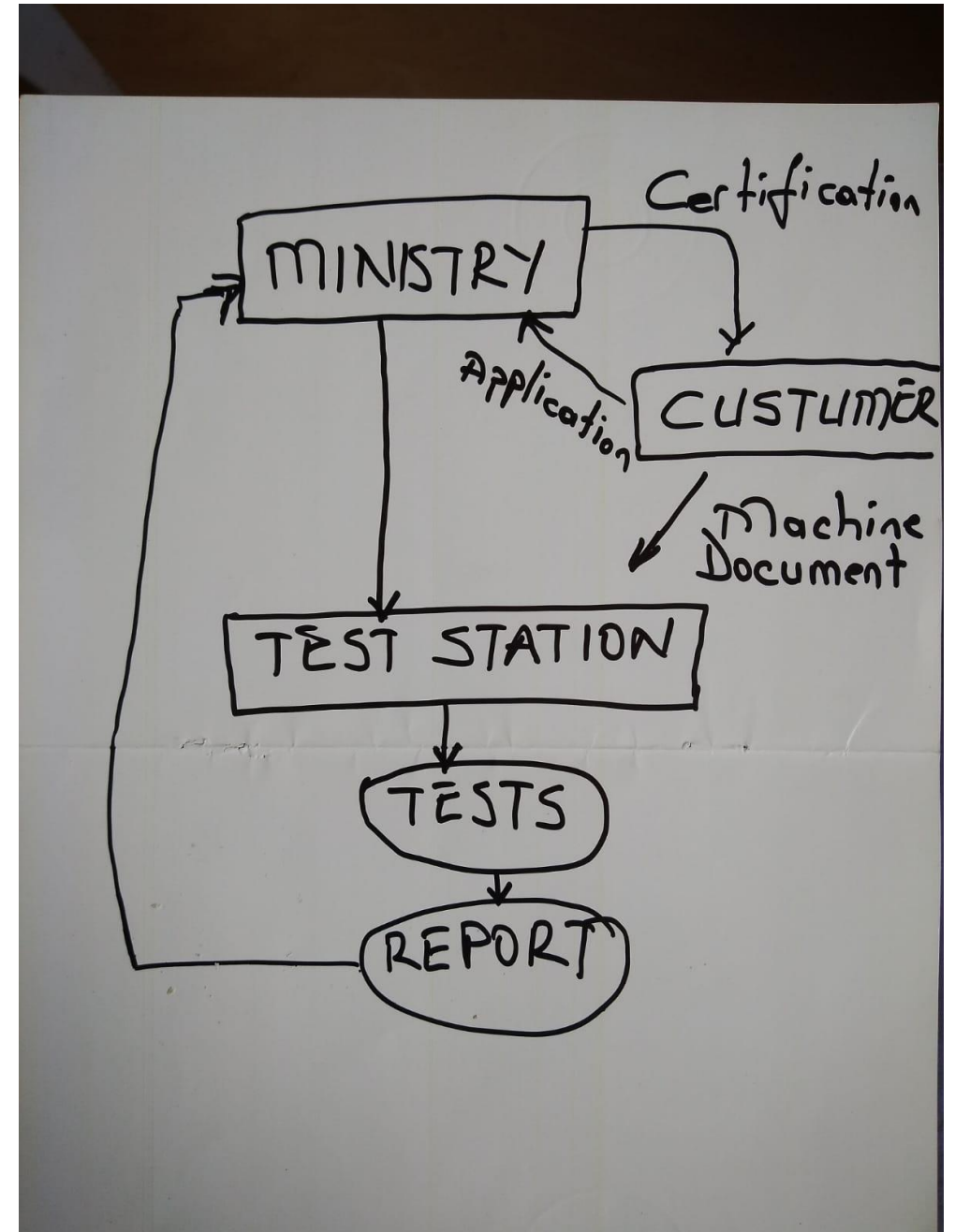


## 2- Mandatory Tests for License

### ➤ Plant Protection Machinery

- All machinery are tested in TAMTEST

