An Roinn Oideachais
Department of Education

# AGRICULTURAL SCIENCE

## Equipment List, Specifications andTendering Guidance (AGR)

Planning & Building Unit,
Department of Education Tullamore, Co. Offaly. R35
December 2021

## Standards, Specifications and Conditions

There are six lists for science equipment, i.e. LAB, RES, BIO, CHE, PHY and AGR.
The provision of science equipment for science laboratories is as follows:

i) One Basic Science List – LAB – for each science laboratory.
ii) One Science Resource List– RES – for each two science laboratories and stored in the Science preparatory room, which links every two laboratories.
iii) One Agricultural Science List – AGR – for each Agricultural Science provision (in addition to i) and ii) above).
iv) One Biology List – BIO – for each Biology provision (in addition to i) and ii) above)
v) One Chemistry List – CHE –for each Chemistry provision (in addition to i) and ii) above)
vi) One Physics List – PHY – for each Physics provision (in addition to i) and ii) above).
vii) Each laboratory is supplied with a LAB list plus one of the senior science lists (i.e. BIO/CHE/PHY/AGR).

Note: Where the symbol ♣ is placed after a substance, a supplier who supplies a greater quantity than requested may be held responsible for removal and disposal of the excess.

All equipment shall be durable and safe for school use.
Equipment wholly or partly funded from public funds is subject to inspection by officers from the Department of Education and Skills.

It is essential that tenders and tenderers for equipment for school use shall:

- Comply fully with the specifications and be durable and safe for school use.
- Comply fully with the standards as detailed and shall comply fully with European Standards (EN), both established and developing.
- Comply with European electrical standards and CE marking as appropriate.
- Fully comply with requirements in the Request for Tenders (RFT) document.
- Be accompanied by documentation of sufficient detail for full evaluation.
- Include the completed and signed certificate of compliance.

Award of a contract is conditional on the production of a current tax clearance certificate.

Failure to comply with the above may result in the tender being deemed null and void.

| Section 1: Laboratory | | | |
|---|---|---|---|
| **Code**<br>**Quantity** | **Descriptions and Specifications** | | **Cost**<br>**€:** |
| AGR/100<br>**1** | Visualiser: Min. 13 MP Lens, Up to 4K at 30 fps Video, Built-In Mic, coverage A3 + (533x330mm), USB Interface & Power Connection to a PC or other device which accepts standard video input, flexible swan neck on heavy base, two year warranty | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/101<br>**1** | Growth cabinet, strong sheet aluminium, with circular fluorescent illumination and ventilation fan, pigmy lamp with separate switch for red wavelengths, internal diameter 345 x 355 x 315 mm (H x W x D), overall height 560 mm, for use with 230 V, 50 Hz mains supply | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/102<br>**1** | Timer switch, for growth cabinet above | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/103<br>**1** | Oven / Incubator, range 20°C – 200°C or nearest, capacity 50 L, number of movable shelves 2 (3 positions), wattage 1000, dimensions H x W x D 33 x 49 x 33 cm or nearest equivalent, 230 V a.c., complete with 2 m three-core cable (note: thermostat and heating elements must be easily replaceable) | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/104<br>**1** | Muffle furnace, heat to at least 1000 ºC, safety door, (power cuts off when door is opened), dimensions approximately 100 x 125 x 150 mm (H x W x D), power 1.55 kW | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/105<br>**1** | Water bath, 22 litres capacity, suitable to fit test tubes and test tube stands, digital temperature controller and display, temperature range from ambient to 80 ºC, user resettable safety cut-out device, 230 V, 50 Hz. | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/106<br>**4** | Balance, electronic, digital display, top-loading, with serial interface: 0 – 300 g × 0.001 g (i.e. to 3 decimal places = 1 mg), zero tare, stainless steel weighing pan, two year warranty | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/107<br>**12** | Bench lamp complete with LED bulb (approx. 11W /850 lumen), flexible neck for angle-poise, with switch, base weighted for stability, inside of shade finished in white gloss, approximate working height 40 cm, complete with long mains cable. | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/108<br>12 | Electric plant propagator, with light and adjustable variable temperature control, heated base, thermostatic, precise control of the ambient growing conditions, can be set to any 1°C from 5°C to 30°C, high dome lids with vents allowing space for plants to grow, approximate size 570 mm length × 290 mm width x 230 mm height, approximately 40-70 watts | | |
| | Manufacturer: | Catalogue No.: | |

