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Guidance

# Annex 3: FETF 2023 Productivity and Slurry eligible Items

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## Applies to England

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This annex details the required Specification and Grant amount of eligible Items.

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Some Items have a limit on the amount that you can apply for funding for. These are:

- FETF3 Five row seeder
- FETF4 Paper pot transplanter
- FETF8 Salad leaf harvester
- FETF23 UV Water treatment system
- FETF52 Pasture plate meter (handheld)
- FETF88 Heat and service detector
- FETF90 Heat detection system base unit
- FETF219P Cameras for monitoring farmyard

For Items which remain on the list from the FETF Round 1, the Item Number has remained the same. New items are asterisked (\*).

## 1. Horticulture

FETF number	Item name	Specification	Expected average total costs of Item (£)	Grant Amount (£) (based on a quantity of 1)	Item score
FETF1	Electronic tray filling machine	<p>Electronic tray filling machine. To be eligible machine must be able to fill polystyrene trays, plug trays, shuttle trays and pots in trays. Machine must be able to fill 500 trays per hour. Machine must be capable of varying filling density to achieve optimal compaction for different seeding requirements. Must be capable of handling 600mm x 400mm trays. While the machine can be used as a standalone tray filler, to allow for future expansion the tray filler must be capable of being used with a conveyor belt system to allow incorporation into a fully automated seeding line or</p>	14,844	5,938	60

## transplanting line.

FETF2	Electronic row seeder	Electronic row seeder capable of easily handling small batches of trays. To be eligible the seeder must include row bar dibbling and seeding unit with vibrating covering unit. Unit must be able to process 2,000 rows of seed per hour. Must be capable of handling 600mm x 400mm trays. To allow for future expansion the unit must be capable of being used on a conveyor belt system to allow incorporation into a fully automated seeding line. Drum seeders are not eligible under this item. Serial number required - to be submitted with your claim for payment.	26,176	10,470	55
FETF3	Five row seeder	Manual push seeder which can sow a minimum of 5 rows. It must have soil openers	1,676	670	46

at the front and roller(s) at the rear, and changeable seed wheels/rollers for different crops and spacing. Maximum of 2 per application. Serial number required - to be submitted with your claim for payment.

FETF4	Paper pot transplanter	Double row, paper pot transplanter. Manually pulled, creates groove, plants transplant, and firms into place in one pass. Maximum of 2 per application.	1,354	542	57
FETF5	Inter row weeders 1.8m	A system using precision camera guided hoes to remove weeds from within horticultural crop rows. The system must be able to automatically distinguish between the crop and weeds. Minimum working width 1.8m. Serial number required - to be submitted with	60,348	24,139	77

		your claim for payment.			
FETF6	Inter row hoe 3m	A system using precision camera guided hoes to remove weeds from between crop rows. Designed to be used at relatively high speed and to be able to automatically distinguish between the crop and weeds. Camera system can detect position of crop rows and automatically adjust the hoes to only remove the weeds between the crop rows. Minimum working width 3m. Serial number required - to be submitted with your claim for payment.	18,030	9,015	73
FETF7	Inter row hoe 6m	A system using precision camera guided hoes to remove weeds from between crop rows. Designed to be used at relatively high speed and to be able to automatically	45,489	22,745	78

distinguish between the crop and weeds. Camera system can detect position of crop rows and automatically adjust the hoes to only remove the weeds between the crop rows. Minimum working width 6m. Serial number required - to be submitted with your claim for payment.

FETF8	Salad leaf harvester	Manual push harvester, 80cm minimum cutting width. Maximum of 2 per application.	2,569	1,027	55
FETF9	Mobile vertical frost fans for vineyards and horticulture	Selective Inverted Sink (SIS) fans for use in vineyards and on stone and soft fruit farms to prevent frost damage. The vertical axis fans must be mobile. Horizontal, tower or permanently sited fans are not eligible. Serial number required - to be submitted with your claim for payment.	11,940	4,776	55



FETF10	Fruit ripeness spectrometers	Handheld device for use in orchards to determine produce quality and harvest timing. Uses NIR (Near Infra-Red) to determine and measure DM (Dry Matter), total soluble solids, titratable acidity and colour to determine ripeness. Serial number required - to be submitted with your claim for payment.	6,121	2,448	57
*FETF200P	Tractor mounted flail mulcher for orchards and vineyards (large)	Tractor mounted PTO driven flail mulcher for mowing between rows of trees or vines in woodland, orchards or vineyards. The machine must be able to shred branches up to 6cm in diameter into woodchips. To be eligible, the machine must have a minimum working width of 1.60m and a maximum working width not exceeding 2.30m. Machines with	2,400	960	58

working widths over 2.30m are not eligible under this item. For an alternative mulcher see FETF202P. Serial number required - to be submitted with your claim for payment.

