

**Department of Agriculture
Government of Andhra Pradesh**

Invites

REQUEST FOR PROPOSAL(RFP)

For empanelment of manufacturers
towards supply of certain farm equipment at Lowest Price

By

Commissioner of Agriculture

Department of Agriculture

Old Mirchi Yard, Agricultural Marketing Compound

Chuttugunta, Guntur

April 2020

Introduction

To increase productivity, timely and precise field work is necessary. To Increase the reach of farm mechanization to small and marginal farmers in villages, Government of AP Promotes establishment of 'Custom Hiring Centres' to offset the adverse economies of scale arising due to small landholding and high cost of individual ownership;

Implementation of Farm Mechanisation Schemes

The Department of Agriculture, AP invites lowest price offer from the manufacturers of farm equipment as per the terms and conditions given in this schedule. Proposal in the form of RFP formats calling technical details are requested through sealed covers along with attachments and **the price offer through <https://apeprocurement.gov.in/> only.**

Schedule of invitation of RFP.

Issue of RFP	30 -04-2020
RFP Document download from apagrisnet.gov.in and apeprocurement.gov.in/	Free
Price Offer	https://apeprocurement.gov.in/ Through electronic form only on 14/05/2020
Technical bid Submission and opening date (Address)	14-05-2020 O/o Commissioner of Agriculture, Department of Agriculture, Old Mirchi Yard , Chuttugunta center, Guntur

Note: Please address all queries and correspondence to the Commissioner of Agriculture, Guntur. email: andhrafm@gmail.com . If the office happens to be closed on the day of receipt of RFP as specified, RFP will be received and opened on the next working day of the office at the same time and at same venue

General Instructions

1. The manufacturer can down load the RFP document at free of cost from www.apagrisnet.gov.in/ and submit technical details in sealed covers only.
2. The covers are to be **superscribed with due date, time and the details of the RFP – for Certain Farm Equipment supplies.**
3. The manufacturer has to furnish the lowest offered price in electronic form only. **No offer in physical form will be accepted and any such offer received will be rejected.**

Yours faithfully,

Commissioner of Agriculture, AP

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1. Objective of RFP

1. to make available the qualitative Tested farm equipment at reasonable price through manufacturers and its dealers.
2. To ascertain post sale service to the farm equipment supplied.

2. Terms of Reference & Eligibility criteria for manufacturers

1. The Price offer should be valid for 24 months from the date of opening of price bid of this RFP.
2. Only manufacturers are eligible to participate in this RFP Process
3. The farm equipment which posses test certificate should only be applied by the manufacturing firm.
4. SSI certificate or MSME certificate should be furnished by Indian Manufacturer.
5. Invoices are to be raised by Manufacturers only exception to dealers for sale of Tractor, combine harvester items.
6. The manufacturer should have registered on www.agrimachinery.nic.in portal.
7. The price quoted will be valid for 24months. Reduction in price is acceptable for the farm equipment any time during the year.
8. The farm implement/equipment supplied must be covered with warranty for one year from the date of supply against any defective manufacture/workmanship, etc. The repairs/replacements shall be attended free of cost within the warranty period.
9. The Authority may levy a penalty on the manufacturer if found that supplied component are not conforming to quality parameter as stipulated in test certificate. The cost of such product/s would be recovered from the Bank guarantee submitted by the manufacturer.
10. The details of the test certificate for the base model and its variants are to be furnished on a separate sheet in technical bid cover
11. The manufacturer whose product is in testing process are also eligible to participate in RFP.
12. The Department has right to reject the manufacturer, if found that product supplied by manufacturer is not as per the minimum specified specification.

13. Performance Guarantee has to be furnished along with the agreement to be signed with the department for the supplies after the price bid.
14. The department has every right to check/ engage a agency to verify the quality of the products supplied during any part of the year at any district during the year.
15. The department may conduct site visit of manufacturing facility to ascertain the manufacturer status and manufacturing facility of the manufacturer. In case if the authority finds during the site visit that applicant is not a manufacturer, its proposal shall be cancelled with immediate effect and the full Performance bank guarantee shall be invoked.
16. The manufacturers Who participate in this RFP should be able to supply through out the State.
17. The tenderer should inform information on the capacity that they can supply in technical bid cover.

3. Selection Process :

1. Participating manufacturer shall submit the technical proposal of RFP.
2. The manufacturers should furnish the detail of base model, variants along with details of test certificates. Should produce the test certificates, if necessary on a specified date for scrutiny.
3. All the technical details furnished by participating manufacturers will be scrutinised by the Technical committee constituted, with the permission of the Commissioner of Agriculture, Department of agriculture AP..
4. The department shall not take any responsibility for validity of digital signatures of the manufacturers.
5. The price is to be offered online only on www.apecurement.gov/in platform.

3. Price Offer:

1. The price offered should be inclusive of all taxes should be supplied to destination of RBK mentioned in Purchase order.
2. The price should be offered online as in format by the manufacturer only. Dealers are not allowed*. Distributors are not allowed, C&F agents are not allowed to participate in Price offer. (*exceptional cases only on prior permission from Commissioner of Agriculture)
3. Any mention of price offer in the physical form of RFP along with technical details documents, will be liable for rejection.
4. Any effort by manufacturer or manufacturer's agent/ dealer/consultant howsoever described to influence the Department staff in any way concerning scrutiny/ consideration/ evaluation/ comparison of the EOI or decision concerning finalising the supplier shall entail rejection of EOI.
5. Department of Agriculture reserves the right to seek clarification/ justification/negotiation from the manufacturer on the price offered in case Departmental authority deems it necessary..

4. Security Deposit

1. There shall be **no EMD** for participating in the RFP
2. The security deposit in the form of Performance Guarantee, Bank Guarantee should be furnished by the manufacturer at the time of entering into an agreement for supplies with the Department of Agriculture, AP.
3. Performance Bank Guarantee should be for a period of 18 months from the date of entering into an agreement.
4. If the bank gets merged due to Government policy a new Bank Guarantee should be furnished by the manufacturer within 30 days of merger.

Manufacturer Profile (with technical Bid)

1. Name
2. Address for communication
3. Contact Numbers: Land Line: Mobile 1.
2.
4. Year of establishment
5. ROC details
6. Manufacturing Unit Address
7. Products proposed to be supplied as per RFP
8. Yearly production/ capacity
9. Turnover of the Company
10. Industrial license certificate in case of DIC/SSI
11. Contact details of authorised person

12. PAN
13. GST details
14. Email id

Signature of authorised person

(Enclose Copy of the attachments wherever required)

Specification of the Implements invited in the tender schedule
ROTAVATOR

Sl.No.	Parameters	Specifications
1.	Working width(mm)	1200 (Min.)
2.	Type of blade	C/L/J shape as per demand
3.	Overlap,mm	15(min.)
4.	Thickness of blade(mm)	7-8(min.)
5.	No. of Blades	30(Min.)
6.	Total number of flanges	5(Min.)
7.	Number of blades per flange	6(max.)
8.	Outer Diameter of rotor shaft with blade ,mm	75- 90
9.	Rotor diameter, including flange and blade mounted on flange, mm	425(Min.)
10.	Side Drive	Gear drive
11.	Depth control mechanism	Arc shaped skid on both side of rotavator
12.	Material of blades	Boron(28MnCrB5)/High Carbon Steel EN 42j
13.	Hardness of Blade Material, HRC	38(Min)
14.	Safety clutch/device (Shear bolt) in PTO driveshaft	must be provided
15.	Rotavator stand	must be provided
16.	Guard over propeller shaft	must be provided
17.	Sheet metal	AS36 / IS 2062
18.	Marking/labeling of machine	The labeling plates should be riveted on the body of machine having Name and address of manufacturer, Country of origin, Make, Model, Year of manufacturer, Serial number, Type, Size, required size of prime mover (kW)
19.	Literature	Operator manual, Service manual and Parts catalogues should be provided

.Cultivator

Sl.No.	Parameters	Specifications
1.	Type	<i>Rigid or Spring loaded</i>
2.	Hitch Type	<i>Three Point linkage, CAT-I/CAT-II</i>
3.	Number of tine	<i>5,7,9,11 or 13 (11 and above preferably folding)</i>
4.	Working width (meter)	<i>0.8 (Min) 1. 05 (Min) 1. 35 (Min) 1. 65 (Min) 1. 95 (Min)</i>
5.	Row to row spacing between tine, mm	<i>Adjustable, preferably in steps of 25 cm</i>
6.	Frame	<i>Shall be Rigid and strong</i>
7.	Type of working tool	<i>Reversible shovel, Sweep and Triangular</i>
8.	Material of tyne	<i>High Carbon steel for spring loaded & MS for rigid tyne</i>
	Thickness of tyne, (mm)	<i>22 (Min.) & 25 (Min)</i>
9.	Material of shovel	<i>High carbon steel EN42j</i>
10.	Hardness of shovel and sweep, HRC	<i>Min 36-45</i>
11.	Center to center distance toolbar, mm	<i>450 (Min)</i>
12.	Spring Index	<i>4 to 5</i>
13.	Marking/labeling of machine	<i>The labelling plates should be riveted on the body of machine having Name and Address of manufacture, Country of origin, Make, Model, Year of manufacture, Serial number, Type, Size, required size of prime mover (kW)</i>
14.	Literature	<i>Operator manual, Service manual and Parts catalogues should be provided</i>

DiscHarrow

Sl.No.	Parameters	Specifications
1.	Number of disc ineach gang	Four(Min.)
2.	Power Source	Tractor operated
3.	Typeof Disc	Plain ornotted
4.	Diameter ofDisc, mm	455 to 660
5.	Gang angle,(°)	Up to 24
6.	Bevel angle,(°)	30or40
7.	Length ofspool, (mm)	175 or 225±2
8.	Hardness ofDisc, HRC	38to 45
9.	Thickness of bevelededge,(mm)	0.5to1.5
10.	Width of beveled edge, (mm)	22(max)
11.	Thickness of Disc, (mm)	5.0(mini)
12.	Typeof center hole	Square/Circular withkey
13.	Concavity	82.5±5
14.	Scraper	Must be provided
15.	Material ofDisc	CarbonSteelEN45equivalenttoSAE1070 gradeandBoronSteelEN 10083 (30MnCr B5)
16.	HardnessHRC	38(Min) 48(boronSteel)
17.	Marking/labeling ofmachine	The labeling plateshouldberivetedonthe bodyofmachinehavingNameandAddressof manufacture,Countryoforigin,Make,Model, Yearofmanufacture,Serialnumber,Type, Size,requiredsize ofprimemover (kW),Weight (Kg)
18.	<i>Literature</i>	<i>Operatormanual, ServicemanualandParts catalogeshouldbeprovided</i>