| | | | |
|---|---|---|---|
| AGR/109<br>**48** | 24-cell self-watering seeding propagator, plastic, approximate size 38x17x26 cm, with drainage holes in the cells, tough, long-life injection moulded trays for years of repeat use, non-electric – for windowsill use | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/110<br>**8** | Fast plants seeds, minimum 200 seeds, with growth, development, pollinating and reproduction F1 hybrid plants (such as Brassica) to produce F2 seed in a fast generation cycle of 35-40 days, suitable for second-level classrooms | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/111<br>40 | Packets of cress seeds *(further seeds listed in Section 3)* | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/112<br>12 | Packets of Pea seeds, Mangetout mix, three different pod colours: yellow, green and black | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/113<br>**12** | Hand-held battery-operated electronic thermometer with probe and maximum/minimum temperature memory digital, general purpose use, including soil measurements, supplied with probe, range -50ºC to 150 ºC | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/114<br>6 | Soil pH meter, portable, hand held | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/115<br>**12** | Refractometer, hand-held, for use with sugar solutions or colostrum or any transparent liquid or solid, refractive index 1.3-1.7 (subdivided to 0.001), suitable for use with white light at 20 ºC, supplied with sugar scale 0-95% w/w (subdivided to 0.5%) to include thermometer, glass test piece, contact liquid and scale illumination unit, dust cover, case, 230 V, 50 Hz | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/116<br>**2** | Light meter, portable, hand-held, reading 0.1 lux - 50,000 lux, resolution 0.1 lux, LCD Display, 9V battery | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/117<br>**1** | Anemometer, hand held, digital, screen display, measures velocity, waterproof (IP67), replaceable vane head, battery supplied | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/118<br>**12** | Carbon dioxide gas sensor, range 0-100,000 ppm $CO_2$, accuracy 0-1,000 ppm, stored data points memory (logging), including 250 mL sample bottle<br>*Note: wireless sensor with Bluetooth technology as an option, if selected by the school* | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/119<br>12 | Soil moisture sensor, wireless, data logging, 0 to 45% volumetric water content, accuracy ±5%, operating temperature range -40 to 60°C<br>*Note: wireless sensor with Bluetooth technology as an option, if selected by the school* | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/120<br>**6** | pH sensor, range 0-14 pH, accuracy ±0.01 pH with calibration, temperature range 5°C - 60°C, data logging, including probe storage bottle and pH sensor storage solution<br>*Note: wireless sensor with Bluetooth technology as an option, if selected by the school* | | |

