Dairy farming in the Busselton-Margaret River District. Part 2. Stocking rate and production

R.A. Bettenay
IMPORTANT DISCLAIMER

This document has been obtained from DAFWA's research library website (researchlibrary.agric.wa.gov.au) which hosts DAFWA's archival research publications. Although reasonable care was taken to make the information in the document accurate at the time it was first published, DAFWA does not make any representations or warranties about its accuracy, reliability, currency, completeness or suitability for any particular purpose. It may be out of date, inaccurate or misleading or conflict with current laws, polices or practices. DAFWA has not reviewed or revised the information before making the document available from its research library website. Before using the information, you should carefully evaluate its accuracy, currency, completeness and relevance for your purposes. We recommend you also search for more recent information on DAFWA's research library website, DAFWA's main website (https://www.agric.wa.gov.au) and other appropriate websites and sources.

Information in, or referred to in, documents on DAFWA's research library website is not tailored to the circumstances of individual farms, people or businesses, and does not constitute legal, business, scientific, agricultural or farm management advice. We recommend before making any significant decisions, you obtain advice from appropriate professionals who have taken into account your individual circumstances and objectives.

The Chief Executive Officer of the Department of Agriculture and Food and the State of Western Australia and their employees and agents (collectively and individually referred to below as DAFWA) accept no liability whatsoever, by reason of negligence or otherwise, arising from any use or release of information in, or referred to in, this document, or any error, inaccuracy or omission in the information.
DAIRY FARMING IN THE BUSSELTON-MARGARET RIVER DISTRICT

PART 2—STOCKING RATE AND PRODUCTION

By R. A. BETTENAY, B.Sc. (Agric.), Adviser, Dairying Division

Survey results suggest that the production of butterfat per acre could be doubled on many farms in the Busselton-Margaret River district.—Second in a series of articles reporting a survey of farm practices on 100 farms in the district.

MANY of the properties included in the survey have developed to a stage where there is considerable interest in beef as a sideline to dairying. The A.I.S. and Friesian breeds are popular and a number of farmers keep all bull calves at least six months and often 18 months. In addition a few farmers use beef bulls on part of the herd and a few have small flocks of sheep.

For this reason the often-used method of determining stocking rate—that of dividing total pasture area by the number of milking cows—was considered to have little value. This figure (which proved to be 5.04 acres per milking cow) has not been used further in this report. Instead, the area on each farm actually devoted to dairying was estimated and calculations were based on this figure.

Area Devoted to Dairying

To explain how this figure was calculated, it is necessary first to define several terms:

**Large Beast Unit**

In converting stock on the property to Large Beast Units (L.B.U.) the following conversion factors were used.

One L.B.U. equals one cow milking or dry, one bull or steer over two years, one horse, two yearlings, four calves under 12 months, eight ewes or 10 wethers.

Very few sheep were run on the properties and most cows were in milk for most of the year with only a short dry period.

**Dairy Cow Unit**

A Dairy Cow Unit (D.C.U.) was defined as a cow plus its normal replacements on a farm run entirely for dairying. Thus a herd containing 40 D.C.U.'s would contain 40 milking cows, eight yearling heifers, 10 heifer calves and one bull—a total of 59 head or $47\frac{1}{2}$ L.B.U.

The area devoted to dairying was that portion of the total area of pasture which was used to run the dairy herd as defined by the dairy cow unit, that is—

\[
\text{Area used for dairying} = \frac{\text{Dairy herd as L.B.U.}}{\text{Total L.B.U.}} \times \text{Total pasture area}
\]

The total area of pasture on the 100 farms and the area devoted to dairying are given in Table 1.

<table>
<thead>
<tr>
<th>Total pasture (acres)</th>
<th>Acres of pasture devoted to dairying</th>
<th>Percentage devoted to dairying</th>
</tr>
</thead>
<tbody>
<tr>
<td>22,878</td>
<td>17,339</td>
<td>75.8</td>
</tr>
</tbody>
</table>

The importance of beef as a sideline is shown by the fact that almost one quarter
of the pasture area was used for running stock other than the dairy herd.

