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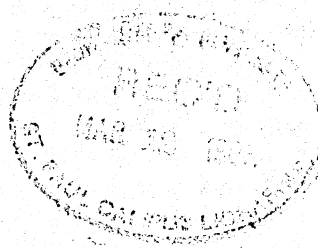
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SOUTH AFRICAN TRACTOR MANUFACTURERS' ASSOCIATION (SATMA)TRENDS IN AGRICULTURAL INPUTS - FARM MACHINERYINTRODUCTION

This report includes within the heading "Farm Machinery", specific reference to Agricultural Tractors, Harvesting Equipment and Implements.

During 1983 the farm machinery industry continued to experience the declining trends in the economy that had manifested themselves during 1982, coupled with the effects of the worst drought ever experienced in the summer rainfall areas of Southern Africa.

The farm machinery industry has been severely buffeted by economic and environmental factors which, we believe, must be the most testing circumstances faced by any industry sector over the past twelve months. That the industry has continued to function effectively in the face of an extremely hostile environment is proof of the resourcefulness, the stamina and the integrity of the farm machinery sector in preserving its primary responsibility toward agriculture in Southern Africa which is namely :

- The provision of effective systems of mechanisation which enhance and facilitate agricultural commodity production.
- The provision of field extension and training services to the users of farm machinery.
- The continued provision of effective parts and service in maintenance of farm machinery in use and, not least, -
- The provision of extended credit financing facilities.

## FACTORS AFFECTING THE FARM MACHINERY INDUSTRY (Attachment 1)

The major external and internal environmental factors affecting the farm machinery industry over the past year under review include the following :

### 1. ECONOMIC

#### 1.1 EXCHANGE RATES (Attachment 2)

Most major items of farm machinery sold and used in Southern Africa continue to be imported. The international economic climate, the performance of primary export commodities such as gold and the strength of the Rand on world currency markets are therefore major factors which determine the costs and prices of farm machinery.

The principal sources of supply of imported farm machinery to Southern Africa are Britain, the USA, West Germany, Italy, France and Japan and over the past year exchange rate movements have generally been favourable. In addition the lower rates of inflation in these source countries have helped to contribute to moderate FOB cost increases during the year.

These favourable trends were however offset by a carry-over of very high inventories (purchased during a high exchange rate plateau in 1982) as the drought worsened and the disastrous summer grain crop situation developed.

During the last quarter of 1983 adverse trends in exchange rates, which have prevailed throughout the year in US Dollar and Yen purchases, began to be seen in other major currencies thus also pointing

to higher costs and prices for the European and British products reaching the market in the first quarter of 1984.

## 1.2 INTEREST RATES - INFLATION RATE

The farm machinery industry, like most other sectors of the economy has generally endured an erosion of earnings as the result of the high interest rates which have prevailed during 1983 in combination with high inventories carried over from 1982.

In addition, the industry, has not been immune to the pressures of the high rate of inflation over the year on operating costs. Thus it is for example, that locally manufactured farm implements are often more costly than similar imported items.

## 2. POLITICAL

### 2.1 BOYCOTTS, SANCTIONS, STRIKES

Approximately 61% of the farm machinery purchased by farmers in South Africa is imported. While in recent years we have enjoyed the benefits of reasonably cordial political relations with our major source countries, it should be recognised that there continue to be elements abroad who will, if allowed, interfere with the supply of machines, parts and technology through the imposition of boycotts, sanctions or strikes.

The threat of domestic labour unrest in the source countries is also an ever-present possibility that can and does affect the smooth supply of imported farm machinery to South African agriculture.

## 2.2 GROWTH OF INDEPENDENT BLACK STATES

The farm machinery market in Southern Africa operates on two distinct planes : In the one there is the First World, sophisticated White agricultural sector, and in the other the emerging, Third World markets of the independent and developing Black states.

Both markets are of vital importance to the farm machinery industry in Southern Africa. In the established White farming areas a level of saturation has been generally reached with farm machinery purchases now mainly consisting of the replacement of equipment rather than new developments.

In the Black states the large scale development of their agricultural sectors is only just beginning and the manufacturers, suppliers and distributors of farm machinery in Southern Africa are being faced with the challenge of meeting the needs of the developing Black states against both orthodox and often, very unorthodox efforts from overseas manufacturers and suppliers hitherto not yet represented in the Southern African farm machinery market.

## 3. ENERGY

### 3.1 OIL CRISIS - INCREASED FUEL COSTS - ALTERNATIVE FUELS

The farm machinery industry is directly energy dependent. For the time being we may all feel that we've adjusted to the impact of the energy crisis of the mid-seventies. However, it should be borne in mind that the industry and the farmers, are in a situation of continual readjustment as factors such as the "adjusted" price of diesel fuel, alternative fuels, the advent of Sasol Diesel fuel, more energy efficient diesel engines and

a greater awareness among farmers of the relevance of specific fuel consumption in farm machinery, makes itself felt in the industry.

The excellent work carried out by the Department of Agriculture's Division of Agricultural Engineering on alternative fuels research together with Sasol's recent entry into the diesel fuel market, offer the assurance of strategic ongoing diesel energy supplies. However, we know that a great deal of research is still being carried out to perfect these alternatives and to eliminate some of the inherent problems that stand in the way of their general technical and economic viability.

#### 4. LABOUR RELATIONS

##### 4.1 BLACK LABOUR UNIONS

The growth of Black labour unions in virtually all sectors of South African industry, including the motor industry, to which the farm machinery industry is closely allied, can be expected to lead to an acceleration of this evolutionary development in the service areas of the industry. In some areas a shortage of skills is already being filled by non-White mechanics and repair shop assistants, to excellent effect and this trend can be expected to continue particularly as the rate of development in the Third World areas of the independent Black states continues to accelerate thus further stretching the available resources in skilled manpower.

#### 5. AGRICULTURAL ECONOMICS (Attachment 3)

Agricultural economics include the major factors that affect the farm machinery industry. Some of the major

elements which have been considered in reviewing the past year comprise of the following :

5.1 GROSS AND NETT FARM INCOME (Attachment 4)

Gross farm income in the period June 1982 to June 1983 declined by 1,2% while nett income fell by 27,8% respectively. Nett income declined from 37% in 1982 to 27,1% by June 1983.

5.2 PRODUCER PRICE INDICES (Attachment 4)

From June 1982 to June 1983 the combined producer price index rose by 24,7%.