## 2. Forestry

FETF number	Item name	Specification	Expected average total costs of Item (£)	Grant Amount (£)	Item Score
FETF11	Forestry moulder to aid tree planting	2 row tractor mounted moulder to provide the ability to use low impact cultivation on sites. This will reduce run off and the need for pesticides and carbon emissions, whilst maximising growth rates and carbon sequestration. Unit should be capable of being towed by an agricultural tractor and/or forestry forwarder. Unit must be capable of at least discontinuous	30,700	12,280	63

vegetation removal, such as to allow direct planting into bare soil (i.e. no vegetation competition). Turning over a sufficient volume of topsoil to create an inverted mound, with the vegetation buried at the bottom of the mound. The planting position consisting of the inverted weed-free soil at the top of the mound. Unit should not create discontinuous soil disturbance i.e. there should be no continuous (greater than 1m in length) runs of bare soil as in ploughing. Forestry mulchers are not eligible under this item. Serial number required - to be submitted with your claim for payment

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FETF12	Smaller self-propelled forwarders	Purpose-built wheeled frame steered forwarder with full forestry safety equipment fitted (Roll Over Protection, Operator Protection, and Falling Object Protection). Payload 2 to 6 tonnes. The crane must have a	61,167	24,467	58
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reach of at least 3.5m and a lift capacity at this reach of at least 300kg. Serial number required - to be submitted with your claim for payment.

FETF13	Harvesting head	Harvesting heads specifically for felling and initial processing of felled trees. Equipment must be able to fell, de-limb, and cut to required lengths. Harvesting head must have a fell/cut diameter of at least 300mm and a feed speed of at least 4m per second. Serial number required - to be submitted with your claim for payment.	40,198	16,079	63
FETF14	Tree shears capacity to fell 300mm diameter trees	Grip and hold shear harvester head, with additional side mounting brackets, specifically for the cutting of small diameter trees, coppice, and brush. Must have the capacity to cut, fell and hold trees of 300mm in diameter. Serial number required - to be submitted with your claim for payment.	8,047	3,219	56

FETF15	Tree shears capacity to fell 650mm diameter trees	Grip and hold shear harvester head with 360-degree rotator specifically for the cutting of trees, coppice, and brush. Must have the capacity to cut, fell and hold trees of 650mm in diameter. Serial number required - to be submitted with your claim for payment.	27,500	11,000	61
FETF16	Forestry grab or grapple	The grab or grapple must be specifically designed for handling felled trees and able to safely pick up and hold large felled trees. Must open to at least 1.3m when fully opened.	2,995	1,198	47
FETF17	Timber cranes	The crane may be either cab mounted, mountable via three-point linkage to a tractor, or purchased to fit on a timber trailer. The timber crane must be specifically designed for extracting timber from woodland to ensure minimal disturbance to the soil and to flora and fauna. This item is to be fitted to existing tractors or forestry trailers. You should	13,478	5,391	50

not apply for this item if applying for a forwarder where the crane is included as part of the specification. The crane must have a reach of at least 6m and a lift capacity at this reach of at least 500kg. The crane must include rotator, grab and valve block. Other forms of cranes are not eligible under this item. Serial number required - to be submitted with your claim for payment.

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FETF18	Forestry / timber trailers small	Forestry/timber trailers specifically designed for use in forests and woodland for the extraction of felled timber, which will cause minimal disturbance to the soil and to flora and fauna. To be eligible the trailer must have no floor or sides and be fitted with permanent headboard and six permanent bolsters. The vehicle must be fitted with low ground pressure tyres or floatation tyres or automatic inflation and deflation system	8,563	3,425	40
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for the tyres. The trailer must have a timber carrying capacity of at least 2,000kg. To be eligible the trailer must be either design-approved by the DVSA or have an individual vehicle approval certificate. Serial number required - to be submitted with your claim for payment.

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FETF19	Forestry / timber trailers large	Forestry/timber trailers specifically designed for use in forests and woodland for the extraction of felled timber which will cause minimal disturbance to the soil and to flora and fauna. To be eligible the trailer must have no floor or sides and be fitted with permanent headboard and permanent bolsters. The vehicle must be fitted with low ground pressure tyres or floatation tyres or automatic inflation and deflation system for the tyres. The trailer must have a timber carrying capacity of at least 9,000kg. To be	12,000	4,800	45
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eligible the trailer must be either design-approved by the DVSA or have an individual vehicle approval certificate. Serial number required - to be submitted with your claim for payment.

FETF20	Timber winches	These may be either tractor or forwarder mountable. To be eligible for grant funding winches must have automatic safety braking and be controllable remotely via an electric cable or radio control device. The winch must have a pulling force of 65kN or above and be supplied with at least 9m of wire rope. It must be fitted with a logging plate and protection guard to provide protection to driver and tractor.	8,501	3,400	45
*FETF201P	Automatic tree planter	An excavator mounted machine which prepares a planting hole, inserts a small tree, and applies water all as one operation.	59,329	23,732	58
*FETF202P	Forestry mulcher	Tractor mounted or skid steer mounted forestry mulcher.	11,231	4,492	53



PTO or hydraulically powered. Mulcher must be able to shred branches up to 7.5cm in diameter. Must be able to shred material down to 25mm below ground surface. Eligible machines must have a minimum working width of 1.8m. Grass flail mowers are not eligible under this item. For alternative mulcher see FETF200P.