**Stocking Rate**

Two separate figures are given for stocking rate in Table 2. These are acres per L.B.U. for the farms as a whole, and acres per milking cow, on that portion of the farm devoted to dairying as defined above.

**Table 2.—Stocking rate per farm**

(Average of 100 farms)

<table>
<thead>
<tr>
<th>Acres of pasture</th>
<th>No. of L.B.U.</th>
<th>Acres per L.B.U.</th>
<th>Acres devoted to dairying</th>
<th>Milking cows</th>
<th>Acres per milking cow</th>
</tr>
</thead>
<tbody>
<tr>
<td>228.8</td>
<td>72.7</td>
<td>3.15</td>
<td>173.4</td>
<td>44.2</td>
<td>3.92</td>
</tr>
</tbody>
</table>

The Table shows carrying capacity to be 3.15 acres per Large Beast Unit, or 3.92 acres per milking cow on that portion of the farm devoted to dairying.

**Fat Production Per Cow**

Wherever possible, figures for fat production per farm were an average of the 1961-62 and 1962-63 seasons, although in some cases it was not possible to obtain both figures and production for one year only was used. The 1961-62 season was a very good one, and production was high, whereas 1962-63 was below average with per cow production some 20 lb. below the previous year. Production is based on factory returns with no allowance made for fat consumed on the farm; this would not affect the averages by more than a few pounds.

Herds can be conveniently grouped into those under test in a Grade Herd Recording Unit and herds which are not under test. No consideration has been given to the length of time herds have been under continuous test although G.H.R. records show a progressive increase in production with length of time under test.

Average production per cow of herds under test was 25.4 lb. higher than that of herds not under test and average production per cow overall was 211.9 lb. The production of herds under test compares very closely with that of the two herd recording units in the district for the same two-year period, as shown in G.H.R. annual reports, namely—

Margaret River Unit Production (2-year average)—235 lb.

Vasse-Jindong Unit Production (2-year average)—234 lb.

This lends support to the belief that the difference of 25.4 lb. in favour of herds under test is close to the real figure.

Although it cannot be inferred that the fact that the herd is under test is the sole reason for the difference in production, this confirms evidence obtained from other sources which shows that herd recording is valuable as a means of increasing production.

**Fat Production Per Acre**

Fat production per acre is often determined by dividing the total fat produced by the total acres of pasture. This gives a rather unrealistic figure as it makes no allowance for beef or stock other than the dairy herd run on the property. The alternative method of dividing the total fat produced by the acreage actually devoted to dairying is preferred.

In Table 4 both figures are given, together with a third figure based on acreage devoted to dairying after making allowance for concentrates or hay purchased. The method used in making this adjustment was to add one acre to the pasture area for every two tons purchased. Purchases were small and do not affect the figure much except in a few herds. In all, 44 of the 100 farmers purchased concentrates for feeding to the dairy herd and two purchased hay, but total purchases were only 296 tons (150 lb. per milking cow per annum).

Perhaps the most important figure is in the final column, and shows fat production

**Table 3.—Production per cow**

<table>
<thead>
<tr>
<th>No of farms</th>
<th>No. of cows</th>
<th>Average Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herds under test</td>
<td>19</td>
<td>885</td>
</tr>
<tr>
<td>Herds not under test</td>
<td>81</td>
<td>3,535</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>4,420</td>
</tr>
</tbody>
</table>
per acre at 53.5 lb. after allowance has been made for pasture used for other than dairying, and for purchased foodstuffs.

**Range in Fat Production per Acre**

The range in production from farm to farm is of equal interest to average fat production per acre. This is shown in Table 5, calculated on the same basis as the figures in the last column of Table 4.