5.3 FARM REQUISITE INDICES (Attachment 4)

Combined farm requisites increased by 12,5% in the period June 1982 to June 1983 with the index for tractors increasing by 10,4% and implements (including harvesting equipment) increasing by 11,8% over the same period.

It can thus be seen that the severe downturn in business and extreme competition among suppliers in a much reduced market, contributed to price increases being contained below the prevailing rates of inflation, below the ruling interest rates and below the general rates of increase in agricultural commodities.

We expect that in 1984 upward pressure on costs and prices will be more intense as the result of adverse trends in exchange rates and continuing high interest rates. The average increase in prices is therefore unlikely to be less than 15 percent.



#### 5.4 FARMER DEBT CONSOLIDATION

The situation of farmer debt which has, and is, receiving wide and merited attention, represents an area of the economic environment that critically affects the farm machinery industry.

It is estimated that the outstanding credit on open account for goods and services which is being financed by the farm machinery sector, now exceeds R100 million.

It is however, now apparent, that the processing and approvals of applications for the consolidation of farmer debts is being delayed by the authorities as the reality of the extent of the financial plight of the farmers in wide areas of South Africa's drought ravaged agriculture becomes more apparent. In the meanwhile, a disproportionate burden of financing a large section of these debts is being borne by the farm machinery sector. Much of this is being carried at normal commercial bank rates without the benefit of any subsidies. This is a situation which apart from its burdens on the farming sector, is a severe handicap on the farm machinery industry and a warning must be sounded here, that the essential infrastructure in the farm machinery retail industry that provides branch sales, service and parts backup together with local consultative and field extension is being sorely strained and could begin to break down unless some relief to the farmers debt situation is realised.

#### 5.5 A D E

The advent of ADE has had a profound and permanent effect on the farm machinery industry, the results of which are still being adjusted to and will continue to force adjustments in the industry for many years to come.

It is not our purpose to discuss ADE in detail but simply to recognise that the ADE factor is a major economic and financial force in the environment in which the farm machinery industry operates and has directly affected the trends and costs in farm machinery inputs in South Africa for both good and bad on a permanent basis.

The tractor industry has, in general, converted to the ADE range. There are however several exceptions where imported engines continue to be used where ADE do not provide a suitable specification, where partial exemption to the duties on imported engines has been obtained from the authorities, or where engines fall outside of the prescribed areas of protective tariffs. This represented about 30 percent of the tractor industry in 1983.

#### 5.6 CLIMATE

Perhaps the most influential of environmental factors, our weather climate is a major determinant in the industry seasonal volume.

Over the past year the drought has resulted in inventories of tractors, combine harvester, ploughs, planters and a host of other farm machinery being carried over for another season, manufacturing plants to be closed, major lay-offs of personnel to be made and for new trends in soil preparation, moisture conservation and crop management to receive widespread and urgent attention.

#### 5.7 CROP PRODUCTION AND AREA UNDER CONSERVATION (Attachment 5)

The type of crop being produced and the area of land on which it is produced is also one of the key factors which is a determinant influencing the farm machinery

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industry. It is axiomatic that as a supplier and service industry, the farm machinery industry will need to keep abreast of farmer requirements in mechanisation well ahead of new trends and developments with for example higher yielding varieties, changes in growing cycles, switches to new crops, etc.

Therefore, if one considers crop production and area under cultivation, we note the wide swings that we are all unfortunately familiar with, which occur in production on all commodities, and we note by contrast the generally very stable picture of the areas on which production has taken place.

To the farm machinery industry this means that in general, various areas of the country are predictably stable markets as regards the type of crop farming pursued but notoriously unpredictable as regards machinery market volumes as from season to season crop production and subsequent farmer income varies.

Now, the recommendations of the Jacobs Commission could be expected to affect the hitherto set pattern in the areas devoted to certain crops thus raising demands for new equipment and techniques to meet the requirements of alternative crops and/or seasons.

In this environment it is extremely difficult for the farm machinery industry to always accurately predict what the future markets will be and what volumes of supply should be on hand to meet the markets needs. This results in an inevitable see-sawing of supply and demand with which we are all familiar.

The farm machinery industry will therefore be closely monitoring the trends in crop selection by area that arise from the recommendations of the Jacobs Commission.

## THE FARM MACHINERY INDUSTRY

Against the background of the environmental factors which have affected the industry, we now discuss the industry by machinery sector.

### 1. TRACTORS (Attachment 6)

The tractor industry is the main barometer by which volume trends in the farm machinery industry are measured. There is usually also a close correlation between tractor sales in any season and the production results of the predominant agricultural commodity in the respective regional markets.

Statistics on tractor retail sales over the past 9 years together with an assessment of farmer buying patterns, would seem to indicate that the First World, White farmer tractor market is close to saturation and sales are generally on a replacement basis only. The Black farmer markets in the Black National states represent the newest tractor market growth areas but these are still in the early stages of development.

The last extraordinary peak in tractor sales occurred in 1981 when pre-ADE buying co-incided with a record maize crop and a generally excellent season all round.

Since then there has been a dramatic - one could even say catastrophic - fall-off in volume to where 1983 has reached the lowest tractor industry sales figures in over 25 years. From these trends in tractor retail sales figures, it is our prediction that the levelling off in the White farmer replacement markets will be consolidated and there will be a steady growth in the markets of the developing Black National states.

The tractor industry in Southern Africa will not again

reach the dizzy heights of 1981 and an average market of  $\pm$  12000 units per annum would seem likely to become the norm.

We expect 1984 to be similar to 1983 as factors (which we have discussed), such as farmer debt, high interest rates and the market economics of commodity sectors such as maize, sugar, cotton and others, are adapted to meet the challenges facing them. We therefore forecast a tractor industry not exceeding 9000 units for 1984.

#### 1.1 TRACTOR POWER CLASS SECTORS (Attachment 7)

We believe it is also important to comment briefly on the dynamic changes that are taking place within the tractor industry in respect of the ranges of power which are being purchased by South Africa's farmers.

The changes also indicate shifts that are occurring as trends such as :

- Extended ranges of four wheel drive
- Extended transmission ranges
- Consolidated wide-spread adaptation to ADE.
- Improved engine performance by means of altitude compensation and turbo-charging

are added to their model lines by various manufacturers.

