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LVS Ref: LVS_ServiceList_2024-2025

LVS Services: April 2024 - March 2025

Valid from 01-04-2024 to 31-03-2025

The Turf Clinic

Nematode Damage Index Assessment: £91.50/sample

Free living nematode (FLN) identification from a pool of 'small' soil cores. From an asymptomatic area, take between 10 & 15 cores in total (aim for ~1 per 50m^2). Where symptoms exist, take between 5 & 8 cores from a more localised area (~10m^2 or less). Cores should ideally be less than 2cm diameter & ~15cm deep. Adjust the number of cores so that a sample weighs no more than 500g. Assessment includes a beneficial nematode count, plant parasitic nematode count & breakdown to genus/family level, comparison to damage level thresholds, and notes on root morphology abnormalities.

Investigate Plant Health Decline £132/sample

Visual examination of a single 'large' 15cm deep turf core (taken using a hole changer or similar circular cutting device) at the leading edge of the symptoms. This service involves microscopic (morphological) identification of fungi/other pathogens in a localised area suffering decline. Please note that an incubation period & culturing may be necessary. Two separately packaged pieces of turf are also acceptable for this service instead of a single core where one is infected & the other is for comparison. A Nematode Damage Index Assessment will also be performed on a sub-sample of the core (or pair of cores as applicable) submitted.

Where a large turf core cannot be taken, contact the lab for advice on sampling.

Molecular testing £POA (prices start at £78/sample)

A DNA testing service is useful for confirming an organism(s) identified which has already been isolated from a host plant (e.g. an individual nematode, a bacterial colony, or a fungal isolate) or for fungal detection ahead of symptom development (e.g. Gray Leaf Spot). Where this service is used in a mini-project, a plan is prepared that summarises the agreed deliverable(s), timeframes, methods (including starting materials if applicable), & total costings.

Ornamental plant health assessment £POA (prices start at £132/sample)

This service involves a visual (microscopic) examination of <u>non-turf</u> plant material from amenity grounds. Please note that an incubation period & culturing may be necessary and depending on the nature of the decline different plant tissue may be required for analysis. Tissues taken from the same plant are treated as a single sample for costing purposes. DNA and/or RNA testing methods may be necessary for confirmation. For all mini-projects, a plan is prepared that summarises the agreed deliverable(s), timeframes, methods (including starting materials if applicable), & costings.

Consultancy £POA

A site visit service can be arranged. The final price depends on client location, travel and/or accommodation, the length of time required on site, & number of samples estimated to investigate the root cause of a plant health issue (which may include sending follow-up samples). All site visit quotes are therefore unique to a client's needs in order to offer the best value. Full day, half-day or hourly rates may be applied in addition to lab processing fees for local visits.

Plant Health Research Support

Project plans are prepared for all research projects, however large or small, that summarise the agreed deliverables, timeframes, the methods to be used (including any materials to be supplied), & final costings. Because each project is unique the cost is variable depending on the scope. For all projects unless agreed otherwise, a proportion of the total project cost (usually 50%) is required as a deposit with the remainder of the balance payable upon project completion.

Examples of mini-projects include in-vitro & in-vivo nematicidal activity assays, biodiversity assessments, (small scale) pot trials, plant protection product (PPP) physiological assessments & mode of action research using molecular methods. Other mini-projects can be designed to look at microbial communities.

Amplicon sequencing is a method used to simultaneously analyse mixtures of organisms in a sample and assess biodiversity. A profile of the different types of organism (in terms of % relative abundance in the sample) can be generated. Part of the Lagan Valley Scientific research strategy for 2030 is to benchmark UK & Ireland turf types & determine what a good healthy baseline looks like using DNA & RNA sequencing approaches.

Data analysis, interpretation of data generated by third parties, & peer review

Support in applying for research grants & sourcing funding

In-Vitro Bioassays & Nematode Behaviour in response to products

Bacteria & Fungi targeted amplicon sequencing & community profiling

Nematode community amplicon sequencing & community profiling (currently in development)

Training, Education, & Professional Representation

University lectures (theory)

University tutorials (practical)

Non-Academic education events

Preparation of training & education materials

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