MOULDBOARD PLOUGHS

SI No	Parameters	Specifications
1.	Number of bottoms	Two/Three/four/five (Subject to availability of Test Reports for 4 & 5 bottoms)
2.	Power Source	Tractor operated
3.	Hitch Type	Three Point linkage, CAT-I/CAT-II
4.	Working Width (mm)	250 (Min) per bottom
5.	Vertical suction (mm)	6 to 19
6.	Horizontal suction (mm)	3 to 20
7.	Thickness of Cutting edge, (mm)	2-5 and should be uniform
8.	Thickness of Mouldboard, (mm)	8 (Min.)
	Hardness, HRC	36
9.	Thickness of share tool bar, (mm)	12 (Min.)
	Share tool bar material	Boron (30MnCrB5) / High Carbon Steel En44
	Hardness, HRC	48 (Min.)
10.	Marking/labeling of machine	The labelling plates should be riveted on the body of machine having Name and Address of manufacture, Country of origin, Make, Model, Year of manufacture, Serial number, Type, Size, required size of prime mover (kW), weight (Kg)
11.	<i>Literature</i>	Operator manual, Service manual and Parts catalogues should be provided

TRACTOR OPERATED DISC PLOUGHS

SI.No.	Parameters	Specifications
1.	Number of bottoms	Two/Three/Four
2.	Hitch Type	Three Point linkage, CAT-I/CAT-II

3.	WorkingWidth (mm)	Two bottom -600 (Min.) Three bottom-850(Min.)
4.	Typeof Disc	Plain
5.	Diameter ofDisc, mm	610 to 810
6.	Disc angle,(°)	42±3
7.	Tilt angle,(°)	15to 25
8.	Hardness ofDisc, HRC	40(Min.)
9.	Thickness of bevelededge,(mm)	0.5to1.5
10.	Thickness of Disc, (mm)	5.0(Min.)
11.	Material of disc	CarbonSteelEN45equivalenttoSAE1070 gradeandBoronSteelEN 10083 (30MnCr B5)
12.	Hardness of material,HRC	38(min)for carbon Steel 48(min)for Boronsteel
13.	Typeof center hole	Square
14.	Concavity, mm	100±6.5
15.	Marking/labeling ofmachine	The labelling plateshouldberivetedonthebody ofmachinehavingNameandAddressof manufacture,Countryoforigin,Make,Model, Yearofmanufacture,Serialnumber,Type,Size, requiredsize of primemover (kW),Weight,(kg)
16.	Literature	Operatormanual, Servicemanualand Parts catalogueshould beprovided

StrawReaper

Sl.No.	Parameters	Specifications
1.	Towing hooktype	Clevis/Circular
2.	Powerinputshaftconnectionto tractor PTO	Propeller shaftwithuniversal joint
3.	Cutting width,mm	1500to2500
4.	Speed of chopping cylinder,rpm	800to 1000
5.	Chopping cylinder dia.mm	700 to 900

6.	PTO driveshaft - Safety against overload - Guard on shaft	Compliant with BIS Code Must be provided Must be provided
7.	Safety cover on all drive	Must be provided.
8.	Chopping cylinder blade	Serrated
9.	Material of blade and ledger plate	High carbon steel EN42J & EN 44
10.	Hardness of Blade and ledger plate, HRC	36 and 45 (Min.)
11.	Provision for concave clearance adjustment	Must be provided
12.	Provision for grain recovery	Must be provided
13.	Reel type	Pick up type
14.	Diameter of tyne bar, mm	20 (Min.)
15.	Arrangement for forward & backward movement of reel	Must be provided.
16.	Labeling of lubricating points	Must be provided.
17.	Marking/labeling of machine	The labeling plate should be riveted on the body of machine having name & address of manufacturer, country of origin, make, model, year of manufacture, serial number, size, required size of prime mover (kW/Hp)
18.	Literature	Operator manual, service manual & parts catalogue should be provided.

SEED CUM FERTILIZER DRILL

Sl.No.	Parameters	Specifications
1.	Size/Working width (mm)	No. of furrow openers X spacing between adjacent furrow openers
2.	Type of furrow opener	Shovel (Single point/reversible/spear point) / shoe type/ disc type (flat /concave disc)

3.	Number of furrowopeners	9-21
4.	Rowspacing (mm)	Adjustable/Step or step less
5.	Typeof seedmetering mechanism	Flutedroller/Plate type
6.	Type of fertilizer metering mechanism	Flutedroller/Plate/Agitator type
7.	Diameter ofgroundwheel (mm)	300(Min.)
8.	Seed/fertilizer hopper sheet thickness(mm)	MS 1.0(Min.) GI0.63(Min.)
9.	Thickness of seed/fertilizer tubes(mm)	Transparentplastic tubeswith2.5 mm(Min.)
10.	Material of furrowopener,	HighCarbonSteelEN42j / <i>Boron(28MnCrB5)</i>
11.	Hardness of furrowopeners,HRC	36(Min.)
12.	Provisionforadjustingtherow spacing	Must be Provided
13.	Provisionforadjustingdepthof seed andfertilizer	Must be Provided
14.	Provision for adjusting the seed/fertilizer rate	Must be Provided
15.	Provision of transparent seed/fertilizer tubes	Must be Provided
16.	Provisionof footboard	Must be Provided
17.	Provisionofcoveringdevice/press wheel	Must be Provided
18.	Provisionofrowmarker	Mustbe provided
19.	Provisionofmetalliccalibration plate	Must be provided
20.	Seedandfertilizerrateadjustment, Kg/ha	Max.125and500forseedandfertilizer respectively

17.	Marking/labeling of machine	The labeling plate should be riveted on the body of machine having name & address of manufacturer, country of origin, make, model, year of manufacture, serial number, size, required size of prime mover (kW/Hp)
21.	Provision of printed literature	Operator manual, Parts catalogue and Service/Workshop manual

STRIPTILLDRILL(Tractor Operated)

Sl.No.	Parameters	Specifications
1.	Type	Rotary
2.	Size(mm)	Working width 15. STRIP TILL DRILL (Tractor Operated)
3.	Type of drive	Gear/Chain drive
Seeding attachment		
4.	Type of furrow opener	Shovel (Single point/reversible shovel/spear point)/shoe type/ disc type (flat/concave disc)
5.	Number of furrow openers	7/9/11/13
6.	Row spacing (mm)	150 to 300 Step/step less
7.	Type of seed metering mechanism	Fluted roller/Plate type
8.	Type of fertilizer metering mechanism	Fluted roller/Plate type/Agitator
9.	Diameter of ground wheel, mm	300 (Min.)
10.	Seed/fertilizer hopper sheet thickness, mm	MS 1.0 (Min.) GI 0.63 (Min.)
11.	Thickness of seed/fertilizer tubes mm	Transparent plastic tubes with 2.5 mm (Min.)
12.	Material of furrow opener	<i>Boron steel (28MnCrB5)</i> High Carbon Steel, C75/EN42j
13.	Hardness of furrow openers, HRC	36 to 45

14.	Provision of safety clutch/device (shear bolt) in PTO driveshaft	Must be Provided
15.	Provision of rotavator shield to prevent flying of mud & stone	Must be Provided
16.	Guard over propeller shaft	Must be Provided
17.	Provision for adjusting the row spacing	Must be Provided
18.	Provision for adjusting depth of seed and fertilizer	Must be Provided
19.	Provision for adjusting the seed/fertilizer rate	Must be Provided
20.	Provision of transparent seed/fertilizer tubes	Must be Provided
21.	Provision of footboard	Must be Provided
22.	Provision of covering device/press wheel	Must be Provided
23.	Provision of row marker	Must be Provided
24.	Provision of metallic calibration plate	Must be Provided
25.	Marking/labeling of machine	The labeling plates should be riveted on the body of machine having name & address of manufacturer, country of origin, make, model, year of manufacture, serial number, size, required size of prime mover (kW/HP)
26.	Provision of printed literature	Operator manual, Parts catalogue and Service/Workshop manual

LaserLeveler

S.No.	Parameters	Specifications
1.	Power Source	Tractor
LaserTransmitter		
2.	Laser SourceWattage, mW	< 5.0
3.	Laser SourceRange , nm	630 to 680
4.	Laser Class	3A/3R
5.	OperatingTemperature °C	-20to +70 ±10%
6.	CompensationMethod	Electronic SelfLeveling through Steeper
7.	Rotation Speed,rpm	600(min)
8.	Level Accuracy,mm/30m	1.5(min)
9.	Operating Diameter,m	600-800
10.	Level Indicator	LED Flash
11.	Power Supply	Internal & External DCBatterywithCharge
12.	Enclosure	Ruggedwithminimumone-meterdropheigl onconcrete
LaserReceiver		
13.	Laser BeamReception	360 °
14.	Vertical ReceptionWindow, mm	FourWindows of170 to230 each
15.	DeadBand, mm	10to15
16.	LED Display	Red= Hi/Low, OnGrade= Green
17.	OperatingTemperature °C	-20 to+70±10%
18.	Operating Range,m	400- Radius
19.	Laser RPM	600/1200
20.	Enclosure	Rugged,Aluminumoranyotheralloy,Rust F
ControlBox		
21.	On Grade LED's	Green
22.	High/LowLED's	Red
23.	Operating Voltage	10to30VDC, PolarityProtected
24.	OperatingTemperature,°C	-20 to+70±10%
25.	Electrical Connections	All StandardMilitaryType

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26.	ValveCompatibility	ProportionalType(on/off) only
27.	CurrentUsage,Amp(A)	5to 10
28.	SwitchOptions	Raise/Lower, AutoManual
29.	EnclosureType	Casted Aluminum or any Alloy, Rust Proof
30.	Cables	Set of Cables with Military Connectors
31.	Accessories	Survey scale, Survey Receiver
Bucket Scrapper		
32.	WorkingWidth,mm	1500 to 2500
33.	BucketDepth, mm	600.(Min)
34.	Material,	MS Sheet, B2062 /EN10130
	SheetThickness, mm	10
35.	BladeHeight,mm	125±5
36.	Blade Thickness,mm	12±0.5
37.	BladeMaterial	High Carbon Steel, EN8 and above
38.	Noof Tyres	2/4(6X16)
39.	Mast	Rigid Mast/Gear Mast/Electric Mast
40.	Hydraulic Cylinder	Automatic Double Acting Hydraulic Cylinder
41.	Hydraulic Valve	Automatic Double Acting Hydraulic Valve assemble with pressure relief valve
42.	Accessories	Set of High-Pressure Hoses, Firm Tripod Stand, Top Link
43.	Marking/labeling of machine	The labeling plates should be riveted on the body of machine having name & address of manufacturer, country of origin, make, model, year of manufacture, serial number, wt in Kg, tractor kW/hp.
44.	Literature	Operator manual, service manual & parts catalogues should be provided

- All the laser leveler should be fitted with GPS Tracker

Portable Engine Operated Sprayer

Sl.No.	Parameters	Specification
1.	Tank capacity	--
2.	Discharge (ml/min)	8000 (min) at rated speed and rated pressure
3.	Pressure regulator	Must be provided
4.	Horizontal thrown up jet spraym.	6 (Min)
5.	Mass of spray gun, Kg	1.6 (Max)
6.	Spray gun marking	Manufacturer name or recognized trademark, & batch or code number As per BIS code
7.	Marking of nozzle	Manufacturer Name/Trade name, Batch or Code number, Nozzle designation must be provided. As per BIS code
8.	Pressure gauge	Must be provided
9.	Safety accessories	Mask, hand gloves and safety goggles, Apron, Gum boots must be provided
10.	Necessary tools & spares	Spanners, set of gasket, measuring jar should be provided
11.	Marking/labeling of sprayer	Must be riveted on the body of sprayer having name & address of manufacturer, month & Year of manufacture, Rated speed, Rated pressure, discharge rate, power rating of engine, SFC of engine.
12.	Literature	Operator manual, service manual & parts catalogues should be provided, One day training