During the past year, the most notable changes in tractor power classes was a continuation of trends that had started several years earlier. Among these is the growth of the Japanese tractor models as a factor in the smaller power classes. In 1983 the below 30 kW class had increased to become 10% of the industry. At present, several manufacturers have entries sourced ex Japan which conveniently fall

outside of the dutiable limit of 2000cc. The Japanese are producing highly sophisticated and reliable tractors which in many respects can be said to be setting new levels of engineering refinement in the world's agricultural tractor industry. Although the present Japanese entries in the South African market have thus far been mainly confined to the below 30 kW power class, it is perhaps not unreasonable to speculate on whether we might expect the same trend that was experienced with Japanese products in the light commercial vehicle market twenty years ago since more powerful Japanese tractor models have already been introduced into the North American and European markets.

The medium powered sector of 52 to 60 kW at over 32% of the industry, continues to represent the major tractor power category in use throughout Southern Africa. A shift towards the higher power class of 80 to 100 kW is however in progress as farmers seek more powerful tractors to cope with the changes in tillage practices, haulage requirements, more lugging, power, etc.

So too, is there a general trend in tractor power towards the 100 to 140 kW power classes where sophisticated large tractors provide farmers with the means to more efficiently and economically work larger lands.

#### 1.2 FOUR-WHEEL-DRIVE (Attachment 8)

Four-wheel-drive is an optional feature that has shown a rapid growth in popularity among farmers in recent years. Whereas only five years ago four-wheel-drive tractors barely represented 5 percent of the total industry volume, by 1983 this has increased to exceed 35 percent of the industry with four-wheel-drive having grown to be available in almost all power classes.

As farmers become more familiar with the advantages that four-wheel-drive traction offers and as specific features in various models contribute towards meeting farmer needs, so we expect that four-wheel-drive will continue to grow as a percentage of total tractor sales. In Europe, four-wheel-drive tractors have in recent years so increased in popularity that in 1983, one in every two tractors purchased was four-wheel-drive.

2. COMBINE HARVESTERS (Attachments 9, 10 and 11)

There are two types of combine harvester in use in Southern African agriculture. These are the imported self-propelled type and the locally produced P.T.O. or pull-type combine harvester. There are five major makes of self-propelled combines being marketed and four makes in the P.T.O. combine market all of which offer farmers a wide choice.

Combine harvester sales tend to shadow tractor sales, no doubt because they are subject to the same influencing factors in the economy and in agriculture.

Combine harvesters are the universal grain harvesting machines of Southern African agriculture. Their use and application, especially as regards self-propelled machines, is essentially mainly in the "First World", White farming sector. The P.T.O. combine being smaller, generally less sophisticated and more rugged, is more suited to, and widely used in both the White and developing Black agricultural areas, however.

The modern combine harvester, a field-going factory, is a marvel of engineering and production technology. With these machines and a few attachments all the varieties of large or small grain seeds can be harvested. Combine harvesters, especially the self-propelled type,

are expensive and at about 200 average hours usage a year they are underutilised. But financial logic dictates this insurance against crop loss. If farmers have a choice, they will purchase a more productive (and more expensive) machine so that they can bring their crops in at the best time in the season. Harvest delays, especially in small grain crops, can be costly.

During 1983 the self-propelled combine harvesters market reflected a similar continuing decline from the record levels achieved in 1981. It is apparent that combine harvester sales are unlikely to again reach the over 1200 unit per annum level and this is one farm machinery sector that could be radically affected by changes that arise as the result of the Jacobs Commission recommendations. Present indications are, however, that about 600 self-propelled combines will be the normal volume taken into new use in an average year.

P.T.O. combines are essentially used in the summer grain areas. The market for these items has been severely disrupted in 1983. The P.T.O. combine provides farmers with an effective, low cost alternative to a self-propelled combine harvester but which relies however on tractor power to complete the unit. Many farmers opt for this degree of versatility in their mechanisation with results that speak for themselves.

It is doubtful however whether there is likely to be any meaningful substitution or changes between S.P. or P.T.O. combines by farmers in the foreseeable future and it is predicted that the status quo is likely to be maintained.

P.T.O. combines, in a normal season, show an industry volume of about 600 units. This level is, however,



unlikely to be attained in 1984 as agriculture and the economy slowly recovers from the setbacks of the past year.

3. BALERS (Attachment 12)

As a result of the drought and the desperate demand that developed for animal fodder, baler sales in 1983 contrary to all other farm machinery sectors, experienced a surge in demand with most manufacturers not able to fulfil farmer requirements. Anything that could be used for animal feed was baled.

In recent years round balers have grown in popularity and provide the red meat industry with a useful bulk fodder processing tool.

The reliance on processed and stored products for animal feed has grown together with the developments that have occurred in various areas of stock farming. This leads to the conclusion that the baler market has undergone a growth phase over the past three years and it is likely to retain a higher level of activity than that experienced in the seventies.

4. IMPLEMENTS (Attachments 13 to 18)

It is in the area of implements that the farm machinery industry has best developed and manufactured products to suit Southern African conditions.

Only about 25 percent of the implements used by South African farmers are imported. The rest are locally made, many of them to meet the needs of a very localised agricultural application. This innovation and development of custom designed implements is a trend that will increase in the farm machinery industry during the eighties. It

is becoming less possible to have effective universal implements especially in the areas of tillage, planting and crop protection.

During the mid-seventies total implement purchases by farmers showed a consistent level with all commodity sectors having a steady demand. The peaks of 1980, 1981 and 1982 were however, followed with a dramatic fall-off in 1983 which, it is estimated, brought implement sales back to the kind of averages experienced in the seventies. This has resulted in the temporary closure of implement manufacturing plants, the laying off of workers and a damming up of inventories of certain items throughout the industry. It is expected that it will take the whole of 1984 for a balance to be restored in the situation.

The category of farm machinery included under the heading "Implements", is vast and each item cannot be specifically dealt with in this paper. There are however some notable trends that have been developing over the past few years in implement usage in Southern Africa which have been give impetus by the drought conditions of the past year.

Specific product categories where notable trends in usage have developed include those affected by the widely discussed developments in minimum tillage, stubble-mulch cultivation, traffic control and moisture conservation in tillage.

Several manufacturers working in co-operation with farmer study groups and the South African Institute of Agricultural Engineers, have adapted existing implements and developed new ones to achieve the desired results.