### 3. Slurry Management

FETF number	Item name	Specification	Expected average total costs of Item (£)	Grant Amount (£)	Item Score
FETF26	Robotic slurry pusher / collector	Robotic system with intelligent software and sensors to allow the robot to navigate independently throughout the passageways. It must have built in sensors to avoid contact with the livestock. Cost	18,933	7,573	65

		includes robot and charging station.			
FETF27	Slurry separators	Screw press slurry separator, capable of processing a minimum of 10m <sup>3</sup> /hr, with a resulting solid fraction of 30% dry matter according to the model's theoretical capability. All other forms of slurry separation are not eligible under this item.	19,033	7,613	63
FETF28	Flow rate monitoring of slurry	An electronic device to measure and record application of slurry. The system purchased must include slurry flow rate meter and in-cab display/controller. The system purchased must be able to be linked to GPS to provide an accurate electronic record of slurry application by volume to specific field areas. Devices which do not link to GPS nor record and store data for later electronic downloading are not eligible.	4,267	2,134	64

FETF29	Real time inline nutrient analysis of slurry	Nutrient analysis of slurry in real time during application using Near Infra-red (NIR) spectroscopy. System will analyse and record the level of Nitrogen, Phosphate and Potassium (N,P,K) during application. System must have the capability with aid of GPS to provide accurate application rates for each field application. System must be able to be retrofitted to existing slurry application equipment. You cannot claim for this item and FETF48 as one item. You must purchase separate Near Infra-Red (NIR) spectroscopy units for each item. Serial number required - to be submitted with your claim for payment.	21,606	10,803	78
FETF30	Nurse tank minimum capacity 50m3	Mobile nurse tank for handling and application of slurry and digestate. Minimum tank capacity 50m3. Supplied complete	28,500	11,400	48

		with hydraulic braking, road lights, four outlet points and sight level glass. Serial number required - to be submitted with your claim for payment.			
FETF31	Nurse tank minimum capacity 100m3	Mobile nurse tank for handling and application of slurry and digestate. Minimum tank capacity 100m3. Supplied complete with hydraulic braking, road lights, four outlet points and sight level glass. Serial number required - to be submitted with your claim for payment.	36,750	14,700	53
FETF32	Dribble bar minimum working width 6m	Dribble bar applicator, minimum 6m working width, to fit to slurry tanker or attach to flexible pipe/umbilical system. Includes macerator, stone traps and pipework to connect to tanker or umbilical system. Serial number required - to be submitted with your claim for payment.	10,500	4,200	58

FETF33	Dribble bar minimum working width 10m	Dribble bar applicator, minimum 10m working width, to fit to slurry tanker or attach to flexible pipe/umbilical system. Includes macerator, stone traps and pipework to connect to tanker or umbilical system. Serial number required - to be submitted with your claim for payment.	13,500	5,400	63
FETF34	Shallow injection systems 3m working width	Injection system to incorporate slurry under the soil surface, to fit to slurry tanker or attach to flexible pipe/umbilical system. Minimum working width 3m. Includes macerator, stone traps and pipework to connect to tanker or umbilical system. Serial number required - to be submitted with your claim for payment	16,500	8,250	71
FETF35	Shallow injection systems minimum 6m working width	Injection system to incorporate slurry under the soil surface, to fit to slurry tanker or attach to flexible	17,968	8,984	76

pipe/umbilical system. Minimum working width 6m. Includes macerator, stone traps and pipework to connect to tanker or umbilical system. Serial number required - to be submitted with your claim for payment.

FETF36	Trailing shoe slurry system 6m	Trailing shoe slurry applicator, minimum 6m working width, to fit to slurry tanker or attach to flexible pipe/umbilical system. Includes macerator, stone traps and pipework to connect to tanker or umbilical system. Serial number required - to be submitted with your claim for payment.	14,750	7,375	63
FETF37	Trailing shoe slurry system over 8m	Trailing shoe slurry applicator, minimum 8m working width, to fit to slurry tanker or attach to flexible pipe/umbilical system. Includes macerator, stone traps and pipework to connect to tanker or umbilical	16,033	8,017	68

		system. Serial number required - to be submitted with your claim for payment.			
FETF38	Umbilical hose reeler for slurry application	Umbilical hose reeler for slurry application, random or compartmentalised, trailed or mounted. Must include a minimum of 400m of hose.	8,250	3,300	51
FETF39	Trailed compartmented reeler for slurry application	Trailed compartmented reeler for slurry application. Must include a minimum hose length of 1,600m. Serial number required - to be submitted with your claim for payment.	13,500	5,400	56
*FETF203S	Mobile slurry chopper pump	Tractor PTO or hydraulically driven mobile centrifugal slurry chopper pump. Pump must have a minimum 100 cubic metres per hour transfer rate at a 10m head. The pump must have a pumping head of at least 100 metres. Pump must have a 100mm diameter inlet or larger and	8,710	4,355	55

minimum 65 mm diameter outlet. Cost does not include suction pipe or umbilical pipe. Umbilical piping is funded under a separate item. Static pumps are not eligible under this item. Only chopper pumps to be used for slurry transfer are eligible under this item. Other types of pump and pumps intended to be used for other liquids are not eligible under this item. Serial number required - to be submitted with your claim for payment.