POTATOPLANTER

Sl.No.	Parameters	Specifications
1.	Type	Semi-automatic/ Automatic
2.	Type of furrow opener	Ridger type with adjustable wings
3.	Number of furrow openers	2/3/4/5
4.	Type of seed metering mechanism	Horizontal revolving ring (Semi-automatic); Belt with cups/ Picker wheel type (Automatic)
5.	Row spacing (mm)	560 to 900 for semi-Automatic
6.	No. of rows of cups per belt	1 (min) for automatic
7.	Diameter of ground wheel, mm	300 to 650
8.	Seed hopper sheet thickness, mm	Mild Steel. 1.0 (Min.) Galvanized steel 0.63 (Min.) (IS: 6813)
9.	Material of furrow opener	High Carbon Steel EN42j / C75 or Higher
10.	Type of power transmission	Sprocket and chain/belt and pulley/gear type with proper guards.
11.	Provision for fertilizer placement	Must be Provided
12.	Provision for changing ridge spacing	Must be Provided
13.	Provision for adjusting the row spacing	Must be Provided
14.	Provision for changing plant spacing	Must be Provided
15.	Provision for adjusting depth of seed	Must be Provided
16.	Provision for adjusting the seed rate	Must be Provided
17.	Provision of footrest	Must be Provided
18.	Provision of covering device	Must be Provided
19.	Provision of row marker	Must be Provided
20.	Marking/labeling of machine	The labeling plates should be riveted on the body of machine having name & address of manufacturer, country of origin, make, model, year of manufacture, serial number, size, required size of prime mover kW/hp, weight (Kg)

21.	<i>Literature</i>	Operatormanual, ServicemanualandParts catalogueshould beprovided
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TractoroperatedAeroBlastsprayer

Sl.No.	Parameters	Specifications
1.	Tankcapacity	100(Min).
2.	Pressureregulator	Must be provided
3.	Pressure gauge with pressure dampener	LiquidFilledPressuregagemustbe provided
4.	Dischargerate, ml/min	Min. 8000atratedspeedandrated pressure
5.	Strainer atfilling hole	Must be provided
6.	Nozzle designation andmarking	Designation, manufacturers name or recognisedtrademark&batchorcode number should be marked
7.	Safetywear	Mask, Apron, handgloves, gogglesandGum bootsmust be provided,
8.	Provisionofdrainplugin the tank	must be provided
9.	P.T.O.driveshaft - Safetyagainst overload - Guardonshaft	Must be provided must be provided
10.	Guardon beltpulleydrive	Must be provided
11.	Labeling plate ofsprayer	Metalliclabelingplateshouldberivetedwith following information: Manufactures name, make,model serial number,month&yearofmanufacture, rated speed, ratedpressureandrecommended tractor horsepower
12.	Literature	Operatormanual, servicemanual&parts catalogueshouldbeprovidedEnglish, Hindi & regionallanguages.

Manually Operated Knapsack Sprayer

Sl.No.	Parameters	Specifications
1.	Tank capacity, l	10, 13 or 16 with tolerance of ± 0.5 liter.
2.	Straps, mm	Strap length 800(min) & width 38(min.)
3.	Pump discharge, ml/min	> 500 at 300kPa pressure
4.	Tank filling hole dia, mm	90(min)
5.	Tank material	Brass, plastic or stainless steel
6.	Lid or cap material	Brass, plastic, stainless steel
7.	Strainer at filling hole & at cutoff device	Must be provided
8.	Empty mass of sprayer, Kg	8.0(Max.)
9.	Delivery hose length, cm	110(Preferably)
10.	Cushion on strap, mm	Thickness 20(min) and width 40(min.)
11.	Backrest cushion	Must be provided
12.	Spray lance marking	Manufacturer name or recognized trademark, nominal length & batch or code number
13.	Safety accessories	Mask, Apron, hand gloves, gum boots and safety goggles must be provided
14.	Marking of nozzle	Manufacturer Name/Trade name, Batch or Code number, Nozzle designation must be provided. As per BIS
15.	Spray lance construction	Should be seamless
16.	Making/labeling of sprayer	The labeling plate should be provided on the body of sprayer having name & address of manufacturer, month & year of manufacture, rated pressure, discharge rate, country of origin.
17.	Literature	Operator manual, service manual & parts catalogues should be provided

TractorOperatedBoomSprayer

Sl.No.	Parameters	Specification
1.	Tankcapacity	Shouldnotbe lessthan 100 Lit.
2.	Provisinforfolding of boom	Must be provided
3.	Pressureregulator	Must be provided
4.	Pressure gauge with pressure dampener	LiquidFilledPressuregaugemustbe provided
5.	Discharge rate,ml/min	Min 8000. atratedspeedandrated pressure
6.	Strainer atfilling hole	Must be provided
7.	Spray gundesignationand marking	Designation,manufacturers name or recognisedtrademark&batchorcode number should be marked
8.	Length of sprayboom, <i>m</i>	<i>6(Min.)</i>
9.	Nozzle designation and marking	Designation,manufacturers name or recognisedtrademark&batchorcode number should be marked
10.	P.T.O. driveshaft - Safetyagainst overload - Guardonshaft	mustbe provided must be provided
11.	Guardon belt pulleydrive	mustbe provided
12.	Safetywear	Mask,handgloves,gumbootsandgoggles, Apronsmust be provided
13.	Labeling plate of sprayer	Metalliclabelingplateshouldberivetedwith following information Manufactures name, make,model serial number,month&yearofmanufacture, rated speed,ratedpressureandrecommended tractor horsepower
14.	Literature	Operatormanual,servicemanual&parts catalogueshould beprovided

DalMill

SI.No.	Parameters	Specifications
1.	Capacity, kg/hr	100(Min.)
2.	Input	Preconditioned wholerawpulses
3.	Output	Dehuskedpulses,split pulses, broken& husk
4.	Grades	To separate whole dehusked pulses, split & broken.
5.	Husk separation	Husk separation through aspirator assembly
6.	Oil can	Oil can provided for oil treatment during dal processing.
7.	Cautionary notice	Must be provided
8.	Marking/labeling of machine	The labelling plate should be riveted on the body of machine having Name and Address of manufacture, Country of origin, Make, Model, Year of manufacture, Serial number, Type, required size of prime mover (kW)
9.	<i>Literature</i>	<i>Operator manual, Service manual and Parts catalogues should be provided</i>

RiceMill

Sr.no.	Parameter	Specification
1.	Capacityofminiricemill,kgofpaddy per hour.	750 minimum
2.	Sheetthicknessusedforconstruction ofvarious part, mm	0.7(Min.)
3.	Roller Hardness ofpolisher, HRC	40(Min.)
4.	Hoppersheetthicknessofpolisher, mm	0.5(Min.)
5.	Cautionarynotice	Mustbe provided
6.	Marking/labeling ofmachine	The labellingplateshouldberivetedonthe bodyofmachinehavingNameandAddress ofmanufacture,Countryoforigin,Make, Model,Yearofmanufacture,Serialnumber, Type,requiredsizeofprime mover (kW)
7.	Literature	Operatormanual, ServicemanualandParts catalogeshould beprovided

Multi-crop Thresher

Sl.No.	Parameters	Specifications
1.	Type	Tractor/Power tiller/Engine/Electric motor operated
2.	Type of crop feeding	Chute-fed,/conveyor-fed/feedroller-fed/hopper-fed
3.	Type of threshing drum/cylinder	Hammermill/Raspbar/Spiketooth/Syndicator
4.	Suitability of crop	Cereals/Paddy/Soybean/Groundnut, etc. / Multi-crop (Min 2 crops)
5.	Total length of feeding chute and covered portion (mm)	900(min) and 450(min)
6.	Material and thickness of feeding chute/hopper (mm)	MS sheet 1.6 (min)
7.	Number of hammers/beaters/rasp bars/spikes/ chopping knives	Depending on the size of drum
8.	Number of sieves	2(min)
9.	Dimension of sieves/size of apertures or holes, mm	Thickness of sieve 1.0(min)
10.	Number of blower/aspirator	1(min)
11.	Concave clearance (mm) :	15(min) adjustable
12.	Recommended threshing cylinder speed (rpm)	To be declared by the manufacturer
13.	Recommended blower speed (rpm)	To be declared by the manufacturer
14.	Provision of adjusting concave clearance	Must be Provided
15.	Provision of changing cylinder/drum speed	Must be Provided
16.	Provision of changing blower speed	Must be Provided
17.	Provision of changing air-flow rate	Must be Provided
18.	Provision of changing shaker unit speed	Must be Provided

19.	Provisionofchanging sieveinclination	Mustbe Provided
20.	Provisionofeasy replacement ofsieves	Mustbe Provided
21.	Guardsagainst allmoving parts/drives	Mustbe Provided
22.	Guardover propeller shaft(if applicable)	Mustbe Provided
23.	Protectionagainstentryofdustin bearings	Mustbe Provided
24.	Provisionofstand for storage/parking	MustbeProvided
25.	Provision fortransportation ofthresher	Mustbe Provided
26.	Provision of label/plate containing cautionary notices in vernacular languages and their pictorial representation asper Indian Standard	Mustbe Provided
27.	Recommended speed of threshing cylinder (rpm)	Must be provided
28.	Direction of rotation of threshing cylinder	Clockwise/anti-clockwise
29.	Marking/labeling	The labeling plates should be riveted on the body of machine having name & address of manufacturer, country of origin, make, model, year of manufacture, serial number, size, required size of prime mover kW/hp
30.	<i>Literature</i>	<i>Operator manual, Service manual and Parts catalogues should be provided</i>

BRUSHCUTTER

Sl.No	Parameters	Specification
1.	Type	Self-propelled, portable
2.	Type of cutting attachment	Circular disc/Straight blade/nylon rope
Circular blade		
3.	Material of circular/straight blade	Alloy steel
4.	No. of teeth on circular disc blade	50-100
5.	Root diameter/Overall diameter (mm)	200-270
6.	Thickness of disc (mm)	1.5 Min.
7.	Teeth thickness (mm)	2.0 Min.
8.	Material of Blade	M42
9.	Hardness of Blade, HRC	68-70
Straight blade		
10.	Diameter of straight blade (mm)	250-350
11.	Width at ends/at center (mm)	50/70, Min.
12.	Thickness of straight blade (mm)	1.5 Min.
Nylon rope		
13.	Length of nylon rope (mm)	2000-4000
14.	Diameter of nylon rope (mm)	2.5 to 4.0
15.	Type of engine	Compression ignition/Spark ignition
16.	Starting method	Manual/recoil/self-starting
17.	Type of clutch	Cone/centrifugal
18.	Type of gear drive	Bevel pinion
19.	Capacity of fuel tank (l)	1.0 (Min.)
20.	On/off provision in fuel supply system	Must be provided
21.	Provision for easy start of engine	Must be provided
22.	Provision for emergency stop of engine	Must be provided
23.	Provision for shield/cover to prevent flying of mud & stone from rotor	Must be provided

24.	ProvisionforGrassdeflectorattherear ofthe cutting mechanism	Must be provided
25.	ProvisionforPadwithshoulderbeltto dampenthe vibration	Must be provided
26.	Provision for cover on exhaust.	Must be provided
27.	Directionofexhaustemissionaway from operator	Must be provided
28.	Provision for safetykit (helmet,ear plug, mask, hand gloves, safety glass, Protectivecloth,safetysshoes)	Must be provided
29.	Marking/labelling ofmachine	The labellingplateshouldberivetedonthe bodyofmachinehavingNameandaddress ofmanufacturer&Applicant,Countryof origin,Make,Model,Yearofmanufacturer, Serialnumber,Enginenumber,EngineHP, ratedrpm &SFC.
30.	Literature	Operatormanual, ServicemanualandParts catalogueshould beprovided.