| | | | |
|---|---|---|---|
| | Manufacturer: | Catalogue No.: | |
| AGR/121<br>**12** | Temperature sensor, stainless steel probe, temperature range 40ºC to 125ºC, accuracy 0.5ºC, stored data points memory, data logging, including 35 day capable battery data collection<br>*Note: wireless sensor with Bluetooth technology as an option, if selected by the school* | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/122<br>**6** | Relative humidity sensor (0% to 100% RH), measures absolute humidity (g/m3) and air temperature (°C) and calculates relative humidity and dew point, stored data points memory, data logging, range absolute humidity 0 g/m3 to 50 g/m3, accuracy ±2% (RH), range temperature -20° C to 55° C<br>*Note: wireless sensor with Bluetooth technology as an option, if selected by the school* | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/123<br>**6** | Light sensor, range 0-100,000 lux with medium, low and high illumination ranges, measures light level (lux), illuminance, UV Index, and colour intensity, data logging<br>*Note: wireless sensor with Bluetooth technology as an option, if selected by the school* | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/124<br>**12** | Thermometer, soil, spirit or digital, range –10 to 100 ºC in aluminium tube, perforated at base which can be pressed into the soil. | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/125<br>**12** | Wormery, size 400 x 250 mm approx., with removable glass plates | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/126<br>**12** | Set of soil sieves with minimum 8 sieves of varying mesh sizes including a cover and receiving pan | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/127<br>**4** | Soil samples set comprising at least four labelled soil types | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/128<br>**6** | Soil auger 100cm long, mild steel, graduated in 10cm intervals | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/129<br>12 | Soil testing kit, at a minimum to determine NPK, including reagents and colour cards | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/130<br>24 | Crucibles, porcelain, low form, supplied with lids, nominal capacity 50 $cm^3$ | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/131<br>12 | Crucible tongs, straight, length 150 mm. | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/132<br>**24** | Evaporating Basin, 75ml | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/133<br>1 | Disposable graduated pipettes, non-sterile, translucent polyethylene, graduated on the stem, capacity 3ml, 0.5ml graduations, pack 500 | | |
| | Manufacturer: | Catalogue No.: | |

| | | | |
|---|---|---|---|
| AGR/1342 | Variable and fixed volume micropipettes, single channel, click-stop system for digital volume setting to 100µl – 1000 µl / 0.1ml-1ml, ergonomic design plunger movement, high accuracy and precision, supplied with pack of pipette tips | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/1351 | Centrifuge, speed range of 300-4500rpm, capability of 8 x 15ml tubes, speed and time settings. | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/1366 | Butryometer, borosilicate glass, 11ml sample size, with stopper, 2 no. each instrument calibrated with 0-6%, 0-8% and 0-10% scales | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/137 **1** | Digital timer/stopwatch, LCD display, count up/down, reading to 0.01 second, supplied with batteries | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/1381 | Desiccator, glass or plastic, with lid and drying agent such as silica gel packets | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/139 **12** | Quadrat, 0.5 x 0.5 m, heavy gauge steel frame, no sub division, zinc plated or can be set to any 1°C from 5°C to 30°C | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/140 **4** | California mastitis test (CMT) kit, including four-well paddle, dispenser and 1 litre CMT solution | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/141 **4** | Broad spectrum antibiotic residue testing kit for milk (such as *Delvo*), 25 test pack, including ampules and pipettes | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/142 **4** | Sach's water culture set. Set contains one tube each lacking: phosphorus, nitrogen, calcium, potassium, magnesium, iron, sulphur and a complete medium. Each tube is sufficient to prepare 4 litres solution of liquid medium. | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/143 **6** | Milk Testing Kit, Resazurin - Lovibond Comparator | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/144 **24** | Pipe clay triangle, 65mm | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/145 **12** | Graduated cylinder, measuring cylinder, borosilicate glass with glass foot, 2 litre, with fitted stopper | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/146 **24** | Graduated cylinder, measuring cylinder, borosilicate glass with glass foot, 1 litre, with fitted stopper | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/147 **6** | Bags, polythene, zip seal 26x26cm, 20 | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/148 **24** | Clipboard | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/149 **6** | Net, sweep net, fine mesh, elasticated edges stretched over white plastic coated frame, 500 x 500 mm, with handle, 150 mm. | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/150 **2** | Heat mats, ceramic, heat-proof, 10 pack | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/151 **1** | Heat protection gloves, pair | | |
| | Manufacturer: | Catalogue No.: | |