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*FETF204S	Remote control for engine driven slurry pumps	A remote control and monitoring system for the control of engine driven slurry pumps. To be eligible the system must have pressure monitoring on the outlet side of the pump. The system must be able to remotely start and stop the engine from the cab of the application equipment. It must	10,440	5,220	62
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also have variable engine speed control. The system must come with an in-cab display for the application tractor which shows and monitors slurry flow rate, engine speed (RPM), engine temperature and oil pressure of the engine on the slurry pump. The remote control and in cab display must be able to control and monitor the engine and pump from at least 2,000m away. To be eligible the system must be able to be retrofitted to existing engine driven slurry pumping systems. This item is only eligible for use with systems used for pumping slurry or digestate. Any other use for the system is not eligible. Serial number required - to be submitted with your claim for payment.

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## 4. Arable

FETF number	Item name	Specification	Expected average total costs of Item (£)	Grant Amount (£)	Item Score
FETF44	Direct drill 3m	<p>Direct drill for precision drilling of arable and cover crops, using either tines or discs to produce the seeding slot. To be eligible the drill must have a minimum drilling width of 2.9m, must have no cultivation or seed bed preparation equipment in front of the seeding slot mechanism and the seed must be placed in the seeding slot. The drill must be able to drill through a fully established growing cover crop of at least 15cm in height. Purchase must include seed hoppers. The drill must be able to drill the full range of arable and cover crops including cereals. The following are not eligible:</p>	30,135	12,054	54

Cultivators with over-seeders or broadcasters, minimum till drills, strip till drills, grassland over-seeders, and grassland broadcasters. Serial number required - to be submitted with your claim for payment.

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*FETF205P	Direct drill 4m	Direct drill for precision drilling of arable and cover crops, using either tines or discs to produce the seeding slot. To be eligible the drill must have a minimum drilling width of 3.9m, must have no cultivation or seed bed preparation equipment in front of the seeding slot mechanism and the seed must be placed in the seeding slot. The drill must be able to drill through a fully established growing cover crop of at least 15cm in height. Purchase must include seed hoppers. The drill must be able to	35,690	14,276	59
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drill the full range of arable and cover crops including cereals. The following are not eligible:  
Cultivators with over-seeders or broadcasters, minimum till drills, strip till drills, grassland over-seeders, and grassland broadcasters.  
Serial number required - to be submitted with your claim for payment.

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FETF45	Direct drill 6m	Direct drill for precision drilling of arable and cover crops, using either tines or discs to produce the seeding slot. To be eligible the drill must have a minimum drilling width of 5.9m, must have no cultivation or seed bed preparation equipment in front of the seeding slot mechanism and the seed must be placed in the seeding slot. The drill must be able to drill through a fully established	46,800	18,720	64
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growing cover crop of at least 15cm in height. Purchase must include seed hoppers. The drill must be able to drill the full range of arable and cover crops including cereals. The following are not eligible:  
Cultivators with over-seeders or broadcasters, minimum till drills, strip till drills, grassland over-seeders, and grassland broadcasters. Serial number required - to be submitted with your claim for payment.

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*FETF206P	Direct drill with fertiliser placement 3m	Direct drill with fertiliser placement for precision drilling of arable and cover crops, using either tines or discs to produce the seeding slot. To be eligible the drill must place the fertiliser adjacent (below or to the side) to the seed in the seeding slot. The drill must have a minimum drilling width of 2.9m.	68,000	25,000	63
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With the exception of the fertiliser placement mechanism, the drill must have no cultivation or seed bed preparation equipment in front of the seeding slot mechanism and the seed must be placed in the seeding slot. The drill must be able to drill through a fully established growing cover crop of at least 15cm in height. The item purchased must include seed and fertiliser hoppers. The drill must be able to drill the full range of arable and cover crops including cereals. The following are not eligible: cultivators with over-seeders or broadcasters, minimum till drills, strip till drills, grassland over-seeders, and grassland broadcasters. Drills which broadcast the fertiliser on the surface rather than place the fertiliser in the soil adjacent

to the seed are not eligible. Serial number required - to be submitted with your claim for payment.

*FETF207P	Air drill for establishing cover crops	A small pneumatic (air) drill for seeding cover crops designed to be mounted on existing drills or soil tillage equipment. To be eligible the air drill must have electronic metering, capable of drilling a range of small cover crop seeds. Seed placement will be via either pipes, coulters or spreader plates with a minimum drilling width of 3m and have a minimum seed hopper capacity of 300 litres. Serial number required - to be submitted with your claim for payment.	1,990	796	60
FETF51	Retro fitted yield monitoring	An electronic device retro fitted to a combine or forage harvester to monitor crop yield during harvest. It will provide	3,432	1,373	63

information on harvesting rate, with total and partial area (field) yield of crop. Must include purchase of yield sensor for combine or forage harvester, in-cab display and software for downloading to computer.

Applications involving only the purchase of software or activation codes for existing sensors and displays are not eligible. If you are not intending to purchase an in-cab display but use an existing display, you must not include this item in your application. You cannot use a display included in FETF50 Variable Rate Controller for sprayers and fertiliser spreaders for this item. To be eligible for this item you must purchase yield sensors to fit onto the combine or forage harvester and in-cab display.