SELFPROPELLEDWEEDER

SI.No.	Parameters	Specifications
1.	Type	Self-propelled, walk behind
2.	Working width(mm)	300 –1500
3.	Type of engine	Compression ignition/Spark ignition
4.	Starting method	Manual/recoil/self-starting
5.	Type of clutch	Dry/Wet
6.	Type of primary gear box	Sliding/constant mesh or combination of both
7.	Type of secondary gear box	Gear type
8.	Material for rotor shaft	SAE1045(CRS) / EN8 / EN9
9.	No. of flanges	4- 10
10.	Type of flanges	Square/circular/rectangular
11.	Distance between consecutive flanges(mm)	80 to 150
12.	No. of blades in each flange	3- 6
13.	No. of rotor blade	12(Min.)
14.	Thickness of rotor blade (mm)	5(Min.)
15.	Material of blade	Boron(28MnCrB5)/High Carbon Steel EN42j
16.	Hardness of Blade, HRC	38(Min.)
17.	Shape of rotor blade	C / J shape
18.	Provision for handle height adjustment	Must be provided
19.	Provision for handle rotation	Must be provided
20.	Provision for emergency stop of engine	Must be provided
21.	Provision for easy start of engine	Must be provided
22.	Provision for shield/cover to prevent flying of mud & stone from rotor	Must be provided
23.	Depth control mechanism	Must be provided
24.	Provision for transport wheels	Must be provided
25.	Provision for cover on exhaust.	Must be provided

26.	Direction of exhaust emission away from operator	Must be provided
27.	Marking/labelling of machine	The labelling plates should be riveted on the body of machine having Name and address of manufacturer & Applicant, Country of origin, Make, Model, Year of manufacturer, Serial number, Engine number, Engine HP, rated rpm & SFC.
28.	Literature	Operator manual, Service manual and Parts catalogues should be provided.

PNEUMATIC PLANTER

Sl.No	Parameters	Specifications
1.	Size	No. of furrow openers × spacing between adjacent furrow openers
2.	Type of furrow opener	Runner / Disc type
3.	Number of furrow openers (for seed and fertilizer each)	2-6
4.	Row spacing (mm)	300 (Min.)
5.	Type of seed metering mechanism	Vacuum seed metering mechanism
6.	Seed/fertilizer hopper sheet thickness, mm	MS 1.0 (Min.) GI 0.63 (Min.) (IS: 6813) FRP 2.5 (Min.)
7.	Thickness of seed/fertilizer tubes	Transparent plastic tubes with 2.5 mm (Min.)
8.	Material of furrow opener	Boron steel 28MnCrB5. High Carbon Steel EN42j and above
9.	Hardness of furrow openers, HRC	38 (min)
10.	Guard over propeller shaft	Must be Provided
11.	Provision for adjusting the row spacing	Must be Provided
12.	Provision for adjusting depth of seed/fertilizer	Must be Provided

13.	Provisionforadjustingtheseed/fertilizer rate	Mustbe Provided
14.	Provisionofcoveringdevice/press wheel	Mustbe Provided
15.	Provisionofrowmarker	Mustbe Provided
16.	Provisionofmetalliccalibrationplate/ CalibrationChart	Mustbe Provided
17.	Marking/labeling	The labelingplateshouldberivetedonthe bodyofmachinehavingname&addressof manufacturer,countryoforigin,make, model,yearofmanufacture,serialnumber, size,requiredsize ofprimemoverkW/hp
18.	<i>Literature</i>	<i>Operatormanual, ServicemanualandPartscatalogueshouldbeprovided</i>

RICETRANSPLANTER

Sl.No.	Parameters	Final Specifications
1.	Type of machine	Manually operated walk behind/ self-propelled walk behind/self-propelled ride-on type
2.	Working width (mm)	880 (Min)
3.	Type of planting mechanism	Finger type for mat type nursery/cup type for seedling cups
4.	Number of rows	4,6,8
5.	Row spacing (mm)	220 to 300 (Adjustable)
6.	Average hill spacing (mm)	120 to 250 (Adjustable)
7.	Type and number of floats	Wooden plank/metallic sheet/PVC sheet/hollow plastic.
8.	Angle of mat sliding board, (degrees)	45 to 70 (Adjustable)
9.	Material of planting fork/fingers/tweezers	Stainless steel type 4 and above
10.	Provision for adjusting the row spacing	Must be provided
11.	Provision for adjusting depth of planting	Must be provided
12.	Provision for adjusting hill spacing	Must be provided
13.	Provision for adjusting number of plants per hill	Must be provided
14.	Provision for area recorder	Must be provided
15.	Marking/labeling	The labeling plates should be riveted on the body of machine having name & address of manufacturer, country of origin, make, model, year of manufacture, serial number, size, required size of prime mover kW/hp
16.	<i>Literature</i>	<i>Operator manual, Service manual and Parts catalogues should be provided</i>

ChaffCutter

Sl.No.	Parameters	Specifications
1.	Type	Power operated
2.	Basis of cutting mechanism Type	Flywheel or Cylinder
3.	Basis of cut chaff dropping position Type	Let fall, throw away or blow
4.	Material of blade	Mn 42
5.	Hardness of Blade, HRC	48-52
6.	Length of conveyor, mm	1200 (Min.)
7.	Length of chute, mm	900 (Min.)
8.	Thickness of chute sheet, mm	≥ 1.6
9.	Covering of chute or conveyor, mm	450 minimum
10.	Height of feeding unit, mm	750 to 1100
11.	Cautionary notice	Must be provided
12.	Marking/labeling of machine	The labelling plates should be riveted on the body of machine having Name and Address of manufacture, Country of origin, Make, Model, Year of manufacture, Serial number, Type, required size of prime mover (kW)
13.	<i>Literature</i>	<i>Operator manual, Service manual and Parts catalogues should be provided</i>

SubSoiler

Sl.No.	Parameters	Specifications
1.	Type	Tractor mounted
2.	Power source	Tractor of 35HP and above
3.	Hitch type	Three point, CAT-I/CAT-II
4.	Material of mainframe	Mild steel
5.	Beveled length at cutting edge of share (mm)	10.0 (Max.)
6.	Thickness of cutting edge (mm)	0.5 to 2.0
7.	Reversibility of share	Must be provided
8.	Material of share	Boron Steel 30 MnCr B5
9.	Provision to change the angle of share	Must be provided
10.	Provision for parking stand	Must be provided
11.	Marking/labelling of machine	The labelling plate should be riveted on the body of machine having Name and address of manufacturer, Country of origin , Make, Model, Year of manufacturer, Serial number, Recommended tractor hp
12.	Literature	Operator manual, Service manual and Parts catalogues should be provided.

TRACTOR OPERATED POWER WEEDER

Sl.No.	Parameters	Specifications
1.	Type	Tractor mounted, PTO Powered
2.	Working width(mm)	1500(min.)
3.	Type of blades	Hatchet/Straight/Curved/L type
4.	Material of Blade	Boron steel 28MnCrB5/ High Carbon steel EN42j
5.	Hardness of material, HRC	38(min)
6.	Type of primary transmission	Gear
7.	Type of secondary transmission	Gear/chain & sprocket
8.	Material for rotor shaft	SAE 1045 (CRS) / EN 8/EN 9
9.	No. of flanges per row	2 (Min.)
10.	Type of flanges	Square/circular/rectangular
11.	No. of blades in each flange	4 (Min.)
12.	No. of rotor blade	8 (Min.)
13.	Thickness of rotor blade (mm)	5 (Min.)
14.	Material of blade	Boron Steel / 28 MnCrB5 EN42j
15.	Hardness of blade, HRC	38 (min)
16.	Provision for shield/covert to prevent flying of mud & stone from rotor	Must be Provided
17.	Depth control mechanism	Must be Provided
18.	Marking/labeling of machine	The labelling plates should be riveted on the body of machine having Name and Address of manufacture, Country of origin, Make, Model, Year of manufacture, Serial number, Type, required size of prime mover (kW)
19.	Literature	Operator manual, Service manual and Parts catalogues should be provided.

TRACTOR OPERATED REAPER-CUM-BINDER

Sl.No.	Parameters	Specifications
Reaping Unit:		
1.	Effective width of cutter bar (mm)	1200
2.	Type of crop dividers	Shoe
	Number of crop dividers	Two
3.	Type of knife section	Serrated
4.	Number of knife sections on cutter bar	As per design
5.	Length of ledger plate (mm)	As per design
6.	Type of crop conveyor	Chain type/belt type
7.	Material of knife section	High carbon steel EN42J and above
8.	Material of ledger plate	High carbon steel EN44 and above
9.	Hardness of knife section, HRC	38 (min)
10.	Hardness of ledger plate, HRC	45 (Min)
Crop collecting Unit		
11.	Type	Forks with fingers
12.	No. of forks	6
Crop binding mechanism		
13.	Type	Knotting
14.	Type of ropes	Nylon/Jute/PP Rope
15.	Provision of leveling the cutter bar	Must be provided
16.	Provision of changing the crop bundle size	Must be provided
17.	Guards against all moving parts/drives and hot parts	Must be provided
18.	Slip clutch/safety pins at cutter bar drive	Must be provided
19.	Slip clutch/safety pins at conveyor drive	Must be provided

20.	Guardover propeller shaft	Must be provided
21.	Provisionofsafetyclutch/device(shear bolt) inPTOdrive shaft	Must be provided
22.	Provisionofstand for storage/parking	Must be provided
23.	Marking/labeling ofmachine	The labelling plates should be riveted on the body of machine having Name and Address of manufacture, Country of origin, Make, Model, Year of manufacture, Serial number, Type, required size of prime mover (kW)
24.	<i>Literature</i>	<i>Operator manual, Service manual and Parts catalogues should be provided</i>

.POWERHARROW

Sl.No.	Parameters	Specification
1.	Type	Tractor mounted, PTO Powered
2.	Working width(mm)	750(Min.)
3.	Mainframe	RectangularMSbox
4.	Thickness of sheet of box(mm)	5(Min.)
5.	Thickness of sidesupport sheet(mm)	8.0(Min.)
6.	Provisionforadjustmentofheight trailing board	in Must be provided
7.	typeofblade	Long aggressive anddrag type
	Numberof blades	10(Min.)
8.	Number of flanges	3(Min.)
9.	Number of blade perflange	2(Min.)
10.	Thickness of blade ,mm	12±0.5(Min.)
	Length of blade ,mm	280±5
11.	RPM of rotor shaft@ 540 PTOrpm	325±5(Max.)
12.	Primaryreduction	Multispeed Gear boxfor 540 &1000RPM
13.	Secondaryreduction	Gear
14.	Provisionofoillevelchecking,breather cap&drainpluginprimary secondarygear box	& Must be provided
15.	Provision for stand	Must be provided
16.	Safetyprovisioninpropeller shaft	Must be provided
17.	Provision fordepthcontrol mechanism	Must be provided
18.	Marking/labelling of machine	The labelling plates should be riveted on the body of machine having Name and address of manufacturer, Country of origin, Make, Model, Year of manufacturer, Serial number, Type, size, required size of prime mover (kW)
19.	Literature	Operator manual, Service manual and Parts catalogues should be provided.

