AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

Agrekon

VOL. 5 No. 1

JANUARY 1966

Editorial Committee: A.J. du Plessis (chairman),
Dr. A.P. Scholtz, H.J. van Rensburg and O.E. Burger
Editor: Dr. A.J. Beyleveld
Technical editing: Q. Momberg

REQUIREMENTS FOR CONTRIBUTIONS

Articles in the field of agricultural economics, suitable for publication in the journal, will be welcomed.

Articles should have a maximum length of 10 folio pages (including tables, graphs, etc.), typed in double spacing. Contributions, in the language preferred by the writer, should be submitted in triplicate to the Editor, c.o. Department of Agricultural Economics and Marketing, Pretoria, and should reach him at least one month prior to date of publication.

The Journal is obtainable from the distributors: "Agrekon", Private Bag 144, Pretoria.

The price is 20 cents per copy or 80 cents per annum, post free.

The dates of publication are January, April, July and October.

"Agrekon" is also published in Afrikaans.

Contents

	<u>Page</u>
I. EDITORIAL	1
II. ECONOMIC TENDENCIES IN THE SOUTH AFRICAN AGRICULTURE	2
III. ARTICLES	
1. The economic nature of the challenge to South African agriculture	4
- F.J. van Biljon	
2. The development of production control in the wine industry	9
- A.J. Beyleveld	
3. Urban produce markets - a comparison of their set-up in South Africa with that in certain foreign countries	14
- J.B. Bester	
4. The need for market research in agriculture	19
- P.R. Morkel	
IV. STATISTICS	23
V. GENERAL, COMMENTS AND ANNOUNCEMENTS	33

The Economic Nature of the challenge to South African Agriculture ¹⁾

by
F.J. VAN BILJON

The task of South African Agriculture is twofold: to provide domestic requirements economically and to earn the maximum amount of foreign exchange efficiently. Normally about one-third of our agricultural output is exported and this represents about 40 per cent of the commodities exported, excluding gold. Since the agricultural industry thus faces sharp international competition, there must, in endeavouring to gauge the economic nature of the challenge to agriculture, be taken into account on the one hand domestic as well as foreign trends in demand, and on the other - the supply side - comparative yields here and elsewhere and related methods of production and organisation.

The domestic market is effectively reserved for our own agricultural products, and since real purchasing power has during the past ten years of prosperity increased by 50 per cent, the domestic disposal of important foodstuffs such as maize, meat and dairy products has increased by as much as 30 per cent.

Regarding export markets, agriculture in those countries is similarly protected. Historically our exports of foodstuffs have been concentrated on Great Britain, and subsequently on western Europe and partly on North America. These countries, along with Italy and Spain constitute the

O.E.C.D.²⁾ area, and in a recent report on the agricultural economy of the area, it is stated:

"Agricultural protectionism ----- exists in a very high degree in the O.E.C.D. area and is a major factor restricting the world flow in agricultural commodities."

The arbitrary price measures and import levies of the European Common Market, increase the degree of protection further and also, because of the rapid technical progress of agriculture in the E.E.C. area, greater self-sufficiency and even surpluses of grain may be expected, apart from the large surpluses of grain, cotton and tobacco provided by the technically advanced agricultural industry of North America.

Besides this, it is in these important importing countries where increases in population are small and the demand for food highly inelastic. For instance, the average per capita food consumption in the U.S.A. was in 1964 no greater than in 1956. At present food accounts for only 20 per cent of consumer expenditure in the U.S.A., as compared to 26 to 28 per cent in West Germany and Britain, about 30 per cent in France and Holland and between 39 and 43 per cent in Spain, Italy and Greece. The lower the general rate of income, the greater is the portion, as a percentage, spent on food and the higher is the demand elasticity for food, although it differs significantly between income groups and products.

1) Opening address at the fourth annual meeting of the Agricultural Economic Society of South Africa, October 28, 1965. From 1945 to 1951 Dr. van Biljon was Chairman of the National Marketing Council.

2) Organisation for Economic Co-operation and Development (1961).

The protectionist policy for agriculture in North America and the European Common Market can therefore, along with the small increases in population and the low demand elasticity for food, constitute a real threat in exporting to those countries products which thrive in other temperate zones and could act as an impediment in our own plans for expansion.

Regarding sugar Fryer writes as follows in "World Economic Development":

"The world, sugar economy provides a rich field for the researcher into some of the more striking forms of economic lunacy."