		Purchase of in cab displays and software only is not eligible. Serial number required - to be submitted with your claim for payment.			
FETF54	Controls for continuous grain dryer	Continuous dryer control system designed to continuously monitor the running of bulk grain. Dryer controls can be accessed by mobile phone.	5,235	2,094	50
FETF55	Grain stirrers	Grain stirrers installed within a flat store which move across the grain on a gantry.	19,836	7,934	40
*FETF208P	Tractor mounted stubble rake 6m	Tractor mounted rake for use as part of a zero or minimal-till system. Minimum of 6m width. To be eligible, the rake must have tines which will agitate the soil surface and spread crop residues evenly across the field. The aim should be to encourage earthworm activity and to break up damp mats of	14,500	5,800	63

straw which are likely to harbour slugs. Serial number required - to be submitted with your claim for payment.

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*FETF209P	Inter row companion drills 3m	Inter row drill for precision direct drilling of a range of cover or companion crops, using either tines or discs to produce the seeding slot. To be eligible the drill must have a minimum drilling width of 3m, must have no cultivation or seed bed preparation equipment in front of the seeding slot mechanism and the seed must be placed in the seeding slot. The drill must be able to drill between the rows of an established growing crop. The drill must have a minimum inter-row spacing between coulters of 45cm. Drill must include seed hopper. Drills which use either broadcasting or over seeding as a method of placing	26,800	13,400	56
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the seed in the seed bed are not eligible under this item. Serial number required - to be submitted with your claim for payment.

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*FETF210P	Inter row companion drills 6m	Inter row drill for precision direct drilling of a range of cover or companion crops, using either tines or discs to produce the seeding slot. To be eligible the drill must have a minimum drilling width of 6m, must have no cultivation or seed bed preparation equipment in front of the seeding slot mechanism and the seed must be placed in the seeding slot. The drill must be able to drill between the rows of an established growing crop. The drill must have a minimum interrow spacing between coulters of 45cm. Drills which use either broadcasting or over seeding as a method of placing	26,800	13,400	66
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the seed in the seed bed are not eligible under this item. Serial number required - to be submitted with your claim for payment.

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*FETF211P	Liquid fertiliser applicator for seed drills/planters 3m	A system to connect to a seed drill (minimum 3m) for precision application of liquid fertiliser while drilling or planting to incorporate the solution into the soil at the desired rate. The system must include a fill tank, hydraulic powered pump, drill mounted liquid distribution manifold, calibration, pressure regulation, liquid blockage monitoring, nozzle & pump flush system and in-cab spray control system - spray on/off switching. In-cab control system, (or auto flow control) may also be used with FETF50 variable rate controller for sprayers &	15,905	6,362	60
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fertiliser  
spreaders.  
Systems for  
incorporation of  
other liquid  
chemicals such as  
herbicides and  
fungicides are not  
eligible. Serial  
number required -  
to be submitted  
with your claim for  
payment.

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*FETF212P	Liquid fertiliser applicator for seed drills/planters 6m	A system to connect to a seed drill (minimum 6m) for precision application of liquid fertiliser while drilling or planting to incorporate the solution into the soil at the desired rate. The system must include a fill tank, hydraulic powered pump, drill mounted liquid distribution manifold, calibration, pressure regulation, liquid blockage monitoring, nozzle & pump flush system and in-cab spray control system - spray on/off switching. In-cab control system, (or auto	18,385	7,354	65
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flow control) may also be used with FETF50 variable rate controller for sprayers & fertiliser spreaders. Systems for incorporation of other liquid chemicals such as herbicides and fungicides are not eligible. Serial number required - to be submitted with your claim for payment.

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## 5. Livestock

FETF number	Item name	Specification	Expected average total costs of Item (£)	Grant Amount (£)	Item Score
FETF52	Pasture plate meter (handheld)	A handheld device to assess grass cover by measuring total height and the number of measurements taken. The device must have the capability of storing measurements taken from separate paddocks and for the data to be downloaded to a computer or mobile device. Plate meters	580	232	53

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that are not able to store data electronically for later electronic transfer are not eligible. Maximum of 2 per application. Serial number required - to be submitted with your claim for payment.

FETF84	Chemical free disinfection system for dairy farms	Low voltage electrical ozone-based disinfection systems. 250 litre tank minimum. Serial number required - to be submitted with your claim for payment	30,000	15,000	67
FETF88	Heat and service detector	Proximity based detection system using a collar detector worn by the bull linked to RFID electronic ear tags on the cows. System includes detection collar and a minimum of 50 ear tags. Any additional tags to be purchased as required but are not eligible for funding. The ear tag must have a life expectancy of at least five years and not be used for animal identification as required by the Cattle Tracing System. Maximum 2 systems per application.	1,095	438	49
FETF89	Calving detector	Detector system linked to mobile device to alert when cow begins	230	92	48