SELFPROPELLEDREAPER

Sl.No.	Parameters	Specifications
1.	Type of machine	Walk-behind type
2.	Effective width of cutter bar (mm)	1100 (Min.)
3.	Number of crop dividers	5 (Min.)
4.	Type of knife section	Serrated
5.	Number of knife sections on cutter bar	24 (Min.)
6.	Type of crop conveyor	Chain/Belt
7.	Numbers and type of wheel equipment	Two/Pneumatic or Iron
8.	Type of prime mover	Diesel/Petro/Kerosene/Petrol start kerosene run IC engines.
9.	<i>Minimum</i> power of prime mover (kW)	2.0 to 4.5
10.	Material of knife section	High Carbon steel EN42 J or above
11.	Material of knife back	High Carbon steel EN42 J or above
12.	Material of ledger plate	High Carbon steel EN44 above
13.	Hardness of knife section HRC	38 (Min)
14.	Hardness of ledger plate	45 (Min.)
15.	Provision for adjusting the height of cutter bar	Must be provided
16.	Guards against moving parts/drives and hot parts	Must be provided
17.	Spark arrester in engine exhaust	Must be provided
18.	Location and direction of exhaust emission to be away from the operator and machine for satisfactory operation	Must be provided
19.	Slip clutch/safety pins at cutter bar drive	Must be provided
20.	Slip clutch/safety pins at conveyor drive	Must be provided

21.	Provision of row marker/ crop guide	Must be provided
22.	Marking/labelling of machine	The labelling plates should be riveted on the body of machine having Name and address of manufacturer, Country of origin, Make, Model, Year of manufacturer, Serial number, Type, size, Size of prime mover (kW)
23.	<i>Literature</i>	<i>Operator manual, Service manual and Parts catalogues should be provided</i>

Tractor Operated HTPS Prayer

Sr. No.	Parameter	Specification
1.	Tank capacity, l	100 (Min.)
2.	Pressure regulator	Must be provided
3.	Pressure gauge with pressure dampener	Full scale reading of pressure gauges should not be more than 2.5 times and not less than 1.5 times the rated pressure.
4.	Discharge rate, ml/min	<i>Min. 8000 at rated speed and rated pressure.</i>
5.	Strainer at filling hole	Must be provided
6.	Hose length (m)	100 (Min.)
7.	Provision of hose reel	Must be Provided
8.	Spray gun designation and marking	Designation, manufacturer's name or recognised trademark & batch or code number should be marked
9.	Length of spray gun	Should not be less than 500 mm
10.	Nozzle designation and marking	Designation, manufacturer's name or recognised trademark & batch or code number should be marked
	Nozzle Material	Brass/nylon/hardened/Stainless Steel/tungsten Carbide, ceramic
11.	Mass of spray gun	Must be less than 1.6 Kg
12.	Provision of drain plug in the tank	Must be Provided
13.	Safety against overload P.T.O. drive shaft and Guard on shaft	Must be provided
14.	Guard on belt pulley drive	Must be Provided
15.	Safety wear	Mask, Apron, hand gloves, Gum boots and goggles must be provided,
16.	Marking/labelling of machine	The labelling plates should be riveted on the body of machine having Name and address of manufacturer, Country of origin, Make, Model, Year of manufacturer, Serial number, Type, size, required size of prime mover (kW)

17.	Literature	Operatormanual, servicemanual&parts cataloguemust beprovidedinEnglish, Hindi, Local languages.
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.PowerMaizeDehuskarCumSheller

SI.No.	Parameters	Specifications
1.	Type	Tractor/Power tiller/Engine/Electric motor operated
2.	Type of crop feeding	Chute-fed/conveyor-fed/feed roller-fed/hopper-fed
3.	Angle of mounting of feeding chute, degree ($^{\circ}$)	10-15
4.	Total length of feeding chute, mm	900(min)
	covered portion of feeding chute (mm)	450(min)
5.	Material of feeding chute/hopper	MS sheet
	Thickness of feeding chute/hopper (mm)	1.6(Min.)
6.	concave clearance, mm	20-35
7.	Feed Rate, kg/hr	400-800
8.	Number of screens	2(Min.)
9.	Aspirator:	1(Min.)
10.	Recommended threshing/shelling cylinder speed m/sec	6.2 to 7.6
11.	Provision of adjusting concave clearance	Must be Provided
12.	Provision of changing cylinder/drum speed	Must be Provided
13.	Provision of changing blower speed	Must be Provided
14.	Provision of changing air-flow rate	Must be Provided
15.	Provision of changing shaker unit speed	Must be Provided

16.	Provision of changing screen pitch/inclination	Mustbe Provided
17.	Provision of easyreplacementof screens	Mustbe Provided
18.	Guardsagainst allmoving parts/drives	Mustbe Provided
19.	Guardover propeller shaft(if applicable)	Mustbe Provided
20.	Protectionagainstentryofdustin bearings	Mustbe Provided
21.	Provisionofstand for storage/parking	Mustbe Provided
22.	Provision fortransportation ofthresher	Mustbe Provided
23.	Provision of label/plate containing cautionary notices in vernacular languages and their pictorial representation asper Indian Standard	Mustbe Provided
24.	Marking/labelling ofmachine	The labellingplateshouldberivetedonthe bodyofmachinehavingNameandaddress ofmanufacturer, Countryoforigin, Make, Model, Yearofmanufacturer, Serialnumber, Type, size, requiredsizeofprimemover (kW).
25.	Literature	Operatormanual, ServicemanualandParts catalogeshould beprovided

.TractorOperatedReaper

Sl.No.	Parameters	Specification
1.	Type	Tractor Mounted, PTO powered
2.	Type of mounting	Front/Rear or side mounted
3.	Working width,mm	1100 (Min.)
4.	Type of knife section	As recommended by manufacturer
5.	Type of crop conveyor	Chain/Belt
6.	Material of knife section	High carbon steel EN42J and above
7.	Material of knife ledger	High carbon steel EN44
8.	Hardness of knife section ,HRC	38
9.	Hardness of ledger plate,HRC	45
10.	Provision to adjust cutter bar height ,mm	50(Min.)
11.	Provision for quick fit attachment with tractor	Must be provided
12.	Provision for windrowing the harvested crop	Must be provided
13.	Guards against all moving parts/drives and hot parts	Must be provided
14.	Slip clutch/Safety pins at cutter bar drive	Must be provided
15.	Provision for row marker/crop guide	Must be provided
16.	Marking/labelling of machine	The labelling plates should be riveted on the body of machine having Name and address of manufacturer, Country of origin, Make, Model, Year of manufacturer, Serial number, Type, size, required size of prime mover (kW)
17.	<i>Literature</i>	<i>Operator manual, Service manual and Parts catalogues should be provided</i>

TractoroperatedFertilizerBroadcaster

SI.No.	Parameters	Specifications
1.	Hopper capacity, Kg	Min. 200(180L Min)
2.	Fertilizer hopper sheet thickness, mm	2(Min.) Galvanized/powder coated
3.	Feedcontrolmechanism	Proper graduationssshould be provided
4.	Fertilizer agitator	Must be provided
5.	Fertilizer spreading range(m)	6(Min.)
6.	Drive safety	Mustbe provided
7.	Material ofconstructionofHopper	MSSSteel, GalvanizedSheet, Aluminum fiber GlassReinforcedplastic
8.	Anti-corrosive painting of fertilizer hopper	Mustbe provided
9.	Marking/labelling ofmachine	The labelling plateshouldberivetedonthe bodyofmachinehavingNameandaddress ofmanufacturer, Countryoforigin, Make, Model, Year of manufacturer, Serial number, Type, size, requiredsizeofprime mover (kW)
10.	Literature	<i>Operatormanual, ServicemanualandPartscat alogueshouldbeprovided</i>

Groundnut Digger cum-Shaker

Sl.No.	Parameters	Specifications
1.	Type	Tractor Mounted, PTO powered
2.	Working width,mm	900(Min.)
3.	Working toolbar/Digging blade	Vshape/Trapezoidal plate type/Buckhar type blade
4.	Material of blade	Boron Steel 28MnCrB5 High carbon steel EN42J
5.	Hardness of Blade material, HRC	38(Min.)
6.	Thickness of blade material, mm	6.0(Min.)
7.	Provision for blade angle adjustment	Must be provided
8.	Provision for varying depth of cut	Must be provided
9.	Provision to adjust angle of inclination of elevator with the horizontal, degree(°)	10 to 20
10.	Number of gauge wheel	2(Min.)
11.	Provision for Oil level checking, Breather cap & drain plug in gear box	Must be provided
12.	Provision for tension adjustment in power transmission (Belt pulley & chain sprocket drive)	Must be provided
13.	Material of rattler bars	Mild steel FE415
	Thickness of rattler bars, mm	8.0(Min.)
14.	Spacing between two rattler bars (mm)	50(Min.)
15.	No. of spikes on each rattler bar	5(Min.)
16.	Adjustment for rattler bar agitation	Must be provided
17.	No. of windrowing rods	5(Min.)
	& size of windrowing rods, mm	Ø10(Min.)
18.	Guard on power transmission system/ moving parts.	Must be provided
19.	Slip clutch/ Safety provision in propeller shaft	Must be provided

20.	Marking/labelling of machine	The labelling plates should be riveted on the body of machine having Name and address of manufacturer, Country of origin, Make, Model, Year of manufacturer, Serial number, Type, size, required size of prime mover (kW)
21.	<i>Literature</i>	<i>Operator manual, Service manual and Parts catalogues should be provided.</i>

RaisedBedPlanter

SI.No.	Parameters	Specifications
1.	Rowspacing	Adjustable
2.	Typeof seedmetering mechanism	Flutedroller/Inclinedplatefeedroller/ Cup feed / Cellfeed
3.	Typeoffertilizer metering mechanism	Flutedroller/Inclinedplatefeedroller/ Cup feed / Cellfeed
4.	Bed height,mm	150(Min.) (adjustable)
5.	Seed/fertilizerhoppersheetthickness mm	M.S.1.0(Min.) G.I 0.63(Min.)
6.	Thickness of seed/fertilizer tubes	Transparentplastictubeswith2.5mm (Min.)
7.	Material of furrowopeners	HighCarbonSteel– En42jor above
8.	Hardness of furrowopener HRC	38to45
9.	Provisionofadjustingdepthofseed& fertilizer	Must be provided
10.	Provisionofadjustingseed/fertilizer rate	Must be provided
11.	Provisionoftransparentseed/fertilizer tube	Must be provided
12.	Provisionofseedcovering device	Must be provided
13.	Provisionofmetallic calibration plate	Must be provided
14.	Marking/labelling ofmachine	The labelling plates should be riveted on the body of machine having Name and address of manufacturer, Country of origin, Make, Model, Year of manufacturer, Serial number, Type, size, required size of prime mover (kW)
15.	Literature	Operator manual, Service manual and Parts catalogues should be provided