The cost of production of cane sugar is much less than that of beet sugar, because sugarcane produces three crops, grows in tropical regions where wages are lower and produces four to five times as much sugar per morgen. Notwithstanding this the prosperous countries of the Northern Hemisphere, where expensive beet sugar is produced, show little enthusiasm to lower their rates of protection; consequently, to the less developed countries, where cane sugar is produced more cheaply a very restricted free market is available. The fact that the recent conference, which considered a more rational allocation of sugar, adjourned without accomplishing anything, might upset our own plans in expanding sugar production.

It would appear that the Common Market contemplates a more liberal policy towards imports of fruit and vegetables although provision has been made for protective measures. Furthermore, the demand for citrus products and canned fruit is increasing to a greater or lesser degree in the various developed Western countries, but world production of citrus fruit is increasing more rapidly than the demand and there is the growing popularity of citrus juices, in preference to fresh fruit. Although this shift in demand from fresh fruit to preserved forms tends to offset our natural advantage of a production season opposite to that of

the Northern Hemisphere, the ideal climate in South Africa nevertheless provides for horticulture an enduring advantage.

It is very necessary that apart from supplying our traditional export markets with foodstuffs, account should also be taken of the large growth in population in countries outside North America, Western Europe and Japan. Population estimates for the year 2000 show an increase of 100 million in Central and Southern Europe - where the demand elasticity for example for beef is still unity - and in South America with a population of 370 million, which is expected to increase to 600 million - which would be about equal to the population of the whole of Europe.

Well, demographic estimates are mere estimates, and the more so where the nuclear physicist ridicules the economist as being the only scientist who always presupposes that the future is uncertain. The fact remains that the population of Italy, Spain and Brazil is increasing rapidly and their rate of economic development is being accelerated. Some of these countries may, therefore, become important markets for our output of foodstuffs.

The growth of world population also benefits our exports of agricultural products indirectly. The decrease in surplus beef in the Argentine because of increasing domestic consumption, creates favourable opportunities for other suppliers of meat. And although the purchasing power of the large population in the countries of the East is low, the grain shortages in India and Russia are advantageous to us in selling surplus maize.

For our very important exports of agricultural raw materials, a practically unlimited world market exists, but the competition of synthetic substitutes is gradually growing more intense. The demand, however, for furs, like that for gem diamonds, remains unsaturated, and the expansion of the Karakul industry holds good prospects. But the future of our

profitable wool exports as well as wattle-bark, hides and skins and the new fibre industries remains uncertain and the comparative prices of synthetic materials are becoming a decisive factor to an increasing extent.

That, conveniently, brings me to a brief consideration of the factors which, on the side of supply, challenge the ability of our farming industry to cater economically for local needs and on the same basis also to maximise its earnings of foreign exchange.

Our farming industry has greatly increased total output since the War (by over 70 per cent) and unit yields as well, by roughly 40 per cent, as Groenewald of the Natal University has shown. In result, whilst the number of Whites engaged in farming fell sharply from 145,000 to 118,000 between 1951 and 1961, farm output rose by over 50 per cent, although as between the dates of the 1955 and 1960 agricultural censuses the number of non-European workers on European farms increased from 1.09 million to 1.33 million. By contrast, in the developed Western agricultural industries the number of farm owners as well as farm workers are declining absolutely.

The rate of growth of farm output in South Africa was more rapid during the first post-war decade than during the second. This is evident when comparing the indices of the volume of output of the two decades:

	1947-48 to 1949-50 compared with 1955-56 to 1957-58	1955-56 to 1957-58 compared with 1963-64 to 1964-65
	%	%
Field crops	+ 46	+ 28
Horticulture	+ 58	+ 40
Livestock	+ 29	+ 40
Overall	<u>39</u>	<u>24</u>

Adverse seasons may partly account for the fact that increased acreages devoted to maize and wheat between 1955/56 and 1964/65 did not bring about cor-

responding increases in output. However, this fact of the lower response of output, together with the fact that the producers' price index remained more or less static until 1964 whilst the combined index of prices for farming requisites increased by nearly 20 per cent from 1956, must largely be held accountable for the appreciable decline in the proportion of our gross national originating in farming, from 13 or 14 per cent in 1955-57 to 9.2 per cent in 1963/64.

The agricultural industries with which South Africa competes have, on their part, advanced very considerably in the post-war period. In the decade of the fifties, United States agricultural output increased by 24 per cent with no increases in resource use. In the United Kingdom, 4 per cent of the labour force produced one-third of the nation's food pre-war, but accounts for one-half at present. These are extreme examples. Generally speaking, 10 to 15 per cent of the labour force of advanced countries suffice to feed their population. In backward countries, up to 75 per cent of the labour force is so engaged.