## calving.

FETF90	Heat detection system base unit	Automated system for the heat detection in cows based on motion detection. Using either electronic ear tags, neck collars or ankle transponders to identify the animal. To be eligible, each base unit must comprise receiver, aerial and connection to farm computer. Extenders are not eligible. Maximum 2 units per application. See FETF91 - Heat Detection System - Ear Tag, Collar or Ankle Band.	1,850	740	47
FETF91	Heat detection system ear tag collar or ankle band	Automated system for the heat detection in cows based on motion detection. Ear tag, neck collars or ankle bands which measure motion associated with oestrous behaviour are eligible. Cost is per neck collar/ankle band or ear tag. Note for ear tags to be eligible they must have a life expectancy of at least five years and be reusable (transferable to another animal). Tags used for Cattle Tracing System (CTS) purposes are not eligible for funding.	73	29	47



		Bolus type transponders are not eligible under this scheme.			
FETF92	Realtime milk analysis	Milk sensors that produce data on conductivity and milk constituents (including lactose and protein) per cow in real time. Cost is per milking point. Devices which only measure milk volume and/or milking time are not eligible under this item.	1,400	560	58
FETF96	Badger proof feed troughs	Cattle feed trough for in field use that includes rollers or other mechanisms to reduce or eliminate the possibility of badgers making contact with the feed. To ensure minimum contact by the badger with the food, the rollers or other mechanism must be at least 740mm above the surface of the field. Cost is per trough. Each trough must have two discernible ends and two sides. Troughs with shared ends or sides will only count as one trough.	341	136	47
FETF97	Badger proof lick holders	Cattle mineral/supplement holder, which by design	170	68	47

will eliminate the possibility of badgers making contact with the mineral/supplement. To ensure minimum contact by the badgers with the minerals/supplements, the top edge of the holder must be at least 740mm above surface of the field. Cost is per holder.

FETF103	Robotic silage pusher	Robotic system with intelligent software and programmable for the intended feed passage. The equipment must have the capability to detect the distance from the feed barrier along with the amount of feed in the passage. Serial number required - to be submitted with your claim for payment.	14,500	5,800	60
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## 6. Resource Management

FETF number	Item name	Specification	Expected average total costs of Item (£)	Grant Amount (£)	Item Score
FETF21	Rainwater harvesting minimum tank size	Rainwater harvesting system to collect water from roofs for use on farm	2,347	939	62

5,000 litres or nursery. System purchased must include water tank with minimum capacity 5,000 litres, two stage pre filter for removing debris and soil from water before entering storage tank, and electric pump to distribute water to required use.

FETF22	Rainwater harvesting minimum tank size 50,000 litres	Rainwater harvesting system to collect water from roofs for use on farm or nursery. System purchased must include water tank with minimum capacity 50,000 litres, two stage pre filter for removing debris and soil from water before entering storage tank, and electric pump to distribute water to required use. Storage tank can be either plastic or circular galvanised steel with a liner.	8,340	3,336	67
FETF23	UV Water treatment system	For the treatment of water to be used in the feeding of livestock or irrigation of horticultural crops. To be eligible, each unit will consist of a	610	244	55

single bulb in-line UV filter and each unit must include auto shut off in case of power or bulb failure to prevent untreated water from leaving the unit. Each unit must be capable of treating at least 30 litres per minute @30mJ/cm<sup>2</sup> (eg 55 Watt power consumption). System must be Water Regulations Advisory Scheme (WRAS) approved. Maximum 10 units per application.

FETF24	Hydraulic ram pumps (water)	Pump working by hydraulic pressure to raise clean water. Must include: the pump plus sediment chamber, pump chamber, drive pipe, distribution pipe, 5,000 litres (minimum) header tank, and return pipe. System must have 20 litres/min flow, 3m head with 10-20m lift, 300m delivery pipe and two spurs.	4,368	2,184	59
FETF25	Irrigation sensor	Waterproof sensor with inbuilt battery that straps to hose reel or other irrigation equipment.	1,195	478	65

Communicates with mobile phone, tablet and PC showing irrigation status, trolley speed. Alarm functions showing water pressure drop, trolley stop.

FETF40	Heat recovery unit to heat water	System to utilise the heat energy released by the milk refrigeration system used for cooling milk before entering the bulk tank. Energy recovered used to preheat water for existing hot water system. Cost includes connection to existing refrigerant system, connection to water supply, heat recovery tank with minimum 300 litre water capacity and connection to existing hot water system.	5,220	2,610	63
FETF41	Plate heat exchanger for cooling milk (plate cooler)	Gasket plate heat exchangers to pre-cool milk using cold water before it enters the bulk tank. Minimum continuous flow rate of milk 5,000 litres per hour. Other types of heat exchangers are not eligible, eg tube heat exchangers.	2,700	1,350	61

FETF43	Variable speed drive for pumps and electric motors	Variable speed drive for use with vacuum pumps, water pumps or other electrically driven systems where continuous running is normally required. The installation of a variable speed drive will allow the pumps and motors to only perform work when required, thereby saving energy over continuous running systems. To be eligible the variable speed drive must have a minimum load capacity of 5kW.	3,550	1,775	58
FETF49	Measuring nitrogen levels in crops using light reflectance	Uses a tractor mounted sensor to determine the nitrogen status of the crop using light reflectance to enable real time variable rate nitrogen fertiliser application. The system must include sensors, mounting frame to the tractor and linkage to the variable control on the fertiliser spreader to enable automatic control of the application rate of nitrogen fertiliser while in operation.	13,350	6,675	70

To be eligible the system must be able to automatically control application of fertiliser and record application rates. Serial number required - to be submitted with your claim for payment.