However, nearly every tillage operation performed today is a gamble. And, the odds seem to be stacked against farmers, largely due to a lack of adequate knowledge, despite the intense research being carried out by various interest groups.

Farmers must decide, mostly on their own and usually on the basis of their own previous experience, whether a particular tillage operation is necessary. Will it pay for itself in increased yield? Could a different operation, or a chemical application be substituted without sacrificing yield - and possibly be faster and less costly?

They must also decide if additional operations pay off in increased yield or net income. Is "no tillage at all" a reasonable alternative for their operations?

Anyone claiming to have all the answers regarding tillage requirements is exaggerating. For instance, most maize farmers are getting by with fewer tillage operations than they used just five years ago. But the experience of the farm machinery industry shows that some have increased the number of tillage operations compared with what they did five years ago.

Many crops are producing equal or better yields today after being planted in conditions that would have been considered totally unacceptable only 10 to 15 years ago. This has been made possible through improved seed varieties, improved agronomy, etc.

The whole problem boils down to one simple question that agronomists and engineers have yet to answer :

"What is the proper or necessary amount of tillage for a particular crop in a given seedbed or soil type and

condition ?"

Until that question is answered and equipment made available that will till soil adequately, but no more, throughout an entire field, tillage will remain the biggest gamble in crop production.

Attention is being given to factors such as the energy requirements in tillage and there are improvements that can and will be made. There has been a wide-spread swing away from the traditional mouldboard plough and a marked growth in tyned implements.

With these changing trends in tillage practices and more intense orchard and vineyard management in the fruit and wine producing areas, has grown the usage of chemical spraying equipment and this product sector continues to show a steady growth.

In maize planters which are a major product in the implement sector, the pneumatic planter has set a new trend and has increased in a short time to become over 30 percent of all planter sales.

Total maize planter sales show an increasing long term trend although we expect that the very low planter sales volumes of 1983 will moderate the trend line shown.

S U M M A R Y

To sum up the past year for the farm machinery sector and the trends which are expected to develop, we highlight the following points.

During 1983 the farm machinery industry experienced severe stresses as result of the downturn in the economy and the worst drought in the summer rainfall areas ever experienced. The pressures on the farm machinery industry are causing changes to come about which could permanently affect the way in which farm machinery is marketed in South Africa. However, the industry as a whole has preserved its primary responsibility towards agriculture which is namely :

- (a) To provide effective systems of mechanisation which enhance and facilitate agricultural commodity production.
- (b) To provide field extension and training services to the users of farm machinery.
- (c) To continue to provide effective parts and service backup to farm machinery users.
- (d) To provide extended credit financing facilities to farmers.

The area of farm machinery activity which can be expected to receive intensified attention in the next year will be in the area of service as in a smaller market, the industry acts to support farmers in their need to maintain existing equipment.

FACTORS AFFECTING THE FARM MACHINERY INDUSTRY (Attachment 1)

The following major factors have had a major influence on the farm machinery industry in 1983 and can be expected to continue to influence the industry in the forthcoming year.

1. ECONOMIC FACTORS

(a) EXCHANGE RATES (Attachment 2)

With the exception of the US Dollar and the Yen, during 1983 most of the principal supplier country currencies did not show any adverse trends until the last quarter of the year when the Rand weakened against all the subject currencies which indicates an increase in costs which will manifest itself early in 1984.

(b) INTEREST RATES - INFLATION RATE

High interest rates have eroded earnings and placed severe pressure in the farm machinery industry where high carry-over inventories have been born for virtually the entire past year. Local inflation has also put the local manufacturers of implements at a disadvantage and imported implements are often able to compete very fiercely against locally manufactured items.

(c) POLITICAL

1. BOYCOTTS, SANCTIONS, STRIKES

The supply of farm machinery to South African agriculture is vulnerable to the actions of political antagonists of this country by way of boycotts, sanctions or strikes.

Labour unrest in the major source countries can also contribute to stoppages and interference in supply, as has been experienced in the past.

## 2. GROWTH OF INDEPENDENT BLACK STATES

The farm machinery market in Southern Africa operates on two distinct planes. The one is the sophisticated First World market of the White agricultural sector, the other the emerging Third World markets of the independent and developing Black states.

In general it can be said that in the White farming areas a level of saturation in farm machinery sales has been achieved with most farmers well capitalised and not expanding into new fields or crops to any great extent at this stage.

In the developing Black states the large scale upgrading of agriculture from a subsistence level is only just beginning and in several of these areas there is the prospect of some very positive growth. The farm machinery industry in South Africa is being faced with a challenge of meeting the needs of these developing Black states in the face of orthodox and often, some very unorthodox efforts from overseas manufacturers and suppliers who hitherto have not yet been represented in the South African farm machinery market.

(d) ENERGY

1. OIL CRISIS - INCREASED FUEL COSTS - ALTERNATIVE FUELS

Factors such as alternative fuels and the advent of Sasol Diesel fuel together with more energy efficient diesel engines and a greater awareness among farmers of the relevance of specific fuel consumption in farm machinery point to the dynamic state of fuel energy for farm machinery in South Africa.

There still however, remains some serious problems to be overcome in the alternative fuel sources before their technical and commercial viability is assured.

(e) LABOUR RELATIONS

1. BLACK LABOUR UNIONS

Black labour unions have sprung up in all sectors of South African industry including the motor industry to which the farm machinery industry is closely allied.

In an economy where skills, particularly in the trades of farm machinery mechanics, are growing scarcer there will have to be changes in attitudes such as have already taken place in certain areas of the country where Black, Coloured and Indian mechanics are today carrying out repairs on farm machinery formerly performed exclusively by Whites. As an industry, we believe this trend has to be encouraged to fill the demands facing us in the future particularly since, as we have



already stated, we believe that the service and backup element of the farm machinery industry is going to assume even greater importance in the future.

(f) AGRICULTURAL ECONOMICS (Attachments 3 and 4)

Under the heading of agricultural economics we have considered several factors that directly affect the farm machinery industry. These include -

CROSS AND NETT FARM INCOME, PRODUCER PRICE INDICES AND FARM REQUISITE INDICES

In a severely reduced market with an overabundance of inventory, the price increases in farm machinery were contained to well below the prevailing rates of inflation and interest that ruled during 1983. They also fell well below the general rates of increase in agricultural commodities.