.MULTICROPCROPPLANTER

S.No.	Parameters	Specifications
1.	Power Source	Tractor
2.	Number of furrowopeners	5(Min.)
3.	Typeof seedmetering mechanism	Inclined platefeedroller /Cellfeed
4.	Diameter ofgroundwheel,mm	300(min)
5.	Seed hopper sheetthickness, mm	1.6(min)
6.	Material of furrowopener	Hardenedtungsten carbonsteel
7.	Typeof power transmission	Sprocketandchain/beltandpulley/gear typewith proper guards.
8.	Provision forfertilizer placement	Must be provided
9.	Provisionforadjustingtherowtorow spacing, mm	Asperrecommendedforcroppreferablyin steps U-clamp forfixing furrowopeners
10.	Thickness of seed/fertilizer tubes	Transparentplastictubeswith2.5mm (Min.)
11.	Hardness of furrowopener tool HRC	38to45
12.	Provision for changing plantspacing	Must be provided
13.	Provision foradjusting depth of seed	Must be provided
14.	Provision foradjusting theseed rate	Must be provided
15.	Provisionofcovering device	Must be provided
16.	Provisionofrowmarker	Must be provided
17.	Marking/labelling ofmachine	The labelling plateshould berivetedon the bodyofmachinehavingNameand addressofmanufacturer, Countryoforigin, Make, Model, Yearofmanufacturer, Serial number, Type, size, requiredsizeofprime mover (kW)
18.	<i>Literature</i>	<i>Operatormanual, Servicemanualand Partscatalogueshouldbeprovided</i>

POSTHOLEDIGGER

Sl.No.	Parameters	Specifications
1.	Power source	Tractor mounted
2.	Material of mainframe	Mild steel
3.	Thickness of beveled edge (mm)	5(Min.)
4.	Augur Diameter,mm	150 –900
5.	Material of blade	HighcarbonsteelEN42joranyhigher grade.
6.	Provision for parking stand	Must be provided
7.	Marking/labelling of machine	The labelling plates should be riveted on the body of machine having Name and address of manufacturer, Country of origin, Make, Model, Year of manufacturer, Serial number, Type, size, required size of prime mover (kW)
8.	<i>Literature</i>	<i>Operator manual, Service manual and Parts catalogues should be provided</i>

ROUNDBALER(Mini)

SI.No	Parameters	Specifications
1.	Power source	Tractor
2.	Working width(mm)	750(Min.)
Pick-upUnit		
3.	No.of tyne bars	4to 5
4.	No.of tynes on each bar	12/14/16/20/22 or28/30/32
5.	Tynes spacing (mm)	52to68
BaleUnit		
6.	Belling mechanism	Roll Bar-Chain/Roller/Roll Belt
7.	No.of bale rollers/No. of tynebar	19(Max)
8.	Dia.Ofbalerollers (mm)	35(Min.)
9.	Size of balerolls	15-35kg
10.	Speedofbalerollerscorrespondingto540 PTO rpm (rpm)	117 to 328
11.	Size of bale, L×D (mm)	Dia 500 (Min)for small bales Length 700 (min)
12.	Baleweight(kg)	14-30
13.	Provision forbale density adjustment	Must be provided
14.	Provisionofsafetyclutch/device(shear bolt) inPTOdrive shaftand pick-up unit	Must be provided
15.	Guardover propeller shaft	Must be provided
16.	Provisionofguardsovertransmissionfor safety	Must be provided
17.	Provisionforsafetyatfeederunitagainst overloading	Must be provided
18.	Provision fortransportation	Must be provided
19.	-Any other	ShaftandPinshouldbeofminEN9or higher specification

20.	Marking/labelling of machine	The labelling plate should be riveted on the body of machine having Name and
		address of manufacturer, Country of origin, Make, Model, Year of manufacturer, Serial number, Type, size, required size of prime mover (kW)
21.	Literature	Operator manual, Service manual and Parts catalogues should be provided

ROUNDBALER(Big)

Sl.No	Parameters	Specifications
1.	Working width(mm)	1200 (Min.)
2.	Recommended power source	Tractor
Pick-upUnit		
3.	No.of tyne bars	4to 5
4.	No.of tynes on each bar	12/14/16/20/22 or28/30/32
5.	Tynes spacing (mm)	52to68
BaleUnit		
6.	Belling mechanism	Roll Bar-chain/Roller/roller
7.	Size of bale,mm	122x125 to 140x160 (for large bales)
8.	Balers weight,kg	40(min)
9.	No.of bale rollers	9(min.)
10.	Provision forbaledensityadjustment	Must be provided
11.	Provisionofsafetyclutch/device(shear bolt) inPTOdrive shaftand pick-up unit	Must be provided
12.	Guardover propeller shaft	Must be provided
13.	Provisionofguardsovertransmissionfor safety	Must be provided
14.	Provisionforsafetyatfeederunitagainst overloading	Must be provided
15.	Provision fortransportation	Must be provided
16.	-Any other	ShaftandPinshouldbeofminEN9or higher specification
17.	Marking/labelling ofmachine	The labelling plates should be riveted on the body of machine having Name and address of manufacturer, Country of origin, Make, Model, Year of manufacturer, Serial number, Type, size, required size of prime mover (kW)

18.	Literature	Operatormanual, ServicemanualandPartscatalogueshouldbeprovided
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SQUAREBALER

SI.No	Parameters	Specifications
1.	Recommended power source	Tractor
2.	Working width(mm)	1300-1800
Pick-upUnit		
3.	No.of tine bars	4to 5
4.	No.of tines on each bar	20/22/24
5.	Tine spacing (mm)	55to135
BaleUnit		
6.	Size of bale, (mm)	460X360X 300-1400(adjustable)
7.	Provision forbaledensityadjustment	Must be provided
8.	Provisionofsafetyclutch/device(shearbolt) inPTO driveshaftand pick-upunit	Must be provided
9.	Guardover propeller shaft	Must be provided
10.	Provisionofguardsovertransmissionfor safety	Must be provided
11.	Provisionforsafetyatfeederunitagainst overloading	Must be provided
12.	Provision fortransportation	Must be provided

13.	Marking/labelling of machine	The labelling plates should be riveted on the body of machine having Name and address of manufacturer, Country of origin, Make, Model, Year of manufacturer, Serial number, Type, size, required size of prime mover (kW)
14.	<i>Literature</i>	<i>Operator manual, Service manual and Parts catalogues should be provided</i>

Nursery Raising Machine for paddy

Sl.No.	Parameters	Specifications
1.	Type	Tray type, Electric motor operated
2.	Power source	AC motor, 1 Φ
3.	Type of machine installation	Permanent/portable
4.	Provision of Energy meter, Voltage & ampere meter in control panel	Must be provided
5.	Protection to protect from high voltage current	Must be provided
6.	Provision of protection from electric shock	Must be provided
7.	Provision for motor speed adjustment	Must be provided
8.	Provision to regulate the Bed & Top soil	Must be provided
9.	Provision to regulate the water for nursery tray	Must be provided
10.	Provision to regulate the sprouted seeds that are delivered into nursery raising tray	Must be provided
11.	Provision for counting of output (no. of tray)	Must be provided
12.	Type of conveyor	Must be provided
13.	Guard on power transmission system & all other moving parts.	Must be provided
14.	Provision for emergency stop of transmission system	Must be provided
15.	Marking/labelling of machine	The labelling plates should be riveted on the body of machine having Name and address of manufacturer, Country of origin, Make, Model, Year of manufacturer, Serial number, Type, size, required size of prime mover (kW)
16.	<i>Literature</i>	<i>Operator manual, Service manual and Part catalogues should be provided</i>

BUNDFORMER/LEVEEPLASTERINGMACHINE

S.N O.	Items	Specification
1	Workingwidth	Min1680mm
2	Typeofblade	HATCHETTypeBlades
3	Thicknessofblade(mm)	12(Min.)
4	Noofblades	11
5	Totalnoholders	11
6	Noofbladesperholder	One
7	Diameterofrotorshaft(mm)	50(OD)(Schedule80)
8	Rotordiameter(Includingflangeandblademounted onflange(mm))	450(Min.)
9	Sidedrive	Chain
10	Depthcontrolmechanism	Disc
11	Materialofblades (as per manufacturerdeclaratio	27MnCrB5
12	Safetyclutch/device (Shearbolt)inPTOdriveshaft	ShouldbeProvided
13	Stand	Shouldbeprovided
14	Guardoverpropellershaft	Shouldbeprovided
15	Totalweightofthemachine(Kg)	325Kg(approx.)
16	Sheetmetal	ReferenceIS2062forcontentofprimaryelementsindifferentcategoryofsheetmetal to be defined by CFMTTI,NRFMTTI,AMMA
17	Gearusedintransmission	16T,27TBevelgearsusedMaterialEN353
18	Literature	Operatormanual, ServicemanualandPartscatalogueshouldbeprovided
19	Marking/labelingofmachine	The labelingplateshouldberivetedonthebodyofmachinehavingNameandaddressofmanufacturer, Countryoforigin, Make, Model, Month&Yearofmanufacture, Serialnumber, Type, Size, (NumberofrowsxRowspacing(cm), Name of crops sown Recommend, requiredsizeofprime mover(kW), weightoftheMachine, (kg)

TractoroperatedlandLeveler

Sr. No.	Particular	Specification
1	Lengthin,mm	1845(Min.)
2	Widthin,mm	550(Min.)
3	Heightinmm	1060(Min.)
4	Power(Hp)required	35to60hP
5	SizeofBlades/Scraper,mm	1830x75x8(Min.)
6	Marking/labelingofmachine	The labeling plates should be riveted on the body of machine having Name and address of manufacturer, Country of origin, Make, Model, Month & Year of manufacture, Serial number, Type, Size, (Number of rows x Row spacing (cm)), Name of crops sown Recommend, required size of prime mover (kW), weight of the Machine

SELFPROPELLEDREAPERBINDER-3WHEEL

S.No.	Parameters	Specifications
MachineDetail		
1.	Type	Self-propelled, Ride on, Reaper Binder
2.	Function	Harvesting and Binding of Grain crops in a single operation
Engine		
3.	Engine Type	4 Stroke, Air Cooled, Single Cylinder, Variable Speed, Diesel Engine
4.	Starting	Rope Start
Transmission&Clutch		
5.	Type	Sliding/Constant Mesh or Combination of both
6.	No of Speed	4-Forward & 1-Reverse
7.	Clutch Type	Dry Friction Disc
Steering&MechanicalBrakes		
8.	Steering Mechanism	By dog clutch on drive axle and pedal on steering wheel
9.	Brake Mechanism	Internal expanding shoe/ring
ReapingUnit		