| | | | |
|---|---|---|---|
| AGR/152<br>**1** | Pond net with net bag 25 cm wide, telescopic handle extending to 135 cm | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/153<br>**1** | Knife, glass cutting with replaceable blades | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/154<br>12 | Combustion tubes, borosilicate glass open at both ends, 320x26mm | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/155<br>**24** | Microbiological inoculating loop with handles, aluminium & nickel plated, brass collar, length 150 mm | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/156<br>1 | Empty petri dishes, sterile, polystyrene disposable, 90 mm x 12 mm, pack of 500. | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/157<br>1 | Plate spreader, L shaped, sterile, individually wrapped, aseptic, Pack 250 | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/158<br>5 | Agar plates, prepared, nutrient agar, pack 10, *delay delivery until requested* | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/159<br>1 | Sample Bottles, small, sterile, with caps, pack 50 | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/160<br>6 | Sand, 1 kg bags | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/161<br>6 | Muslin cloth, 5m | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/162<br>1 | Cotton wool, 500gr roll | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/163<br>24 | Parafilm roll, 100mmx75m | | |
| | Manufacturer: | Catalogue No.: | |

| Section 2: Essential outdoor | | | |
|---|---|---|---|
| Essential for implementation of the Leaving Certificate Agricultural Science specification in all circumstances as part of the supply of the full equipment list.<br><br>The items in this section are be placed adjacent to the laboratory or located along a walkway, accessible for use, as chosen by the school. | | | |
| AGR/200<br>**1** | Growing tunnel, erected, minimum length 20m x minimum width 5m, minimum 5 year guarantee, 800 gauge UV protected 91% light thermic plastic, minimum 33mm diameter galvanised steel frame, with front opening 3.6 m fitted with two doors of 1.2 m and 2.4 m respectively. Option: internally once divided at 6 m from end with connecting door (1.2 m wide) to provide an inner controllable growing environment.<br>To be fitted throughout with the following:<br>i) Timber framed growing plots/beds and paths, minimum 100mm high, Smooth Timber C16 Treated En14081 (or similar pressure treated timber for longer life with environmentally-friendly timber treatment, where possible) and reinforced at the corners with aluminium brackets and posts, to a minimum depth 200mm<br>ii) Growing plots/beds filled with top soil as per AGR/303<br>iii) Pathways, laid, framed and floored in either concrete slabs or suitable ground cover, as selected by the school.<br>iv) Electric supply<br>v) 2x LED horticultural light source with either white LEDs or red (660 nm) and blue LEDs (460nm), 100-200 W LEDs, with an operating temperature -10 to 50°C, minimum IP65 rated<br>vi) 2x 2 kW blow heaters suitable for use in polythene tunnel<br>vii) Connected to a water supply, to include a mounted tap and hosepipe<br>viii) Watering system | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/201<br>**2** | Shelving, single tier, 1 m x 3 m (height x length) x 1 m wide, slatted. | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/202<br>**4** | Outdoor raised beds; type selected by the school. Min. 600mm height. Minimum 0.8m wide x 2m long. Made from weather resistant treated timber (with non-toxic environmentally friendly timber treatment), reinforced at the corners with aluminium brackets and posts.<br>OR<br>In the instances where no outdoor area is available, as an alternative: 20 potato-planter grow bags, volume 35 litre capacity, approximate 35cm x 45cm, reusable, made from natural heavy duty jute, drainage holes in base, easy access flap for potato harvesting, PE coated for water retention, portable with sturdy handles | | |
| | Manufacturer: | Catalogue No.: | |

| | | | |
|---|---|---|---|
| AGR/203<br>**1** | Top soil, sufficient to fill the plots in both the raised beds and the growing tunnel above | | |
| | Manufacturer: | Catalogue No.: | |