(g) FARMER DEBT CONSOLIDATION

The outstanding debts of farmers being borne by the farm machinery sector is placing a severe strain on the farm machinery retail industry. The services they provide, (particularly in the non-co-operative sector), could begin to break down unless some relief to this situation is realised.

(h) A D E

ADE has brought about a permanent change in the tractor and farm machinery industry in South Africa today. The industry is continuing to adjust to the changes some of which are good and some bad.

(i) CLIMATE

This uncontrollable factor in the farm machinery industry environment has perhaps the most profound affect of all on the state of the business. As a result of drought, changes have been forced on the industry and on agriculture in general which are likely to have a permanent effect on mechanisation in South Africa. These changes include an acceleration in trends in tillage practices and crop management.

(j) CROP PRODUCTION AND AREA UNDER CULTIVATION (Attachment 5)

Changes in agricultural economics arising from the recommendations of the Jacobs Commission signal trends which are likely to come about in the near future and set new patterns of crop production and area under cultivation. The farm machinery industry will be closely monitoring these trends.

2. THE FARM MACHINERY INDUSTRY

(a) TRACTORS (Attachment 6)

From the record market levels of 1981 there has been an almost catastrophic fall-off in industry volume to where 1983 has recorded the lowest tractor industry sales figure in over 25 years. An analysis of the tractor retail industry over the past 9 years together with an assessment of expected future trends in the agricultural economy indicates that the tractor industry is in future likely to operate in a normal year at a level of about 12000 units per annum. In 1984, where many of the constraining factors which have prevailed in 1983, are expected to continue in the tractor market will at best, realise 9000 units.

(b) TRACTOR POWER CLASS SECTORS (Attachment 7)

Within the tractor industry there are some dynamic changes taking place in the power class sectors.

These changes are partially due to -

- The addition of extended ranges of four-wheel-drive models.
- The extension of transmission ranges.
- The wider adoption of ADE power.
- The use of altitude compensated and turbo-charged engines.

In the small under 30 kW power class, Japanese sourced tractors are making a strong entry into the South African market. These units come in at just under the ADE protective duties which are defined at 2000cc and therefore provide users with relatively inexpensive, sophisticated tractor power.

The medium power range of 52 to 60 kW has for at least the past decade been the dominant power class in the South African tractor market. The demand for more power by farmers has resulted in an upward shift in volume sales into the 60 to 75 kW power class which trend is expected to continue at the expense of the medium power sector during 1984.

Similarly the bigger tractor ranges over 75 up to 140 kW are showing a stronger demand trend in response to the needs of changing tillage practices.

(c) FOUR-WHEEL-DRIVE (Attachment 8)

As farmers have become more familiar with the advantages and benefits of four-wheel-drive so the demand pattern has swung towards four-wheel-drive so that by 1983 one in every four tractors sold in S.A. was four-wheel-drive. In Europe the pattern is similar, but with 50 percent of the tractors now being sold there being four-wheel-drive.

(d) COMBINE HARVESTERS (Attachments 9, 10 and 11)

The combine harvester industry, like the tractor industry, is declining after the high levels achieved in 1981. It is predicted that these high levels will not again be attained and that the S.P. combine harvester market is likely to stabilise at around 600 units per annum in a normal year.

The P.T.O. combine market which in 1983 was virtually non-existent, is expected to recover over the next 2 to 3 years and to stabilise at its former levels due largely to the P.T.O. combine's economy, ruggedness, and potential outlets which can be realised in the developing Black independent state agricultural sectors.

(e) BALERS (Attachment 12)

The drought had a positive effect on baler sales as a result in the increased demand that arose for baled fodder of virtually any kind. The increase in the baler industry that has taken place in recent years has occurred in conjunction with the intensified activity in the red meat industry. Round balers have, for the same reasons, entered the market and grew fairly rapidly to represent 25 percent of the total

business.

It is expected that baler sales will not revert back to the lower levels of the seventies but, whilst declining, will level off at around the 1000 units per annum level. In 1984 we forecast a continued high demand although not at the same level as experienced during 1983.

(f) IMPLEMENTS (Attachments 13 to 18)

The major changes which have occurred in the implement industry in recent years, including 1983 have been the intensified swing away from traditional mouldboard ploughs towards tyned implements for stubble-mulch cultivation, traffic control and moisture conservation tillage. Concurrent with these changing trends in tillage has been the accelerated growth of plant protection equipment by way of chemical sprayers. These products both of the boom type in tillage areas and mist blower type in vineyards and fruit orchards continue to show a steady growth.

New trends have also continued to occur in the area of maize planters. In recent years the pneumatic planter has appeared on the market and rapidly gained popularity. About 30% of the planter industry volume in 1982 was in pneumatic planters. In 1983 the entire planter industry collapsed with relatively few planters being purchased. The proven mechanical planter systems continue however, to be the dominant design used by farmers and with improved features that permit higher speed planting, planting in stubble, and improved seed and fertilizer placement, it is expected that they will remain the main planting system used in the summer grain areas for some years to come.

These are some of the major trends that are occurring in the farm machinery industry of South Africa and the prediction for 1984 is that the year is expected to be a continuation of the difficult market conditions experienced in 1983. The farm machinery industry will continue the adjustments forced on it as a result of the economic downturn and the drought conditions. (Attachments 19&20)

Changes in technology in tractors, combine harvesters and in implements can be expected to increasingly appear in farm equipment as the micro-chip and the electronic age make themselves felt on farm machinery in South Africa.

The demand for skills from the industry in providing service support to the farming machinery in use in South Africa plus continuing pressure on financial resources are likely to be the main features of the turbulent farm machinery industry in South Africa in 1984.