The great achievements of agriculture in Europe, including our European farming sector, were accomplished by radical changes in technique, chiefly involving mechanisation, heavy fertilisation, the use of hybrid seed, selective breeding of animals and greater skills and knowledge on the part of operators. The big investments in mechanisation and in human knowledge have resulted in the use of less land and labour but entailing some far reaching changes in farming organisation.

In particular, greater functional specialisation is taking place, by reducing the number of steps in the production process performed on the single farm; such specialisation on fewer products makes for more efficient use of resources and for more skilful operators. Here mixed farming is at a disadvantage. A tendency is also present for farming units to increase in size since the most beneficial

use of the best mechanical and other techniques require optimum output. Thus small-scale producers are at a disadvantage. On the other hand, since large production units are less flexible and more exposed to risk should markets alter, there is a tendency with some products towards planned production on a contract basis instead of for the open market.

Our European farming sector has partaken in all these developments to a degree, although on average its performance still falls far short of that of the leading exponents of the modern, commercialised farming systems. For instance, the wool yield of our Merino's is two-thirds of the Australian yield. In dairying, the output per cow is much lower than in the leading dairying countries. Our average maize yields are low even by Rhodesian standards. The performance of our beef cattle industry - measured by calving, maturity and mortality rates - is probably not even the second-best in Africa. Sugar production and segments of our horticulture are exceptions to the rule.

There are probably four primary sets of causes for the leeway which exists - climate, hereditary, authoritarian and educational.

Climatically, large parts of South Africa are very difficult to farm successfully and yields there are naturally low. This is often aggravated by the fact, evidenced by production cost studies, that numbers of small-scale and elderly farmers are unable to adapt themselves to modern production techniques, due to financial stringency, to ingrained attitudes and the hereditary sub-division of land. These are intractable problems and our authorities contemplate further action against uneconomic sub-division of farms and more purposive financing of agricultural production. Some Western countries are providing retirement benefits to elderly farmers who wish to discontinue farming.

The preservation in South Africa of so many uneconomic farming units is partly traceable to the fact that the

principle of greater price stability for farm products has become confused with the social aim of keeping farming incomes more in line with urban incomes. In this way the valid objective of short-term price stabilisation under our marketing schemes, has come into conflict with the overriding objective of a more efficient farming system. Moreover, in South Africa in particular, the rigid maintenance of producers' prices for some farm products has involved regimentation of marketing channels, stultifying innovations in marketing and sheltering the producer to such a degree that he has become unresponsive to new production and marketing opportunities.

It is an axiom of experience that any industry which is shackled by authoritarian control, loses virility; and even when relaxed, it takes a long time to shake off this inertia. This is one of the problems which beset our beef-raising industry where artificial grading standards - which still exist - and years of rigid price control - which ended in 1956 - have retarded growth and adaptation to the growing consumer preference for lean meat. But there is no doubt that higher standards of performance in beef production are attainable in our climatic conditions as animal diseases generally are under control. Feeding practices need radical review and the fact that South Africa's new broiler industry, through purposive breeding and scientific feeding, has within a few years attained overseas food conversion standards shows that our level of grain prices need not be a deterrent to a revitalised beef-raising industry.

Patently, the education and training of our non-European farm labour force has become inadequate for the mechanised and scientific farming age. On that account, for instance, implement companies report that South Africa's use of tractor spares is inordinately high. This is being overcome by machine maintenance courses for farm workers organised by some agricultural unions, and for specialised farming enterprises time and motion studies will be of value. But the wide-

spread acquisition of modern farming skills presupposes general literacy of the non-European labour force. Literacy has a pervasive value in improving productivity in an economy, as was forcibly demonstrated by the transformation of agriculture in Denmark between 1870 and 1900, based on a large investment in the schooling of the people. Likewise, Japan began to invest in rural education in 1880 and today, despite tiny farm units, Japan's rice yields are four times as high as those of India and four-fifths of California's.

Our European farm operators obviously require far more knowledge than their labourers. Ideally they must be able to use whatever science knows about the soil, the plants, the animals and the machines pertaining to the individual farm. Organised research, to add to the available knowledge, obviously remains imperative as well and when successful produces handsome social dividends.

In brief, in my opinion the challenge to our agriculture can be met successfully, mainly by:

Devoting attention to developing countries apart from supplying foodstuffs to our traditional export markets.

Keeping the costs of our important agricultural raw materials as low as possible by purposeful research.

Facilitating the entry of trained young farmers by providing assistance to procure capital, and to encourage the retirement of aging producers.

Avoiding price measures and marketing arrangements which are too rigid.

Endeavouring to improve the efficiency of present farm labourers through suitable short-term methods of education, and to further the elementary education of the new generation of non-white farm labourers.