



## DEVELOPING YOUR FARM PLAN

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### FARM PLANS - WHY?

The adoption of farm planning and a whole farm strategy, rather than an ad hoc, unco-ordinated attempt to develop farm enterprises and solve problems, will help in avoiding land degradation and at the same time achieve long term profitability and help you achieve your personal goals.

Land degradation includes soil erosion, soil salinity, acidity, soil structure breakdown, loss of soil fertility, tree decline, weed invasion and other factors which reduce production and profitability. Even low levels of land degradation can result in reduced crop yields, and loss of carrying capacity.

Farm planning allows you to maintain the highest, long-term level of production from your property, without causing land degradation.

Planning at a complete farm level enables you to plan not only management of stock pastures and crops, but also soils, paddocks, trees, wildlife, stock and domestic water supply and other resources which make up your property. It also assists monitoring the financial situation of the property.

The Farm Plan is by nature dynamic. It will change from year to year and, therefore, will need to be reviewed as circumstances alter.

In order to develop your farm plan, a series of logical steps should be followed:

#### STEP 1. PREPARATION

Obtain a copy of the farm planning handbook from the Soil Conservation Service and read it to become familiar with the concept.

Purchase one, or preferably two, copies of an aerial photograph enlargement from the Department Lands (black and white) covering the whole property. One copy (gloss finish) is to be the final plan while the second copy (matt finish) is recommended for use in the field. A scale of 1:7500 is suitable for large properties, and 1:5000 for small properties (i.e., below 200 ha).

As a guide, the cost of an enlargement 60cm X 60cm is about \$45, or for 100cm X 100cm (maximum size) \$60 per copy.

The following information helps when making an order for aerial photographs:

name and address

· details of property

- portion numbers (found on rate notices)
- parish name
- county name

When the photographs are received, the next exercise is to identify all the features on your property. Understanding the information on an aerial photograph may be difficult at first.

After studying the photograph for a short time, you will start to recognise trees, fences, roads, banks, dams, gullies, creeks, water courses etc. Once you have located these features, mark north, south, east and west onto the photograph. This will assist in finding your bearings and identifying your property boundaries. You also need to determine the average scale of your aerial photograph. This is essential to calculate the length of fences, windbreaks or paddock areas. You will also need a few "special tools" to build your farm plan.

These include:

- coloured wax pencils (black, blue, green, yellow and red)
- superfine felt pens (above colours)
- eraser for wax pencils
- backing board to hold aerial photograph and four bulldog clips
- three clear plastic sheets the size of your aerial photograph.

A kit containing these materials is available from the Soil Conservation Service of NSW, the current cost being \$50 each.

## **STEP 2. MARKING THE FEATURES OF YOUR PROPERTY ONTO THE PHOTO**

Attach one copy of the photograph to the backing board with bulldog clips. Using a coloured wax pencil, mark onto your aerial photograph the physical features of your property. Keep a fine point on the wax pencil.










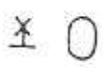







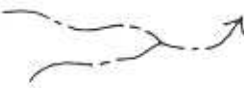
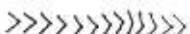
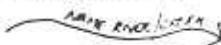



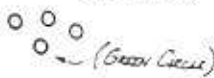

A legend of mapping symbols used in farm planning is shown in Figure 1.

The steps in marking these features on the photograph should be:

1. In black, draw your property boundary fence.
2. In black, draw all existing subdivisional fences, gates, sheds, stock yards, dams, banks, power line easements, tracks, troughs, tanks, roads, direction of critical winds, etc.
3. In green, shade in all existing windbreaks and tree lots.

4. In blue, draw all the main drainage lines and creeks.
5. In yellow, draw the basic soil type boundaries and mark in the soil types (basalts, granites, sedimentary).
6. In yellow, use the key in Table 1 to identify your general paddock land use history.
7. In red, identify any problem areas on your property.

Figure 1. A legend of mapping symbols for farm planning

<p><b>BLACK</b> (for existing features)</p> <p>Fence -boundary </p> <p>-subdivisional </p> <p>Gate </p> <p>Shed, house </p> <p>Public road </p> <p>Farm track </p> <p>Culvert </p> <p>Power line </p> <p>Telecom cable </p> <p>Wind pump with tank </p> <p>Trough (stock water) </p> <p>Direction of critical winds </p> <p>North </p> <p>Dam </p> <p>Soil conservation bank </p> <p>Flume </p> <p>Stock yards </p> <p>Gully (eroding) </p>		<p><b>BLUE</b></p> <p>Drainage line or grassed depression </p> <p>River, creek </p>
<p><b>YELLOW</b></p> <p>Soil types</p> <p>Basalt</p> <p>Granite</p> <p>Sedimentary</p> 		
<p><b>GREEN</b></p> <p>Windbreaks } </p> <p>Tree lots } </p> <p>Trees with guards </p> <p>(Green Circle)</p>		
<p><b>YELLOW</b></p> <p>Paddock land use history</p> <p>(see list page 7)</p> <p>e.g. RC - regular cropping</p> <p>PP - permanent pasture</p>		
<p><b>RED</b></p> <p>Problem areas</p> <p>(see list page 20)</p> <p>salt    weeds    gully</p> 		

Note: use red for proposed works (eg, new fence line, dams, etc.)