FAKTORE WAT DIE LANDBOUMASJINERIE NYWERHEID BËINVLOED

FACTORS AFFECTING THE FARM MACHINERY INDUSTRY

FF

EKONOMIE / ECONOMY

- \* GOUD - BETALINGSSBALANS / GOLD - BALANCE OF PAYMENTS
- \* EKONOMIESE AFSWAAI / ECONOMIC DOWNTURN
- \* WISSELKOERS / EXCHANGE RATES
- \* INFLASIEKOERS / RATE OF INFLATION

POLITIEK / POLITICS

- \* BOIKOTTE, SANKSIES, STAKINGS / BOYCOTTS, SANCTIONS, STRIKES
- \* GROEI VAN ONAFHANKLIKE SWART STATE / GROWTH OF INDEPENDENT BLACK STATES

ENERGIE / ENERGY

- \* OLIE KRISIS - VERHOOGDE BRANDSTOF KOSTE  
OIL CRISIS - INCREASED FUEL COSTS
- \* ALTERNATIEWE BRANDSTOWWE / ALTERNATIVE FUELS

ARBEIDSBETREKKINGE / LABOUR RELATIONS

- \* GROEI VAN SWART UNIES / GROWTH OF BLACK UNIONS

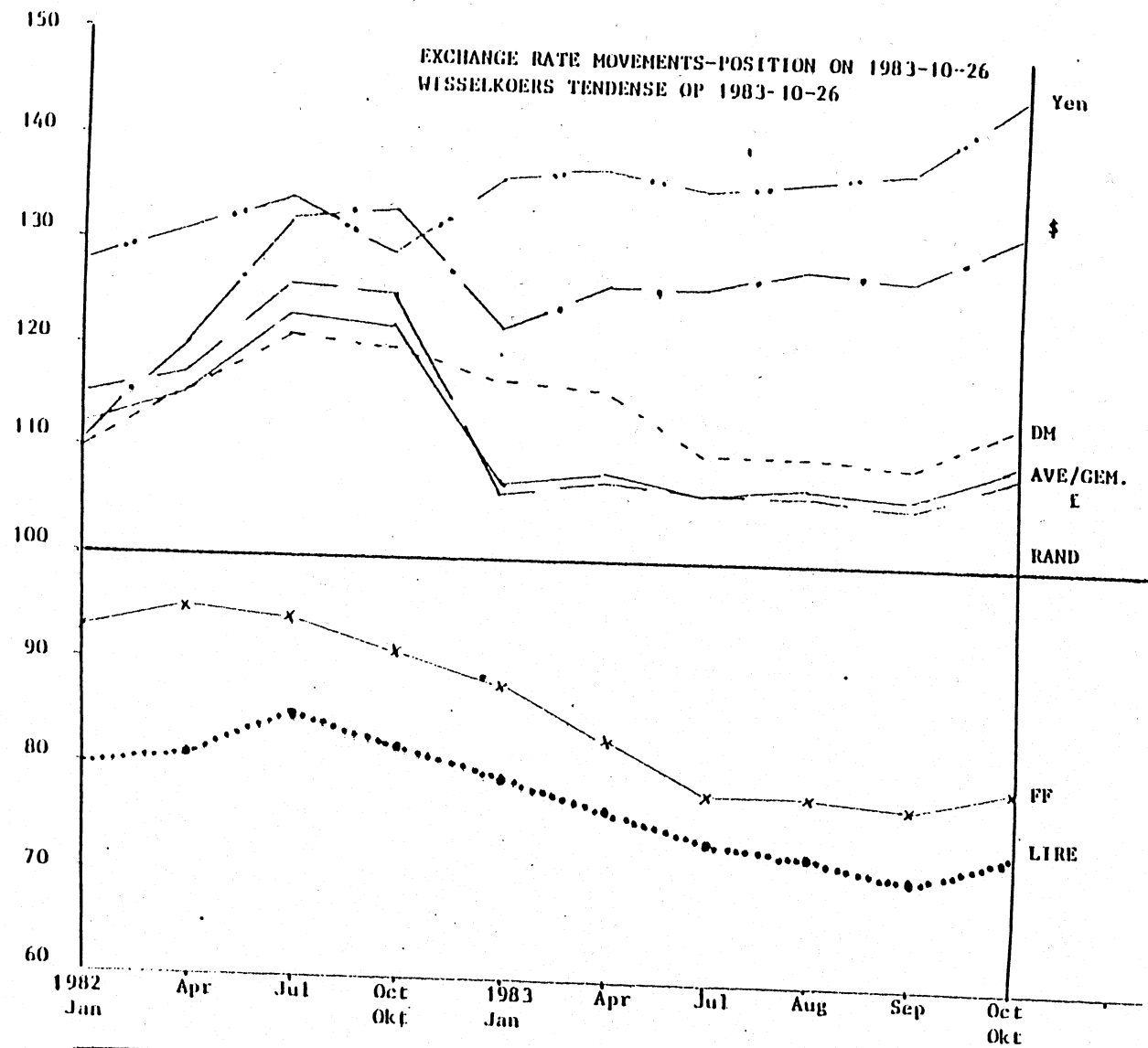
LANDBOU-EKONOMIE / AGRICULTURAL ECONOMICS

- \* PRODUSENTEPRYSE / PRODUCER PRICES
- \* BOERDERY BENODIGDHEDEPRYSE / FARMING REQUISITE PRICES
- \* BRUTO EN NETTO BOERDERY INKOMSTE / GROSS AND NET FARM INCOME
- \* JACOBS KOMMISSIE / JACOBS COMMISSION
- \* SKULD KONSOLIDASIE / DEBT CONSOLIDATION
- \* A D E

KLIMAAT / CLIMATE

- \* DROOGTE / DROUGHT

GEWAS PRODUKSIE EN OPPERVLAKTE / CROP PRODUCTION AND AREA



	£	DM	\$	LIRE	FF	YEN
ACTUAL / WERKLIKE	1.719660	2.2840	0.8775	1389.50	6.9870	204.10

FF

Attachment  
Aanhegsel

33<sup>2</sup>



FF  
EKONOMIESE AANWYSERS  
ECONOMIC INDICATORS

Attachment  
Aanhegsel

3  
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VERKOPE / SALES : (DUISENDE / THOUSANDS)  
(EENHEDE / UNITS)

	<u>JAN-OKT/ OCT '82</u>	<u>JAN-OKT/ OCT '83</u>	<u>% VERANDERING CHANGE</u>
NUWE MOTORS/ NEW CARS	242	228	(5,8)
NUWE HANDELSVOERTUIG / NEW COMMERCIAL VEHICLES	123	111	(9,8)
TREKKERS / TRACTORS	5,8	5,0	(13,8)

LANDBOU EKONOMIE

AGRICULTURAL ECONOMICS

R'M

	<u>OKT/OCT 81 - SEP. 82</u>	<u>OKT/OCT 82 - SEP. 83</u>	<u>% VERANDERING CHANGE</u>
BRUTO INKOMSTE VAN BOERE / GROSS FARM INCOME	6950	7076	1,8
NETTO INKOMSTE VAN BOERE / NET FARM INCOME	2154	1588	(26,3)
PERSENT:NET VS BRUTO/ PERCENT:NET VS GROSS	31,0	22,4	