| | | | |
|---|---|---|---|
| **Section 3: General crop growing equipment and tools** | | | |
| AGR/300<br>50 | Compost, growing medium, 50 no. 50 lt bags, preferably peat-free, type to be selected by the school | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/301<br>10 | Grow bag, potato-planter grow bag, volume 35 litre capacity, approximate 35cm x 45cm, reusable, made from natural heavy duty jute, drainage holes in base, easy access flap for potato harvesting, PE coated for water retention, portable with sturdy handles | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/302<br>10 | Organic fertilizer, 1kg bags to include a range of types, (such as: seaweed fertilizer, horse manure, chicken manure, as selected by the school) | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/303<br>10 | Artificial fertilizer, granular, 10 no. 1kg bags to include a range of types, where possible (such as: 10:10:20, urea, protected urea, CAN, high nitrogen, high PK, sulphate of potash, superphosphate, as selected by the school) | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/304<br>20 | Gardeners packets of seeds, a range of varieties, suitable for early or year round germination (e.g. Pea, Broad bean, Lettuce, Barley, Maize, Oat, Radish, Mustard), 20 no. packets as selected by the school | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/305<br>**10** | Seed potato, selection of early, second early and main crop varieties (such as Maris piper, queens, golden wonder, home guard) 10 no. 1kg bags | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/306<br>**1** | Certified grass seed, mixed species grazing sward, 1kg bag | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/307<br>**1** | Certified grass seed, mixed species silage sward, 1kg bag | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/308<br>**1** | Certified grass seed, grazing, sheep mixture, 1kg bag | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/309<br>**1** | Certified grass seed, grazing, horse mixture, 1kg bag | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/310<br>**1** | Uncertified seed, catch crop mixture, 1kg bag | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/311<br>**1** | Uncertified seed, catch crop straight, (such as forage Rape), 1kg bag | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/312<br>**1** | Uncertified seed, catch crop straight, either peas or beans, 1kg bag | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/313<br>**1** | Uncertified seed, fodder crop (such as Kale, Brassica, Swede), 1kg bag | | |

| | | | |
|---|---|---|---|
| | Manufacturer: | Catalogue No.: | |
| AGR/314<br>**1** | Uncertified seed, multi-species sward clover varieties, 1kg bag | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/315<br>1 | Certified seed, spring barley, 1kg bag | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/316<br>**1** | Certified seed, winter wheat, 1kg bag | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/317<br>**24** | Seed tray, plastic, 32 cells | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/318<br>24 | Seed tray, with holes, standard, plastic, 375mm Long, 23cm Wide, 6cm High | | |
| | Manufacturer: | Manufacturer: | |
| AGR/319<br>**6** | Watering can. Minimum 10 lt capacity | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/320<br>**6** | Shovel, general purpose, round point heavy duty steel head, ash wood timber long handle 127 cm, 10 year guarantee | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/321<br>**12** | Garden spade, carbon steel/ stainless steel blade 7.5x11.5in 230mm x 140mm, handle 28in/70cm, 15 year guarantee | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/322<br>**12** | Garden fork, high-quality stainless steel/carbon steel prongs 7.5x11.5in 230mm x 140mm, handle 28in/71cm, 15 year guarantee | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/323<br>**6** | Garden rake, carbon steel/ stainless steel 12 tooth head, ash wood timber long handle 127 cm, 15 year guarantee | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/324<br>**12** | Hand trowel, carbon steel head, ash wood handle, 15 year guarantee | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/325<br>**12** | Hand fork, carbon steel head, ash wood handle, 15 year guarantee | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/326<br>**12** | Kneeling pads, durable and water resistant high density foam, suitable for both indoor and outdoor use, approximate length 38.5cm x width 19.5cm x depth 2cm | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/327<br>**24** | Gardening gloves, breathable palm dipped, range of sizes to include S,M,L | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/328<br>**1** | Digital weather station, indoor temperature, indoor humidity, moon phase, clock, | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/329<br>**20** | Vermiculite, 10L bags | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/330<br>**4** | Soil bio stimulant containing mycorrhizal Fungi, 1 kg | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/331<br>**1** | Flower pots, suitable for outdoor and indoor use, plastic, 9cm, with drainage holes, pack of 100 | | |
| | Manufacturer: | Catalogue No.: | |