FETF50	Variable rate controller for seed drills, sprayers and fertiliser spreaders	An electronic device to connect to an existing drill sprayer or fertiliser spreader for the purposes of changing the rate of application automatically without operator input. The regulation system will work from either a pressure or a flow sensor and provide sectional control. The system must be able to record application rates applied and download to computer. The system must include variable rate controller, section control, in-cab display and software. Applications involving only the purchase of software or activation codes for existing control systems are not eligible. If you are	4,625	1,850	63
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not intending to purchase an in-cab display but use an existing display, you must not include this item in your application. You cannot use a display included in FETF51 Yield Monitoring for this item. You must purchase an in-cab display with variable rate control. Serial number required - to be submitted with your claim for payment.

FETF53	Chlorophyll meter	Handheld device to instantly measure and log chlorophyll content of individual plant leaves to assist in detecting yield-limiting deficiencies or costly over fertilising.	433	217	55
*FETF213P	Remote soil moisture sensing	A sensor designed for outdoor field use, that is inserted into the soil and can measure moisture accurately at a single or range of depths. It will have an in-built battery and a remote communication system such as Bluetooth which will connect with either a networked base	411	206	60



station or directly to a mobile phone. The sensor and any base station hardware is eligible.

Subscriptions or software are not eligible. Serial number required - to be submitted with your claim for payment.

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*FETF214P	Soil health monitor package	<p>This item is designed to support the purchase of key equipment to help monitor soil health. To be eligible you must purchase all three items. Portable soil pH meter capable of giving real time pH and conductivity measurements of the soil. To be eligible the pH meter must be able to measure pH from 0 to 14 with a resolution accuracy of plus or minus 0.1 pH, monitor temperature between 0 and 60 degrees celsius with an accuracy of plus or minus 0.5 degrees celsius and conductivity between 0 mircoSiemens /cm and 6,000 mircoSiemens /cm</p>	663	331	68
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with an accuracy of plus or minus 2% Soil moisture meter capable of measuring soil moisture between 0% and 50 % at depths of up to 200mm with a resolution of 0.1% Penetrometer to measure the resistance of the soil to indicate the degree of compaction in the soil. The purchased item must include a penetrometer capable of measuring between 0 and 400 psi or equivalent megapascals. The probe must have graduated depth scale to determine depth of compacted layer and supplied with two probe tips one for firm and one for loose soil. Serial number required - to be submitted with your claim for payment.

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*FETF215P	Weed wiper 2.4m	The weed wiper must be a trailed machine suitable for towing by light field vehicles eg ATV. It must have height adjustment and have	2,603	1,041	56
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at least one rotating application roller (made of carpet, brush or other material). The weed wiper must be 2.4m minimum working width and have an electric pump and pump control to control herbicide application rate. Serial number required - to be submitted with your claim for payment.

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*FETF216P	Camera guided inter row sprayer 3m	A sprayer using precision camera guidance to spray between the rows of growing crops to remove weeds. Designed to be used at relatively high speed and to be able to automatically distinguish between the crop rows and weeds. To be eligible the system will use real time photo recognition to identify individual weeds and control the sprayer to spot spray the identified weeds. The system must be able to control individual spray nozzles switching them on and off independently as	8,729	4,365	60
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required. Minimum working width 3m. Serial number required - to be submitted with your claim for payment.

*FETF217P	Camera guided inter row sprayer 6m	<p>A sprayer using precision camera guidance to spray between the rows of growing crops to remove weeds. Designed to be used at relatively high speed and to be able to automatically distinguish the difference between the crop rows and weeds. To be eligible the system will use real time photo recognition to identify individual weeds and control the sprayer to spot spray the identified weeds. The system must be able to control individual spray nozzles switching them on and off independently as required. Minimum working width 6m. Serial number required - to be submitted with your claim for payment.</p>	12,510	6,255	65
*FETF218P	Robotic drill and	Autonomous robotic vehicle which can	62,566	25,000	80

guided hoe drill and mechanically weed (hoe). The device must be able to precisely place seed in the ground. It must also be able to mechanically weed between the drilled rows but also weed between the plants in the row. To be eligible the robot must be able to operate completely autonomously in the field without the need for an operator to carry out any function apart from refilling the seed hopper. To be eligible the robot must be able to both drill and hoe. Serial number required - to be submitted with your claim for payment.