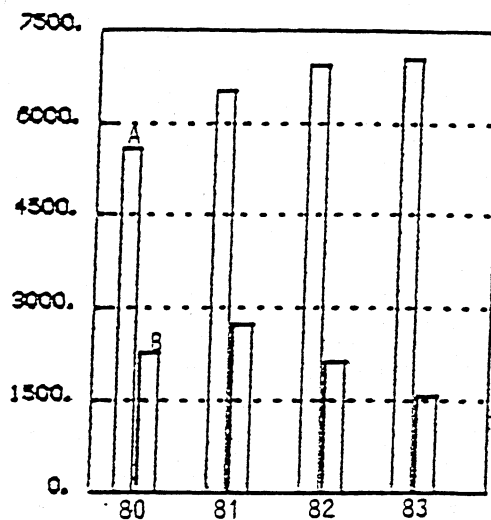
PRYS INDEKSE / PRICE INDICES

	<u>SEP '82</u>	<u>SEP '83</u>	<u>% VERANDERING CHANGE</u>
<u>PRODUSENTE:GEKOMBINEERDE/ PRODUCERS: COMBINED</u>	223,1	282,4	26,6
<u>BOERDERYBENODIGDHEDE/ FARMING REQUISITES:</u>			
GEKOMBINEERDE/COMBINED	283,7	317,6	11,9
TREKKERS/TRACTORS	303,9	336,3	10,7
WERKTUIG/IMPLEMENTS	254,9	277,2	8,7

# AGRICULTURAL ECONOMICS LANDBOU EKONOMIE

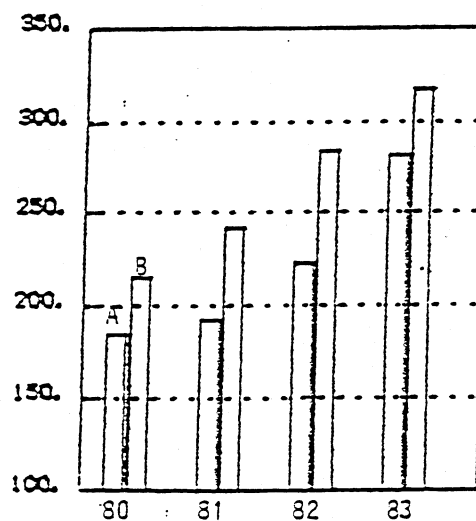
Attachment  
 Aanhegsel 4  
 35

R'M



GROSS FARM INCOME VS NET FARM INCOME  
 BRUTO LANDBOU INKOMSTE VS NETTO LANDBOU INKOMSTE

INDEX  
 INDEKS  
 (1975 = 100)



PRODUCER PRICES VS FARMING REQUISITES  
 PRODUSENTEPRYSE VS BOERDERYBENODIGHEDE

FF  
GEWAS PRODUKSIE EN OPPERVLAKTE  
CROP PRODUCTION AND AREA

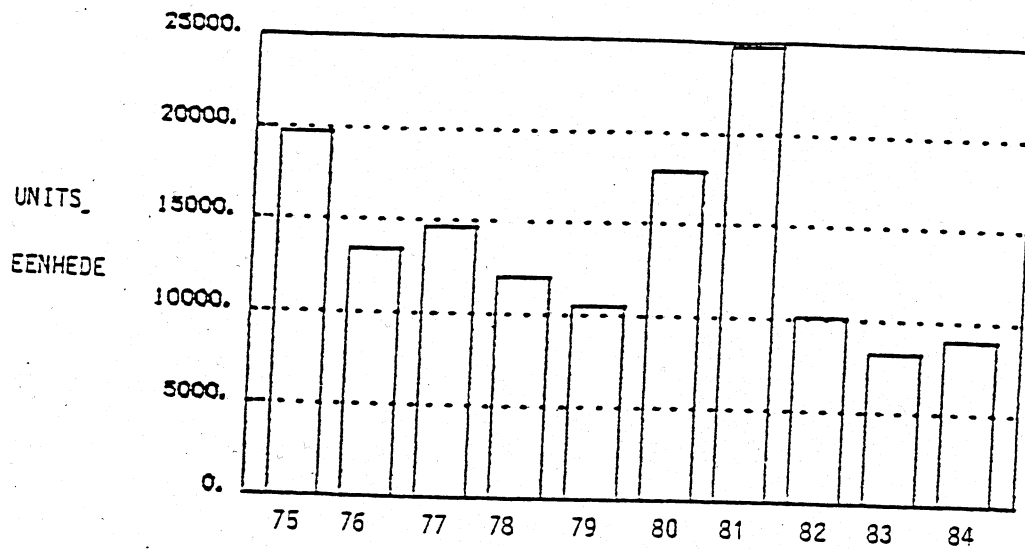
Attachment  
Aanhegsel

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GEWAS CROP (Mt)	80/81 WERKLIK ACTUAL	81/82 WERKLIK ACTUAL	82/83 SKATTING ESTIMATE	83/84 SKATTING ESTIMATE
MIELIES MAIZE	14,66	8,36	3,91	
GRAANSORGH. GRAIN SORGH.	0,55	0,27	0,19	
SONNEBLOM SUNFLOWER	0,52	0,26	0,21	
GRONDBONE GROUNDNUTS	0,21	0,08	0,06	
DROË BONE DRY BEANS	0,08	0,06	0,03	
			<u>ACTUAL WERKLIK</u>	
KORING WHEAT	1,47	2,34	2,42	1,79
SUIKER SUGAR	1,84	1,98	2,13	1,48

AREA (HA/MILL)	79/80 WERKLIK ACTUAL	80/81 WERKLIK ACTUAL	81/82 SKATTING ESTIMATE	82/83 SKATTING ESTIMATE
MIELIES MAIZE	4,62	4,72	4,68	4,45
GRAANSORGH. GRAIN SORGH.	0,24	0,19	0,17	0,19
SONNEBLOM SUNFLOWER	0,29	0,32	0,26	0,27
GRONDBONE GROUNDNUTS	0,28	0,24	0,21	0,19
DROË BONE DRY BEANS	0,98	0,93	1,00	0,96
			<u>ACTUAL WERKLIK</u>	
KORING WHEAT	1,90	1,62	1,79	1,97
SUIKER SUGAR	0,41	0,40	0,41	0,40