Ministry of Agriculture and Forestry



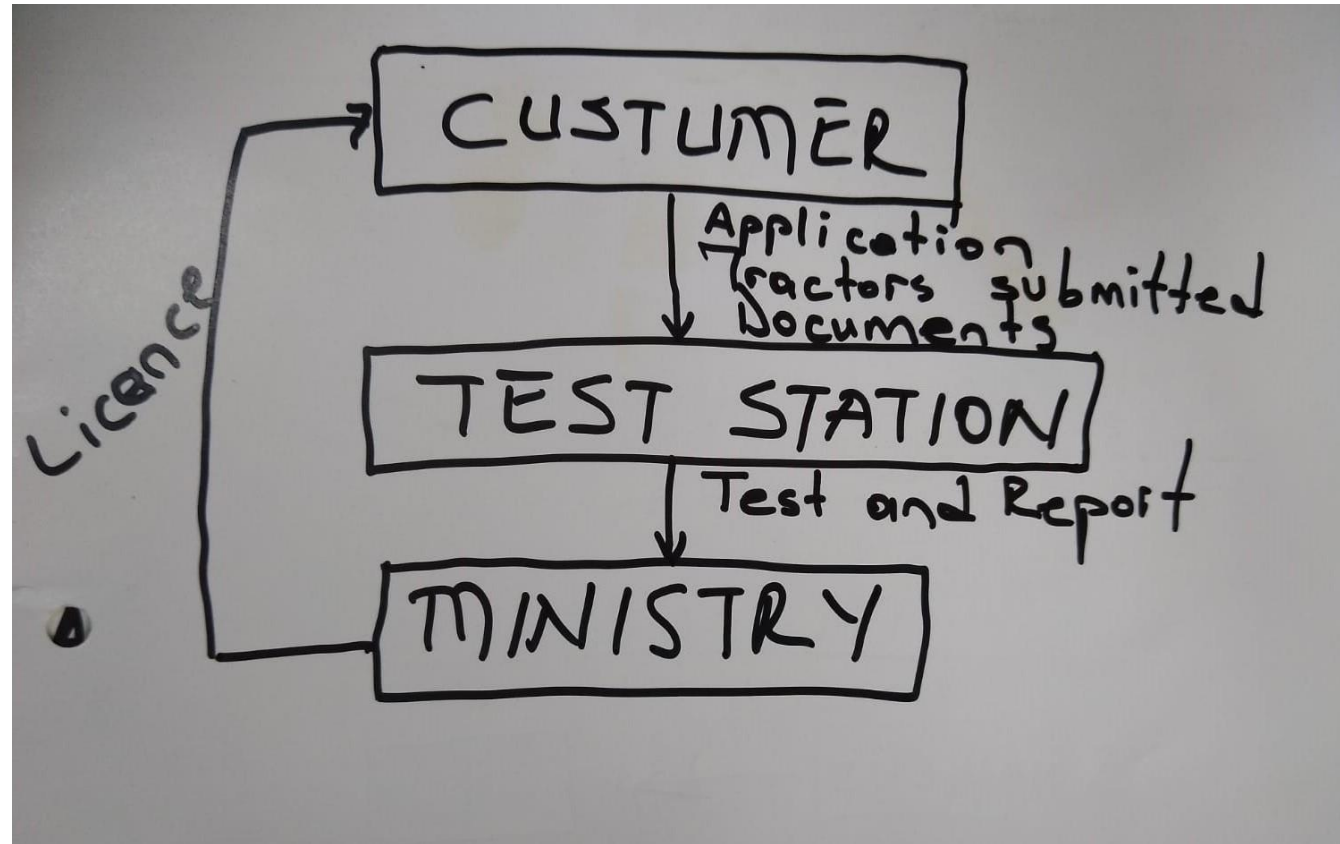
# 3- Mandatory Tests for Production

## ➤ 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