| | | | |
|---|---|---|---|
| AGR/332<br>**1** | Flower pots, suitable for outdoor and indoor use, plastic, 15cm, with drainage holes, pack of 50 | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/333<br>**2** | Grow tent unit, 5 tier, extra strong, rigid design, shower proof, Approximate size: Depth: 50 cm x Height: 1.8 M x Width: 70cm | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/334<br>**1** | Composter, polypropylene barrel in frame with handle, tumbling action, approximate size: 770 x 750 x 750mm | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/335<br>**1** | Garden tools rack storage holder, durable plastic construction, organises long and short handled tools, approximate dimensions: 74 x 35 x 84 cm | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/336<br>**12** | Bucket, 13 litre, plastic (or flexible tubs, medium) | | |
| | Manufacturer: | Catalogue No.: | |

| **Section 4: Charts, Anatomical Models, Guides, Prepared Microscope Slides & Props** | | | |
|---|---|---|---|
| AGR/400<br>1 | Chart, breeds of sheep, showing comparative details such as confirmation, growth, yield, wool, laminated, large approx 1mx1m<br>or<br>Chart, cattle, showing body condition scores and conformation scores | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/401<br>1 | Chart, cow in-calf, showing reproductive system, laminated | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/402<br>1 | Chart, Digestive system, cow or sheep, preferably showing comparisons between ruminant and mono gastric systems | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/403<br>1 | Chart, farm safety hazards | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/404<br>1 | Chart, soil types and soil distribution in Ireland | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/405<br>1 | Chart, farm machinery | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/406<br>1 | Illustrative guide/chart on common diseases, pests and weeds in agricultural crops, suitable to Irish agriculture | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/407<br>1 | Model, Cow udder, life size, model of mammary gland showing internal structure, dimensions 415 x 220 x 60 mm, on base. | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/408<br>1 | Model, DNA, easy-to-assemble, three-dimensional, plastic interlocking components, coloured parts show base pairing and connecting phosphate strands, shaped ends for base pair alignment, can be unzipped, three turns of helix, on sturdy stand for easy rotation and display, approximately 300 x 85 mm | | |
| | Manufacturer: | Catalogue No.: | |

| | | | |
|---|---|---|---|
| AGR/409 24 | Plant identification Guide to Irish Grasses, Wipe-clean, laminated and folded, providing easy identification using key questions that are easy to follow and clear illustrations, suitable to Irish habitats. | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/410 24 | Grassland habitat key, includes plant and animal identification, wipe-clean, laminated and folded, providing easy identification using key questions that are easy to follow and clear illustrations, suitable to Irish habitat. | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/411 12 | Identification key/guide to grassland invertebrates, illustrating the common indigenous species for easy identification, wipe-clean, approximately 39 x 24cm, suitable to Irish habitats. | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/412 1 | Guide to freshwater invertebrates, illustrating the common indigenous species for easy identification, wipe-clean, laminated and folded, approximately 39 x 24cm, suitable to Irish habitats | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/413 1 | Model, dentition, cow or sheep | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/414 12 | Prepared slide, *Phytophtera infestans* | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/415 12 | Prepared slide, *Rhizobium leguminosarium*, ts, leguminous root and nodule | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/416 12 | Prepared slide, *Rhizobium leguminosarium,* smear from culture to show the characteristic form not normally visible in sections of nodules. | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/417 12 | Prepared slide, Sperm, ram | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/418 12 | Prepared slide, Sperm, bull | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/419 12 | Prepared slide, Sperm, boar | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/420 12 | Prepared slide, Sperm, stallion | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/421 4 | Prepared slide, Stomach wall, ruminant mammal, vertical section | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/422 4 | Prepared slide, Bacteria: bacillus, coccus and spirillum, comparative slide | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/423 4 | Prepared slide, Bacteria, showing binary fision | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/424 4 | Prepared slide, Chromosomes, mammalian, normal | | |
| | Manufacturer: | Catalogue No.: | |