Table 1. Key to symbols for land use history

<u>Land use symbol</u>	<u>General comments</u>
RC	<u>Regular</u> cropping
OC	<u>Occasional</u> cropping
PP	<u>Permanent pasture</u> (areas that will not need resowing)
SP	<u>Semi-improved</u> pasture (includes any area that has received clover and superphosphate, and areas that would be improved by resowing)
NP	<u>Native pasture</u> (comprising native species and not sown or topdressed in the last 10 years)
T	<u>Timbered</u> lands
OL	<u>Other land</u> (includes non-grazed forest, cliffs, lakes, swamps). Not suitable for agriculture.

#### Problem Areas

Soil	Gullies, sheet erosion, bare areas, land skips, tunnelling soils, salt areas, track erosion, dam failures, problem soils, access, steep areas, silted dams, shallow soils.
Agronomic/Forestry	Tree decline/dieback, farm timber, weeds, pests, surface rock, non-productive areas, infertile soils, fire risk, swamps/springs, poor pastures, frost pockets.
Livestock	Bloat-labile areas, nutrition, stock water supply, exposed/windy areas, dangerous grass seed, boggy soils, vermin control, fencing, fluke-prone areas, wildlife management, sheep camps.

You may identify problems other than the above. Make a written list of problems you have identified on a paddock basis, so that a program can be developed for their solution.

#### Use of Plastic Overlays

Plastic overlays are used to provide additional information to the farm plan, without cluttering the aerial photo.

They can be added or removed as needed, making the plan flexible.

A number of overlays can be used to provide the following information:

1. Soil
  - eroded areas
  - scalded areas
  - hardsetting surfaces.
2. Agronomic/Livestock
  - paddock name/size
  - pasture/crop history
  - carrying capacity.
3. Trees
  - tree lots
  - windbreaks
  - dying trees
  - natural regeneration.
4. Other
  - telecom cables
  - coaxial cables
  - water pipelines
  - road permits
  - powerline easements
  - areas where trees are protected.
5. Proposed new works
  - dams
  - fences, etc - indicate in red.

### **STEP 3. SUMMARISE YOUR PRESENT FINANCIAL POSITION**

A summary of your present financial position will indicate your farm's net worth prior to commencing any new operations/developments. This is important in any farm development plan as it gives a starting point to measure the change in property net worth over time.

Besides estimation of financial position, it is also necessary to estimate your present pattern of receipts and payments in a cash flow statement. Once this statement has been drawn up, your receipts and payments data may be adjusted according to the expectations and production plans for the coming year or years.

By using cash flow budgets, an assessment of any proposed development plan can be made before it is implemented. This will assist you in making better decisions on future development plans.

### **STEP 4. SEEK ADVICE ON YOUR PROBLEMS**

By now you have identified most of the physical resources of your property, the development programs you envisage and the problem areas that need treatment.

All the problems you have identified will interact with each other to some extent, as will the solutions to your problems. You will have to decide on priorities, taking account of the seriousness of the problem, the cost, the benefit, individual need and the overall management of your property.

To assist you the following sources are available:

#### **Other farmers**

#### **Soil Conservation Service**

- farm planning advice
- loans for soil conservation works
- stock/domestic water supply
- erosion control and prevention

#### **NSW Agriculture & Fisheries**

- pastures
- fertilisers
- crops
- weed control
- livestock husbandry/nutrition
- farm development budgeting
- irrigation design/equipment

#### **Forestry Commission**

- shade and shelter for livestock, windbreaks
- farm timber

### National Parks and Wildlife Service

- . wildlife habitats
- . control of pests

### Department of Lands

- . aerial photographs and enlargements

### Rural Consultants

### Service Industries

### Stock and station agencies

### Agricultural industries representatives

### Banks, accountants, contractors

There may be other sources of information which you will use.

## STEP 5. DEVISE YOUR MANAGEMENT PROGRAM

The program of works you finally decide on may take several years to complete, and may change with time.

Draw up a calendar of events for the next year to help your management program. This calendar can include such things as: drenching, sowing, fertilising, planting trees, fencing, soil conservation, cultivation, lambing, joining, holidays, etc. By comparing your calendar of events with your farm development budget, you will soon find out whether you have the time and the money to undertake the jobs you want done.

The important thing is that you have now developed a whole farm management program based on sound information, and you should act on it.

## SUMMARY

The value of Whole Farm Planning is to:

1. assist farmers to recognise their own problems
2. encourage implementation of solutions to their problems
3. develop improved farming practices to achieve sustainable agricultural production.

Andrew Campbell from the Centre for Farm Planning and Land Management, University of Melbourne and the National Co-ordinator for the Landcare Program, encapsulated the concept of farm planning when he said: "The integrated whole farm planning approach

provides an excellent framework within which the farmer can plan farm design and management to ensure that production goals in the short term are not achieved at the expense of the production capacity of the land in the longer term".

#### REFERENCES

Soil Conservation Service of NSW (1989). Handbook: Preparing Property Plans for the Tablelands of NSW

Campbell, A. (1989). Bridging the gap between conventional and sustainable agriculture - The role of whole farm planning. Aust. J. Soil and Water Cons. Vol 2, No. 2 May 1989