Agricultural Land Classification (England and Wales)

WORKING WITH SOIL
setting standards in soil science

Background

The evaluation of land for its agricultural capability in England and Wales[1] is accomplished by application of the Agricultural Land Classification[2] (ALC). This system is the only approved system for grading land in England and Wales. Professional competence in Agricultural Land Classification builds upon foundation skills in field soil investigation, description and interpretation (BSSS PCSS Document 1).

Qualifications

Professional soil scientists with competence in Agricultural Land Classification will have graduated in a relevant science subject. They will also have a number of years of relevant field experience and will have, or be adequately qualified for, **full** membership of a relevant professional body such as the British Society of Soil Science (BSSS).

1   Similar systems are employed in Scotland and Northern Ireland
2   ALC Revised Guidelines and Criteria for Grading the Quality of Agricultural Land (MAFF, 1988) and Climatological Data for ALC (Met. Office, 1989)
3   Munsell Soil Colour Book, Munsell Colour (2009)
4   Hodgson, J M (1997) Soil Survey Field Handbook. Soil Survey Technical Monograph No 5, Silsoe

Minimum competencies

Skills and Knowledge:

General

1 Fully meet the minimum competency standards of the foundation skills in soil investigation, description and interpretation to demonstrate the ability to investigate, sample, describe and interpret soils in the field in a consistent manner and to professional standards. This is essential to demonstrate competence in ALC and will have been gained from a number of years of field experience of soils

2 Detailed knowledge and understanding of the Agricultural Land Classification system relevant to the site and of the classification of land according to the current published Guidelines and other documents[1, 2, 3, 4] and the ability to apply it accurately and consistently in the classification of an area of land. This will have been gained from regular application of the system in the field over a number of years including under the supervision of an experienced practitioner

3 An up to date awareness and knowledge of existing published and unpublished, paper-based and digital ALC information and sources, both detailed and strategic level surveys, predictive mapping and Open Data sources, together with a knowledge of their uses and limitations

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4. Knowledge of paper and digital topographic, geology and soil maps and other environmental data such as climate and flood risk, including on-line sources, mineral assessment reports and memoirs and other technical sources of reference and of their role in ALC work. An understanding of the derivation and limitations of this information

5. An understanding of GIS, map scales and of the Ordnance Survey National Grid

6. A basic understanding of agriculture, crop and livestock husbandry, land management, and land drainage and how these relate to ALC

7. Knowledge of relevant national regulations and policies including national and local land use planning policy and guidance, and soil protection policies in the UK and Europe

8. The ability to effectively communicate soil information in a simple and relevant form to developers, planners and other relevant professionals with clear statements as to the reliability and certainty of the results

9. The ability to write accurate, concise reports in clear English and in line with best practice examples of ALC survey. The ability to explain survey details if required by Government or other ALC specialists

10. An awareness of the importance of systems of quality assurance and control in all aspects of professional work

Preparations prior to field survey

1. The ability to compile background site physical data (e.g. relief, geology, soils, climate, flood risk, exposure and ALC grade from published, on-line and unpublished sources) and understanding of the limitations of the data obtained

2. An understanding of scale and of how different survey sampling densities may impact on the certainty of results obtained. A knowledge of how to tailor survey density appropriately to the requirements of the client, and understanding of the limitations that might impose

3. The ability to compute gradients from map contours or interpret digital terrain models

4. A thorough knowledge of climatic data interpolation procedures (and any available associated bespoke computer software), and the ability to obtain accurate representative site values

5. An understanding of soil maps, the concepts of soil associations and soil series and their limitations as a background to ALC grading

6. A knowledge of GPS and mobile data technology and its uses and limitations for field survey work

Field survey for Agricultural Land Classification

1. The ability to determine, lay out and work to a relevant sampling strategy

2. **Competency in the Foundation Skills** (field soil investigation, sampling, description and interpretation) as per BSSS PCSS Document 1

3. The ability to accurately and consistently apply the ALC system to soil and other data collected during the field survey, including assessment of soil wetness and droughtiness calculations.

4. An awareness of the causes of ground disturbance and the impact on grading land

Reporting

1. The knowledge and ability to compile an ALC map from background information and data collected during the field survey including an appreciation of the issues around soil variability and the construction of mapping units, and edge mapping of different surveys

2. The ability to write an ALC survey report according to an agreed format

3. Understanding of the principles of quality assurance and the ability to apply these as required by the client

4. The ability to convey the findings of the survey verbally such that they are understood by the client

5. The ability to present and discuss results when subject to detailed scrutiny. This may be by planners, Government or other ALC specialists, barristers, planning inspectors etc when acting as an expert witness