PRO PLUS - A WHOLE-FARM FODDER BUDGETING PACKAGE

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PRO Plus is a computerised whole-farm fodder budgeting decision support system. It is designed to be an integral part of PROGRAZE Plus, which incorporates PROGRAZE (Anon. 1994) concepts into individual whole-farm grazing plans. PROGRAZE aims to assist graziers improve production efficiency and meet market targets for livestock while maintaining or improving pasture productivity and sustainability. Its aims are achieved through the development of pasture assessment skills and an improved understanding of the interactions between pasture and livestock.

PRO Plus tests the likely success of a grazing plan by estimating the herbage mass in each month, dry sheep equivalents (DSE) for each paddock and the whole-farm DSE for the planning period. This paper describes the inputs, outputs and potential benefits of PRO Plus. The four main input screens are: ‘property details’, ‘pasture description and growth’, ‘livestock inventory and pasture intake’, and ‘grazing plan’; these specify the number of paddocks, mobs (cattle, sheep and other species), the planning period, area of paddocks, the initial herbage mass (kgDM/ha), estimates of the monthly pasture growth rate (kgDM/ha/day), description of each mob of livestock, the number in each mob, a prediction based on GrazFeed (Freer et al. 1997) of their intake (kgDM/head/day) for each month, a weekly allocation of all mobs to paddocks individually or in a combination of mobs, and the spelling of paddocks for pasture or livestock management.

The main output is found in a ‘fodder budget’ screen that displays the results of calculating the monthly herbage mass for each paddock, the farm average for each month, the DSEs/ha for each paddock and the farm DSE for the planning period. Stock totals are also displayed in the ‘livestock inventory’ and ‘grazing plan’ screens. PRO Plus has some special features that include a split screen display for the ‘grazing plan’ and ‘fodder budget’ which provide the user with immediate updates of the herbage mass when stock movements are made in the grazing plan. There is also an option to update the ‘grazing plan’ by including estimates of actual pasture growth rates; a pull down screen assists the user to make this estimate. The program also includes editing commands, ie delete, insert and move paddocks and stock categories, and a facility to ‘drag and drop’ livestock codes on to the grazing plan. The user has the opportunity to undertake this planning on a weekly, fortnightly or monthly basis.

The potential benefits of PRO Plus cover a broad spectrum of grazing issues. PROGRAZE Plus incorporates the concepts, skills and knowledge which graziers develop through PROGRAZE into a whole-farm plan. PRO Plus will assist the grazier to judge the likely success of this whole-farm plan. The process of developing a grazing plan, which is the primary focus of PROGRAZE Plus and PRO Plus, challenges the grazier to: incorporate grazing strategies to optimise pasture production and stability; introduce grazing management as a method of minimising the influence of internal parasites; and target pasture benchmarks that will achieve production and market objectives for livestock.

As a tactical planning tool the grazier can include estimates of actual pasture growth rates as they move in time through a planned grazing period, identifying the possible implications for the short and medium term and allowing for a proactive approach to pasture and livestock management. Some of the implications of PRO Plus may prompt the grazier to either: (i) sell or purchase livestock; or (ii) reserve paddocks for pasture development or fodder conservation. From a strategic point of view the grazier can evaluate the inclusion of an alternative feed source such as a fodder crop, or a change in livestock management such as lambing or calving time. PRO Plus has the potential to provide the grazier with a paddock by paddock assessment that should assist in increasing profits while maintaining the stability of the pasture.