10.	Effectivewidthofcutterbar(mm)	1200(Min.)
11.	Typeofcropdividers	Shoe
12.	Numberofcropdividers	Two
13.	Typeofknifesection	Serrated
14.	Numberofknifesectionsoncutter bar	Asperdesign
15.	Lengthofledgerplate(mm)	Asperdesign
16.	Materialofknifesection	HighcarbonsteelEN42Jandabove
17.	Materialofledgerplate	HighcarbonsteelEN44andabove
18.	Hardnessofknifesection,HRC	38(min)
19.	Hardnessofledgerplate,HRC	45(Min)
LiftingofCutterBar		
20.	Type	Manuallifting
21.	Operation	Bypullingdownthehandlebartoraisethecutterbarfromgroundandlockingitattheraisedposition
CropCollectingUnit		
21.	Type	Forkswithfingers
22.	No.offorks	6
Cropbindingmechanism		
23.	Type	Knotting
24.	Typeofropes	Nylon/Jute/PPRope
25.	Provisionofchangingthecrop	ShouldbeProvided
26.	bundlesize	
27.	Slipclutch/safetypinsatcutterbar drive	ShouldbeProvided
28.	ProvisionofParkingbreakforstorage/parking	ShouldbeProvided
29.	Marking/labelingofmachine	The labeling plates should be riveted on the body of machine having Name and address of manufacturer, Country of origin, Make, Model, Month & Year of manufacture, Serial number, Type, Size, (Number of rows x Row spacing (cm)), Name of crops sown Recommend, required size of prime mover (kW), weight of the Machine, (kg)

SELFPROPELLEDREAPERBINDER-4WHEEL

S.No.	Parameters	Specifications
MachineDetail		
1.	Type	Selfpropelled,Rideon,ReaperBinder
2.	Function	HarvestingandBindingofGraincropsinasingleoperation
Engine		
3.	EngineType	4Stroke,AirCooled,SingleCylinder,VariableSpeed,DieselEngine
4.	Starting	ElectricStart
Transmission&Clutch		
5.	Type	Sliding/ConstantMeshorCombinationofboth
6.	NoofSpeed	4-Forward&1-Reverse
7.	ClutchType	DryFrictionDisc
Steering&Brakes		
8.	SteeringMechanism	SteeringwheelwithGearplateandtierodatrearaxle
9.	BrakeMechanism	Internalexpandingshoe/ring
LiftingofCutterbar		
10.	Operation	Hydraulic
11.	Type	DCHydraulicpowerunitwiththeoiltank.
12.	Liftingmethod	Throughsingleactinghydrauliccylinder
ReapingUnit		
13.	Effectivewidthofcutterbar(mm)	1200(Min.)
14.	Typeofcropdividers	Shoe
15.	Numberofcropdividers	Two
16.	Typeofknifesection	Serrated
17.	Numberofknifesectionsoncutterbar	Asperdesign
18.	Lengthofledgerplate(mm)	Asperdesign
19.	Materialofknifesection	HighcarbonsteelEN42Jandabove
20.	Materialofledgerplate	HighcarbonsteelEN44andabove
21.	Hardnessofknifesection,HRC	38(min)
22.	Hardnessofledgerplate,HRC	45(Min)
CropCollectingUnit		
23.	Type	Forkswithfingers
24.	No.offorks	6

Cropbindingmechanism		
25.	Type	Knotting
26.	Typeofropes	Nylon/Jute/PPRope
27.	Provisionofchangingthecropbu ndlesize	Shouldbeprovided
28.	Slip clutch/safety pins atcutterbardrive	Shouldbeprovided
29.	ProvisionofParkingbreakforsto rage/parking	Shouldbeprovided
30	Marking/labelingofmachine	The labeling plates should be riveted on the body of machine having Name and address of manufacturer, Country of origin, Make, Model, Month & Year of manufacture, Serial number, Type, Size, (Number of rows x Row spacing (cm)), Name of crops sown Recommend, required size of prime mover (kW), weight of the Machine, (kg)

Tractoroperated3-rowSugarcanePlanter

S.No.	Parameters	Specifications
1.	Model	
2.	BoxFrame,mm	50X6(Min.)
3.	FurrowOpener,mm	6(Min.)
4.	RidgerTyne,mm	50x25(Min.)
5.	Function	SugarcaneSeeder
6.	SeedTankCapacity,Tonne	0.3(Min.)
7.	FertilizerTankCapacity,kg	75(Min.)
8.	RowSpacing(cm)	60-75(Min.)
9.	NumberofBlade	6
10.	NumberofRubber	30
11.	SeedDistance	AsTheCustomerRequirement
12.	PlantingDensity,P/m/Row	15-20
13.	InsecticideTankCapacity	100(Min.)
14.	FungicideTankCapacity	200(Min.)
15.	SoilTreatmentArea	OnlySeedsPlacementArea
16.	SeedsTreatment	AsperCuttingPoints
17.	GearBox	HeavyDutyGearBox
18.	CloseFurrow	6
19.	PTORotation(RPM)	540to1000
20.	DepthControl	HydraulicandRubberWheel
21.	SugarcaneMachineDrive	2RubberWheel
22.	Numberofseats	3
23.	Drive	GroundCircularWheel
24.	SeedVariety	AllSeedswithAnyVariety
25.	RequiredPower(HP)	50above
26.	PlantingCapacity/PerAcre	5(Min.)
27.	Productivities	5Km/H
28.	LinkageCategory	TractorHydraulicwithThreePointLinkage
29.	Use	FarmMachinetoPlantSugarcaneSeeds
30.	NumberofFurrow	3
31.	Transportation	HydraulicTrailing
32.	Marking/labelingofmachine	The labeling plates should be riveted on the body of machine having Name and address of manufacturer, Country of origin, Make, Model, Month & Year of manufacture, Serial number, Type, Size, (Number of rows x Row spacing (cm), Name of crops sown Recommend, required size of primer over (kW), weight of the Machine

ROUNDBALER

Sr. No	Parameter	Specification
1.	Workingwidth(mm)	700to1970
2.	Recommended power source(hp)	35to65
Pick-upUnit:		
3.	No.oftinebars	4to5
4.	No.oftinesoneachbar	12/14/16/20/22or28/30/32
5.	Tinespacing(mm)	52to68
6.	Reelspeedcorrespondingto540PT Orpm(rpm)	84(min.)
BaleUnit:		
7.	No.ofbalerollers TightBars	9(min.) No.oftightbars:58pcsintotal(7pcsof'withkey'and51pcsof'withoutkey')
8.	Dia.Ofbalerollers(mm)	Withkey:776x43x35Withoutkey:776x43x29
9.	Speed of bale rollerscorrespondingto540PTOrpm(rpm)	:1.24m/second(Min.)
10.	Sizeofbale,LxD(cm)	
Baleweight(kg)		
11.	Provision for bale densityadjustment	-----
12.	Provisionofsafetyclutch/device(sharebolt)inPTOdriveshaftandpick-upunit	Shouldbeprovided
13.	Guardoverpropellershaft	Shouldbeprovided
14.	Provision of guards overtransmissionfors	Shouldbeprovided
15.	Provisionforsafetyatfeederunitagaintoverloading	Shouldbeprovided
16.	Provisionfortransportation	Shouldbeprovided
17.	Anyother	ShaftandPinshouldbeofminEN9orhigherspecification
18.	PrintedLiterature	Operator&servicemanual,partcatalogmustbeprovidedinHindi,Englisha7regionallanguage
19.	Marking/labelingofmachine	The labelingplateshouldberivetedonthebodyofmachinehavingNameandaddressofmanufacturer, Countryoforigin, Make, Model, Month&Yearofmanufacture, Serial number, Type, Size, (NumberofrowsxRowspacing(cm), NameofcropssownRecommended, requiredsizeofprimemover(kW), weight

ROTO-PUDDLER/RICEHARROW

S..N	Item	Specification
1	Workingwidth,mm	2000(Min.)
2	Typeofblade	SType
3	Thicknessofblade(mm)	6(Min.)
4	Noofblades	50(Min.)(Dependingonsizes)
5	Totalnoholders	50(Min.)(Dependingonsizes)
6	Noofbladesperholder	One
7	Diameterofrotorshaft(mm)	70(OD)(Min.)(Schedule80)
8	Rotordiameter(Includingholderand dbladedmountedonholder)mm	380(Min.)
9	Sidedrive	Chaindrive
10	Depthcontrolmechanism	Arcshapedskidonbothsideofmachine.
11	Materialofblades	27MnCrB5
12	Safety clutch/device (Shearbolt)inPTOdrives	Shouldbeprovided
13	RiceharrowStand	Shouldbeprovided
14	Guardoverpropellershaft	Shouldbeprovided
15	Totalweightofthemachine(Kg)	325(Min.)
16	Literature	Operatormanual,Service manualandPa rtscatalogueprovided
18	Sheetmetal	ReferenceIS2062 forcontentofprimaryelementsindiff erentcategoryof sheet metal,defined
19	Gearusedintransmission	16T,27TBevelgearsusedMaterialEN35 3
20	Marking/labelingofmachine	The labelingplateshouldberivetedonthe bodyofmachinehavingNameandaddre ssofmanufacturer,Countryoforigin,Mak e,Model,Month&Yearofmanufacture,S erialnumber,Type,Size,(Numberofrows xRowspacing(cm), Name of crops sownRecommend,requiredsiz eofprimemover(kW),weightoftheMachi ne,(kg)

RidgeTiller

S.No.	Specification	Specification
1.	Workingwidth(mm)	950(Min.)
2.	PowerSource	Tractor:Min20HP(540RPM)
3.	RidgeDistance,mm	1200(Min.)
4.	Ridgeheight	320(Min.)
5.	DepthofCut	200(Min.)
6.	Typeofblade	C/L
7.	Thicknessofblade(mm)	7-8
8.	No.ofBlades	8(Min.)
9.	Totalnumberofflanges	2
10.	Numberofbladesperflange	4to6
11.	Diameterofrotorflange(mm)	145(Min.)
12.	Rotor diameter (includingflangeandblad mountedonflange),mm	460(Min.)
13.	Drive	Geardrive
14.	Depthcontrolmechanism	HarnessBlade
15.	Materialofblades(aspermanufacturerdeclaration)	SpringSteel,BoronSteel
16.	Safety clutch/device(Shearbolt)inPTOdrives	<u>NotNecessary</u>
17.	Totalweightofthemachine(kg)	160(Min.)
18.	Marking/labelingofmachine	The labeling plates should be riveted on the body of machine having Name and address of manufacturer, Country of origin, Make, Model, Month & Year of manufacture, Serial number, Type, Size, (Number of rows x Row spacing (cm), Name of crop sown Recommended, required size of prime mover (kW), weight

Matching Implements for small tractors/ Mini Tractors/ Power tillers.**1. Mould Board Plough**