**Table 5.**—Range in fat production from farm to farm

<table>
<thead>
<tr>
<th>Fat per acre lb.</th>
<th>No. of farms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 40</td>
<td>13</td>
</tr>
<tr>
<td>40-60</td>
<td>46</td>
</tr>
<tr>
<td>60-80</td>
<td>32</td>
</tr>
<tr>
<td>80-100</td>
<td>7</td>
</tr>
<tr>
<td>Over 100</td>
<td>2</td>
</tr>
</tbody>
</table>

It will be seen that most of the farms (78 per cent.) produced between 40 lb. and 80 lb. fat per acre on the acreage used for dairying and after making allowance for purchased foodstuffs. The overall range was from 24.9 lb. to 130 lb.

**Relationship between Stocking Rate, Fat per Acre and Fat per Cow**

In an effort to determine the influence of stocking rate on fat per acre and fat per cow, the 100 farms were split into five groups (Table 6) according to stocking rate in acres per milking cow on the area used for dairying, and making allowance for purchased foodstuffs. Fat production per acre and per cow were determined for each group.

There appears to be no definite trend in fat per cow at different stocking rates although the figures are rather inconclusive. If stocking rate does not in fact affect fat per cow, fat per acre must vary directly with the intensity of stocking within the range being achieved on the surveyed properties. However it cannot be inferred from this that all farms with a low stocking rate could increase fat per acre by carrying more cows, without first improving pasture available to them.

There are many reasons why some farms are capable of carrying more stock than others, including fertility of the soil, area of new or only part-cleared land and extent of fodder conservation to name but a few of them. Some of these will be investigated in later sections of the report.

The very great range in fat production per acre does indicate, however, that a great number of farmers are producing at considerably below the potential of the district and it appears that fat per acre on many properties could be doubled by a combination of running more cows per 100 acres and obtaining more fat per cow.

An inspection of properties has convinced me that this could be done if the land were more fully cleared, more fodder was conserved and recommended fertiliser practices were carried out. Even the highest-producing farms have not reached the economic potential of the district.
At £100 million, vegetables are big business!

Before city dwellers stir to a new day, the vegetable trains and road transports are unloading supplies which will be on sale to suburban housewives a few hours later. Tons of fresh vegetables...some fast-freighted from lush farms hundreds of miles distant...some even from interstate.

Twenty-four hours of every day, vegetables are on the move by rail and road to feed the enormous daily appetite of the big cities. Australians eat just over a million tons of fresh vegetables annually, plus 50,000 tons of processed vegetables. Their vegetable bill, including fresh, canned and frozen varieties is around £100 million a year. It's a big and busy industry starting with the man on the land and spreading out through a vast network of transport, distribution, marketing and factory processing.

The humble vegetable, however, is destined to play an ever larger role on the national food front. It has been stated by Mr. E. R. Hoare, of the C.S.I.R.O. Irrigation Research Laboratory at Griffith, N.S.W., that of all food crops produced in Australia, vegetables will require the largest proportional increase merely to meet the needs of our future population expansion. He estimates that vegetable production will double itself within 30 years...an increase in production value of between £1 million and £2 million each year.

Thus, vegetables are a vital part of the future picture which food production will assume in the Australian economy. There can be no doubt that the increased food production expansion will go hand in hand with irrigation development. This is not mere assertion. Currently, vegetables worth £50 million, at on-farm value, are produced from 1½ million acres, most of which are irrigated. This high level of productivity comes from less than 1% of all cultivated land in Australia.

Skill in water management, and the gaining of maximum efficiency in the use of water and the land, will be vital to our future as a nation and to the prosperity of our people...water, our one limiting resource, will set the pace of our progress.

Throughout Australia, Hardie’s Distributors are key men in the Irrigation Industry. They were selected for their knowledge, experience and capacity to cope with the big tasks ahead. They represent Australia’s biggest and most experienced manufacturer of Irrigation Piping and they are ready to give personal service to those who are preparing to meet the challenge of the thirsty land.

Please mention the "Journal of Agriculture of W.A.," when writing to advertisers