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QPASTURES - FORAGE PLANTS DATABASE

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ABSTRACT

Most forage plants tested in rangelands will probably not be commercialised for some reason. A formal journal publication is also unlikely from most evaluation trials. Without that, future generations will be denied the results unless a computerised database exists to summarise the data. To have confidence in the results, staff must also maintain the work for many years - at considerable cost. The chances to repeat or embellish earlier work will be few in the foreseeable future.

QPASTURES is a database which records structured summaries for any plant evaluation work conducted in Queensland. It is online on the Queensland DPI computer network and available to anyone with access to that network or by arrangement with QDPI staff.

INTRODUCTION

"Will oldman saltbush grow on my place?"
"What do you know about Supergrass?"
"Is there a suitable native species with which my paddock can be resown?"

These are three of the most common questions asked of agronomists and rangeland advisers. Depending on the adviser's experience and knowledge, the reply may be simple or very vague. Vagueness is common because many trials with forage plants are not documented in such a way that others can benefit from the results. Thousands of grasses, legumes, shrubs and forbs have been tested by many people, often with very different objectives. Such trials, large and small, continue but seed importation to Australia of potential crop and pasture plants is becoming increasingly difficult, more expensive and also much slower. Some overseas countries are now strictly controlling export of any native plant material.

THE QPASTURES CONCEPT

We need to capture the information from these trials so that everyone can benefit. Queensland DPI has taken the first steps to do this (QPASTURES 1991). Since 1987 we have been slowly building a computer database of most pasture accessions tested in Queensland. It is dynamic and includes results - not just lists of plants received (*a la* Australian Plant Introduction Review) or plants grown in glasshouses for morpho-agronomic classification.

QPASTURES includes information about botanical name changes, major publications on a species or genus, tribal affinities of species, alternative code numbers to the often-used CPI numbers and about seed stocks held by QDPI. It provides as much information as possible about the plant's homeland and about the sites where it was tested in Queensland. Detailed climatic and soil data are provided for most Queensland sites. It tells you who tested the plant, so you know who to call for more details. QPASTURES tells you how plants performed relative to common standard plants which would normally be sown or grow naturally at that test site. Information is held about all released cultivars which have been tested in Queensland. Rangelands have a much smaller call on the system than higher rainfall areas but nonetheless the concept is valid and data from Charleville and Longreach are provided already.

Two important feature of QPASTURES are scrupulous spell-checking of botanical names and cross referencing of accession numbers for accuracy. Quite extensive onscreen help is available to guide the novice user. A consistent system of ratings is used for many agronomic characters such as persistence, drought tolerance, ease of establishment etc, - 1 means very low or very poor, 4 is an average rating and 8 is the top rating (the value 9 is reserved for unknown while zero indicates an inappropriate field to be assessing for that accession e.g. nodulation of a grass). Up to 38 characteristics about a tested plant and 44 attributes of sites can be rated or described in this structured way using widely accepted classification systems (McDonald *et al.* 1984).

CURRENT CAPABILITY

Only standard ASCII text is used and no graphics are currently employed. Output can be to a screen, file or printer. At present only minimal formatting of the output has been attempted. Hence much of the data is coded and the user would need the help of a printed QPASTURES Manual to interpret some of the data.

Searches of a general nature can be done by either (a) supplying the name of a shire or delineating latitudes and longitudes for the region of interest or (b) providing an accession number or species name in a query form. Updating with extra data or missing data can be done later once the primary data about accessions and trial sites have been loaded. The characteristics which may be rated or described in a performance report on an accession need not all be entered on an individual report. The rest can be either left blank and provided later or rated as unknown.

Currently 5,500 accessions are registered plus the list of accessions sown at 250 sites. The projects and accessions entered mostly deal with studies commenced after 1967. Major projects which are currently active are handled by QPASTURES, including the Co-ordinated Pasture Evaluation Project (COPE) funded by the Meat Research Corporation (CS 185 and DAQ 81) and the National Clover and Medic Projects supported by the Australian Wool Research and Promotion Organisation. Once a list of plants is available for a trial, data recording sheets in QPASTURES format can be generated to provide results to the database. Field officers can type results directly into the system although this is fairly slow via normal telecommunication lines from remote centres.

Enquiry access is readily available to the general public from many QDPI centres with landline links to Brisbane. A summary of what files are held for a particular accession gives novice users a quick introduction to the sort of information QPASTURES holds about their plant. More details are then obtained by consulting the appropriate files via the screen menus.

REFERENCES

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