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## 7. General

FETF number	Item name	Specification	Expected average total costs of Item (£)	Grant Amount (£)	Item Score
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FETF46	GPS light bar	GPS guidance system using light bar to aid guidance. To be eligible the device must be linked to smart phone or tablet to create, recognise, and load field boundary information. The device must provide field boundary measurements. It must have a minimum capability of straight and curved guidance modes, with minimum pass to pass accuracy of 20cm.	765	306	60
FETF47	Assisted steer system (retro fitted for older tractors)	Assisted steering system linked to GPS to enable auto steering for use on older tractors. For the system to be eligible it must include electric, hands-free, assisted steering system, with installation onto steering wheel or replacement of steering wheel with assisted steering device. Applications for software or activation codes for existing/ pre-installed auto steering system are not eligible. Serial number required - to be submitted with your claim for payment.	2,628	1,051	57

FETF48	Real time inline forage crop analysis	Analysis of forage crops in real time during harvest using Near Infra-red (NIR) spectroscopy. System must be able to analyse and record the level of dry matter, crude protein, starch, crude fibre, sugar and crude ash. The system must also have the ability through analysis of dry matter content to automatically control silage additive application rates. System must be able to be retrofitted to existing forage harvesters. You cannot claim for this item and FETF29 as one item. You must purchase separate Near Infra-Red (NIR) spectroscopy units for each item. Serial number required - to be submitted with your claim for payment.	15,071	7,536	67
*FETF219P	Cameras for monitoring farmyard	IP (Internet Protocol) Camera for monitoring farmyard activity, ie wired, Wi-Fi, fibre, or mobile data connections. Cameras must be outdoor rated IP66 with Pan Tilt and Zoom (PTZ), day and	275	110	48

night vision. Infrared range of 50m minimum, 18 x zoom minimum. 1,080 pixels minimum. Cameras must have recording facility either through a central recording device or have removable memory cards. Must be compatible with online viewing app for smart phone or tablet. Item cost is based on a single camera unit. Maximum number to be applied for is 6. Units can be purchased as a linked multiple camera unit, providing no more than 6 cameras are purchased. Serial number required - to be submitted with your claim for payment.

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FETF109	Central tyre inflation system	The central tyre inflation system can regulate the tyre pressure of all tyres on the vehicle. It is able to inflate or deflate tyres from the cab to suit ground conditions and in emergency maintain air pressure in a tyre if there is a slow leak until the vehicle can be moved to a safe	6,281	3,140	63
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place to attend to the leak. The system purchased must include pneumatic control unit, operator control panel, wheel valves and pressure switch. Only systems fitted to agricultural vehicles are eligible under this item. The system can be purchased as a factory fitted option to new machines, but the system must be able to be retro fitted to existing agricultural and forestry machines to be eligible. Systems for cars, 4x4s, vans and commercial vehicles are not eligible under this item. Serial number required - to be submitted with your claim for payment.

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FETF110	Cover crop roller 3m	Tractor mounted roller system to terminate and/or bruise cover crops ahead of direct drill. Minimum of 3m width. To be eligible the roller should be constructed to have an uneven or ridged surface to aid the crimping or bruising of the cover crop to destroy it. The roller must completely	4,880	1,952	58
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crimp or bruise the crop across the full working width of the roller. Flat rolls and ring rolls are not eligible under this item. Serial number required - to be submitted with your claim for payment.

FETF111	Cover crop roller 6m	Tractor mounted roller system to terminate and/or bruise cover crops ahead of direct drill. Minimum of 6m width. To be eligible the roller should be constructed to have an uneven or ridged surface to aid the crimping or bruising of the cover crop to destroy it. The roller must completely crimp or bruise the crop across the full working width of the roller. Flat rolls and ring rolls are not eligible under this item. Serial number required - to be submitted with your claim for payment.	8,282	3,313	63
FETF112	Grassland sward lifters	To be eligible, must have a minimum of 3 legs with adjustable depth control (at least to 300mm) via the legs or packing rollers. Machine must have cutting disc in	7,010	2,804	54

front of, and a packing roller behind, each leg, shear bolt or mechanical reset on each leg. Serial number required - to be submitted with your claim for payment.

FETF114	Biological control applicator	Fan powered hand-held applicator. Must give an even distribution of up to 3m or more. Serial number required - to be submitted with your claim for payment.	2,266	906	63
FETF117	Crop storage sensor system	Wireless sensor system designed to transmit temperature, CO2 and relative humidity information to mobile, tablet and PC. To aid improvements to the storage of fruit and vegetables. Funding is for system control unit, transmitters/antennas and minimum of 6 sensors to include at least 1 internal and 1 external temperature sensor, 1 internal and 1 external humidity sensor and 2 internal CO2 sensors. The system must include all these elements to be eligible. Purchase	4,818	1,927	55

of only sensors or software is not eligible.

FETF118	Digital weather station	A system/station that has the minimum functionality to record barometric pressure, temperature, humidity, rainfall, wind speed and direction, solar radiation, UV levels, soil moisture and soil temperature. The system must be able to link wirelessly to a computer. The cost includes the station, mounting facilities and sensors for above functionality. Excludes installation costs, service costs, annual licence fee for software and calibration. Serial number required - to be submitted with your claim for payment.	1,438	575	61
*FETF220P	Grain protein monitor	A near infrared monitor that is fitted to the clean grains elevator on a combine harvester to measure, in real time, grain protein, moisture in cereals and moisture and oil levels in oilseed rape. The system includes a NIR spectrometer, in	10,590	4,236	57

cab display, and clean grain capture and measurement system. Serial number required - to be submitted with your claim for payment.

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