Sl.No.	Parameters	Specification
1	Number of Bottoms	Two
2	Working width (mm)	220 (Min.)
3	Underframe Clearance, mm (adjustable)	350 (Min.)
4	Interbody Clearance, mm	300 (Min.)
5	Reversing mechanism	Mechanical & Hydraulic
6	Angle of Inclination of MB along the direction of travel, degree	22
7a.	Thickness of Mould Board (mm)	6 (Min.)
b.	Hardness (HRC)	38 (Min.)
8, a.	Plough Share Bar thickness (mm)	8 (Min.)
b.	Material	Boron (28MnCrB5)/High Carbon Steel EN---
c.	Hardness (HRC)	38 (Min.)
9	Vertical Suction, mm	10 to 20
10	Horizontal suction, mm	4 to 10
11	Thickness of Share cutting edge (mm)	6 (Min.)
12	Joint Mechanism for share, Mould board and share bar	By Appropriate Bolts & nut only.
13	Literature	Operator Manual Service Manual And Parts Catalogue Should Be Provided in English & Any One Indian Language
14	Marking/labeling of machine	The labeling plates should be riveted on the body of machine having Name and address of manufacturer, Country of origin, Make, Model, Year of manufacturer, Serial number, Type, Size, required size of prime mover (kW), Weight (kg)

Rotavator

1	Workingwidth(mm)	700(Min)
2	TypeofBlade	L/C/JType
3	ThicknessofBlade(mm)	7-8
4	No.OfBlades	8(Min.)
5	TotalNoofFlanges	2(Min.)
6	Numberofbladesperflange	4(Min.)
7	OuterDiameterofRotorShaft,mm	60to76
8	RotorDiameter,Includingflangeandblad demountedonFlange,mm	360(Min.)
9	SideDrive	ChainDriveorGearDrive
10	DepthControlmechanism	ArcshapedskidonbothsideofRot avator
11	MaterialofBlades	Boron(27/28/30MnCrB5)/ CarbonSteelofEN42/EN4 5/EN47
12	HardnessofBladeMaterial,HRC	38(Minimum)
13	SafetyClutch/device(Shearbolt)inPTOdri veshaft	MustbeProvided
14	Rotavatorstand	MustbeProvided
15	Guardoverpropellershaft	MustbeProvided
16	SheetMetal	AS36/IS2062/MildSteel
17	Literature	Operator Manual ServiceManualAnd PartsCatalogueShouldBeProvi dedinEnglish&AnyOneIndianLa
18	Marketing/LabelingofMachine	Thelabellingplateshouldberivete donthebodyofmachinehavingNa meandaddressofmanufacturer, Countryoforigin,Make, Model, Year ofmanufacturer,Serial number,Type,Size,requiredsize ofprimemover(kW),Weight(Kg)

Cultivator

Sl.No.	Parameters	RecommendedSpecification
1	Type	Rigid&SpringLoaded
2	HitchType	CAT-I
3	Numberoftine	5to7
4	Workingwidth(mm)	800(Min.)
5	Rowtorowspacingbetweentine,m m	50(Min.)Fix/variable
6	Frame	Channel&BoxFrame
7	Typeofworkingtool	Shovel
8	Materialoftyne	MS
	Thicknessoftyne,(mm)	15(Min.)
9	Materialofshovel	CarbonsteelEN42/EN45/EN47
10	Hardnessofshovelandsweep,H RC	36(Min.)
11	Centertocenterdistancetoolbar,m m	200(Min.)
12	SpringIndex	4to5
13	Literature	OperatorManualServiceManualAndPa rtsCatalogueShouldBeProvidedin English & Any One IndianLanguage
14	Marketing/LabelingofMachine	The labelling plates should be riveted on the body of machine having Name and addr ess of manufacturer, Country of origin, M ake, Model, Year of manufacturer, Serial number, Type, Size, required size of prim emover(kW), Weight(Kg)

Harrow

Sl.No.	Parameters	Specification
1	Type	Trailed&Mounted
2	HitchType	CAT-I
3	NumberofDisc	10(Min.)(5x5on2Gangs)
4	Workingwidth(mm)	500(Min.)
5a.	DiscSize,(Inch)	16(Min.)
b.	NumberOfGang	2(Min.)
6	SpacingbetweenDisc,mm	220(Min.)
7	Frame	Channel&BoxFrame
8a.	SpoolSize,mm	100(Min.)
b.	SpoolMaterial	SGIron500/7OrEquivalent
9a.	TypeofDisc	Notched&Plain
b.	MaterialofDisc	Boron(28MnCrB5)/HighCarbonSteelEN42j
c.	ThicknessofDisc,(mm)	3(Min.)
d.	HardnessofDisc,HRC	38(Min.)
10	Literature	OperatorManualServiceManualAndPartsCatalogueShouldBeProvidedinEnglish&AnyOneIndianLanguage
11	Marketing/LabelingofMachine	The labelling plates should be riveted on the body of machine having Name and address of manufacturer, Country of origin, Make, Model, Year of manufacturer, Serial number, Type, Size, required size of prime mover (kW), Weight (Kg)

.Rotavator(ReverseForward)

Sl. No	Parameters	Specifications
1	Workingwidth(mm)	700(Min)-Forward 700(Min)-Reverse
2	TypeofBlade	L/C/JType
3	ThicknesofBlade(mm)	7-8
4	No.ofBlades	8(Min.)
5	TotalNoofFlanges	2(Min.)
6	Numberofbladesperflange	4(Min.)
7	OuterDiameterofRotorShaft,m m	60(Min.)
8	RotorDiameter,Includingflange andblademountedonFlange,m m	360(Min.)
9	SideDrive	ChainDriveorGearDrive
10	DepthControlmechanism	ArcshapedskidonbothsideofRotavator.
11	MaterialofBlades	Boron(27/28/30MnCrB5)/HighCarbonSt eelofEN42/EN45/EN47
12	HardnessofBladeMaterial,HRC	38(Min.)
13	Safety Clutch/device(Shear	ShouldbeProvided
14	Rotavatorstand	ShouldbeProvided
15	Guardoverpropellershaft	ShouldbeProvided
16	SheetMetal	AS36/IS2062/MildSteel
17	Literature	OperatorManualServiceManualAndPar tsCatalogueShouldBeProvidedinEnglis h&AnyOneIndianLanguage
18	Marketing/LabelingofMachine	Thelabellingplateshouldberivetedonthe bodyofmachinehavingNameandadress sofmanufacturer,Countryoforigin, Make, Model, Year ofmanufacturer,Serialnumber ,Type,Size,requiredsizeofprimemover(k W),Weight(Kg)

.ZEROTILLSEEDCUMFERTILIZERDRILL

S.No.	Specification	Requirement
1.	No.oftynes	2to5
2.	Rowtorowdistance	150to225mm(adjustablepreferablyinstep sof25mmfittedwithUbolt)
3.	Typeoffurrowopeners	InvertedT-type
4.	Minimumdiameterofgroundw heel	300mm
5.	Seedandfertilizerhoppers	SeparateHoppers(trapezoidalshape)forFe rtilizerandSeedswithmechanismforfeedrat econtrol.Thehoppersshouldbesufficientlyc overedtopreventtheentryofwater.Thethick ness≤3.0mmofplasticsheet/≥1.0mmformil dsteel/≥0.63forGIsheet
6.	Workingwidth,mm	300(Min.)
7.	Seedandfertilizertubes	Withoutanysharpbendandshouldbetransp arent,thickness(minimum2.5mm)
8.	SeedandFertilizermeteringm echanism	Componentsofflutedrollerorplatetypemech anism
9.	Totalweightofthemachine(k g)	--
10.	Literature	Operatormanual,Service manualandPartsc atalogueshouldbeprovided
11.	Marking/labelingofmachine	The labelingplateshouldberivetedonthebod yofmachinehavingNameandaddressofma nufacturer,Countryoforigin, Make, Model, Year ofmanufacturer,Serialnumber,T ype,Size,(NumberofrowsxRowspacing(cm ,)Nameof cropsownRecommend,require

DiscPlough

Sl.No.	Parameters	Specifications
1.	Numberofbottoms	One/Two
2.	HitchType	ThreePointlinkage,CAT-I
3.	WorkingWidth(mm)	Twobottom -300(Min.)
4.	TypeofDisc	Plain
5.	DiameterofDisc,mm	550to700
6.	Discangle,(°)	42±3
7.	Tiltangle,(°)	15to25
8.	HardnessofDisc,HRC	40(Min.)
9.	Thicknessofbevelededge, (mm)	0.5to1.5
10.	ThicknessofDisc,(mm)	5.0(Min.)
11.	Materialofdisc	CarbonSteelEN45equivalentto SAE1070gradeandBoronSteelEN 10083(30MnCrB5)
12.	Hardnessofmaterial,HRC	38(min)forcarbonSteel 48(min)forBoronsteel
13.	Typeofcenterhole	Square
14.	Concavity,mm	100±6.5
15.	Literature	Operatormanual,Service manualand Partscatalogueshouldbeprovided
16.	Marking/labelingofmachine	The labelling plates should be riveted on the body of machine having Name and Address of manufacture, Country of origin, Make, Model, Year of manufacture, Serial number, Type, Size, required size of prime mover (kW), Weight, (kg)

.PotatoDigger

Sr.No.	Parameters	Specifications
1.	Mainframe	
a)	Typeandmaterial	MildSteel
b.	Size(mm)	50X50
2.	Blade	
a.	Typeandmaterial	MildSteel
b.	Number	1
c.	Width(mm)	492
d.	Inclination,degree	16(Min.)
e.	Thickness(mm)	5(Min.)
3.	Potatosieve	
a.	Material	MildSteel
b.	Size(mm)	Length 700(Min.)
		Width 600(Min.)
		Pitch 35(Min.)
c.	Sieverod diameter(mm)	10
d.	Numberofrods	23
4.	Guardoverpropellershaft	ShouldbeProvided
5.	Typeandmaterialofhitch	PinType&MildSteel
6.	Splineendofdiggerinputshaft,PTOTypeandmaterialNominalspeed(rpm)	Typeland540
7.	RearsupportwheelMaterial&Size(mm)	Solidrubbertyres&14.00X3TYRE
8.	Literature	Operatormanual, Servicemanual and Partscatalogueshouldbeprovided
9.	Marking/labelingofmachine	The labelling plates should be riveted on the body of machine having Name and Address of manufacture, Country of origin, Make, Model, Year of manufacture, Serial number, Type, Size, required size of prime mover (kW), Weight, (kg)

.PotatoPlanter

Sr.No.	Parameters	Specifications
1.	Disc	
a.	NumberofDisc	2
b.	MethodofchangingofDiscspacing	Loosethecarriagebolt&adjustthediscbeamhorizontal
c.	Depthcontrol	Loosethecarriagebolt&adjustthediscbeamvertical
2.	SeedMeteringMechanism	
a.	Type	Hilldropping(cuptype)
b.	No.ofcups,ifcuptype	18
c.	Drivedetails	Chaindrive
d.	Speedratioofshaftmeteringdevicetogroundwheelaxle	1.93,1.56,1.34,1.08
e.	Internaldimensionofspeedtube(mm)	85X175
f.	Provisionofshovelinfrontseedtube	Shouldbeprovided
3.	GroundWheelDetails	
a.	No.ofwheels	2
b.	Typeofwheels	Pneumatictyrelugtype
c.	Size.mm	4.00-8TYRE
d.	Methodoftransmittingpowertofeedshaft	Powertransmittinggroundwheelthroughchaindrive
4.	Hopper	
a.	Capacity,kg	50(Min.)
b.	Thicknessofhoppersheet,mm	1.2(Min.)
5.	hitchType	CatIN