| | | | |
|---|---|---|---|
| AGR/4254 | Prepared slide, Dicot leaf, transverse section | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/4264 | Prepared slide, Monocot leaf, transverse section | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/4274 | Prepared slide, Dicot stem, longitudinal section | | |
| | Manufacturer: | Catalogue No. | |
| AGR/4284 | Prepared slide, Dicot root, transverse section | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/4291 | Prop, Calving jack, thick-walled aluminium tube of length 180cm without any head, brand as selected by the school, *prop for display purposes only* | | |
| | Manufacturer: | Catalogue No. | |
| AGR/4301 | Prop, Drench gun for sheep or cattle, 30ml capacity, adjustable volume, self-filling gun for oral application, steel handle and body, plastic barrel, brand as selected by the school, *prop for display purposes only* | | |
| | Manufacturer: | Catalogue No. | |
| AGR/4311 | Prop, Weighing belt, to estimate bodyweight of cattle, brand as selected by the school, *prop for display purposes only* | | |
| | Manufacturer: | Catalogue No. | |
| AGR/4321 | Prop, Artificial Insemination gun and AI straws, *prop for display purposes only* | | |
| | Manufacturer: | Catalogue No. | |

| **Section 5: Chemicals and Reagents** | | | |
|---|---|---|---|
| AGR/500 **1** | Agar, all purpose, 500g | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/501 **1** | Aluminium chloride, anhydrous, 100g, | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/502 **1** | Ammonium oxalate, 500g | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/503 **1** | Amyl Alcohol (3-Methyl-1-Butanol) 1Lt. | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/504 **3** | Buffer capsules, 50 capsules per pack, one pack for each: pH 4, pH7, pH 9 and pH 10, 5 | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/505 **1** | Hydrochloric acid solution, 0.1M, 5 litre | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/506 **1** | Potassium Chloride, 1000g | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/507 **10** | Resazurin Tablets. Pack/100 | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/508 **3** | Sodium hypochlorite, Bleach, 2.5 Litres | | |
| | Manufacturer: | Catalogue No.: | |
| AGR/509 **1** | Sulphuric acid, 0.5M, 5 litre | | |
| | Manufacturer: | Catalogue No.: | |

| | | | |
|---|---|---|---|
| AGR/510<br>**1** | Universal indicator solution, full range pH 1-14, 500 $cm^3$ | | |
| | Manufacturer: | Catalogue No.: | |

| **Equipment for Agricultural Science** | | | |
|---|---|---|---|
| Section | Code | Descriptions and Specifications | Total Cost<br>€ |
| Section 1 | AGR/100 - AGR/163 | Laboratory | |
| Section 2 | AGR/200 - AGR/203 | Outdoor | |
| Section 3 | AGR/300 - AGR/336 | General crop equipment and tools | |
| Section 4 | AGR/400 - AGR/432 | Charts, Anatomical Models, Guides, Prepared Microscope Slides & Props | |
| Section 5 | AGR/500 - AGR/510 | Chemicals & Reagents | |
| | | Sub-total: € | |
| | | Add for VAT: € | |
| | | Total Amount for AGR List: € | |

## Standards, Specifications and Conditions

**All equipment shall be durable and safe for school use.**
**Equipment wholly or partly funded from public funds is subject to inspection by officers from the Department of Education and Skills.**

**It is essential that tenders and tenderers for equipment for school use shall:**

- **Comply fully with the specifications and be durable and safe for school use.**
- **Comply fully with the standards as detailed and shall comply fully with European Standards (EN), both established and developing.**
- **Comply with European electrical standards and CE marking as appropriate.**
- **Fully comply with requirements in the Request for Tenders (RFT) document.**
- **Be accompanied by documentation of sufficient detail for full evaluation.**
- **Include the completed and signed certificate of compliance.**

**Award of a contract is conditional on the production of a current tax clearance certificate.**

**Failure to comply with the above may result in the tender being deemed null and void.**

## Certificate of Compliance with Standards, Specifications and Conditions

**I/We certify that the equipment tendered complies in all respects with the Standards, Specifications and other requirements/conditions specified in this tender document and in the Request for Tenders (RFT).**
**I/We hold a current tax clearance certificate.**

**Company:** _____

**Signed:** _____ **Date:** _____

**Position:** _____