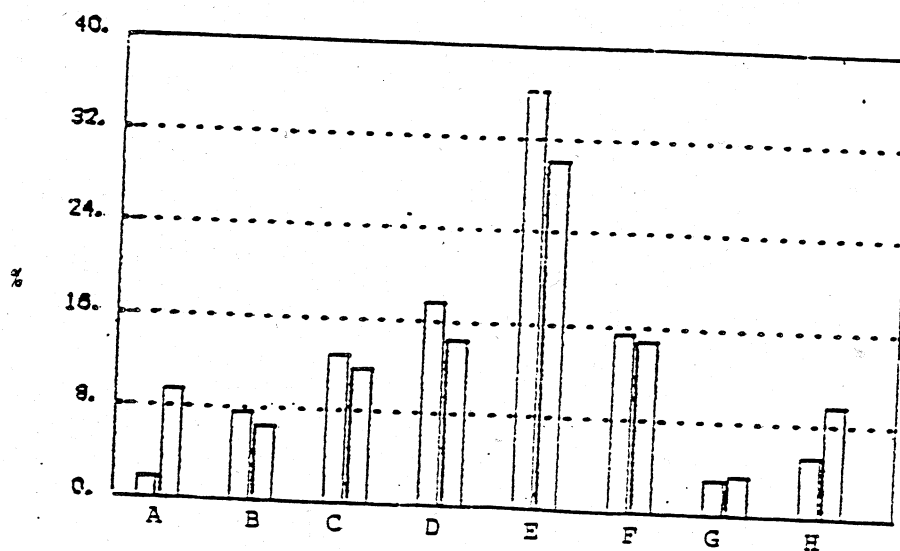
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Attachment  
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37AGRICULTURAL TRACTORS  
LANDBOUTREKKERSCALENDAR YEARS  
KALENDER JAREUNITS  
EENHEDE1975  
1976  
1977  
1978  
1979  
1980  
1981  
1982  
1983  
198419803  
13473  
14630  
12035  
10508  
17995  
24862  
10222  
8300 Est./Ber.  
9000 Est./Ber.

FF

Attachment  
Aanhegsel7  
38POWER CLASS DISTRIBUTION  
KRAGKLAS VERDELING

1981 VS 1983

KW

A =	0 - 30
B =	30,1 - 37,5
C =	37,6 - 45,0
D =	45,1 - 52,5
E =	52,6 - 60,0
F =	60,1 - 75,0
G =	75,1 - 105,0
H =	105,1 - +

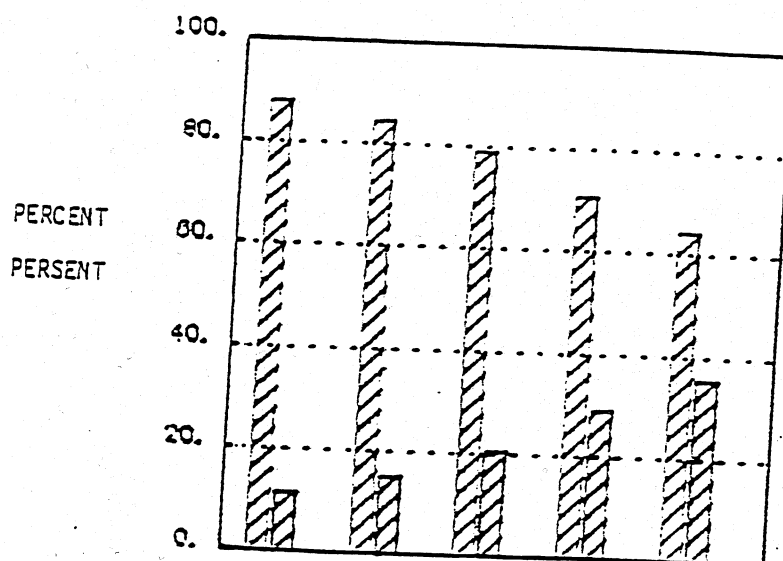
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# 2/4 WD INDUSTRY /INDUSTRIE



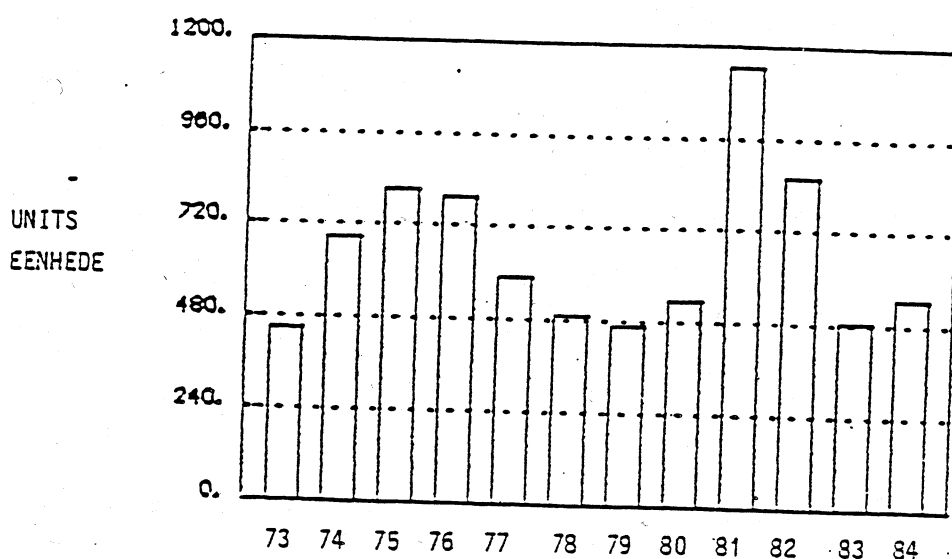
CALENDAR YEARS KALENDERJARE	PERCENT/PERSENT	
	2WD	4WD
1979	88,3	11,7
1980	84,8	15,2
1981	79,1	20,9
1982	70,6	29,4
EST. BER. 1983	64,1	35,9

FF

Attachment  
Aanhegsel

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SELFAANGEDREWE STROPER  
SELF PROPELLED COMBINESCALENDAR YEARS  
KALENDERJAREUNITS  
EENHEDE

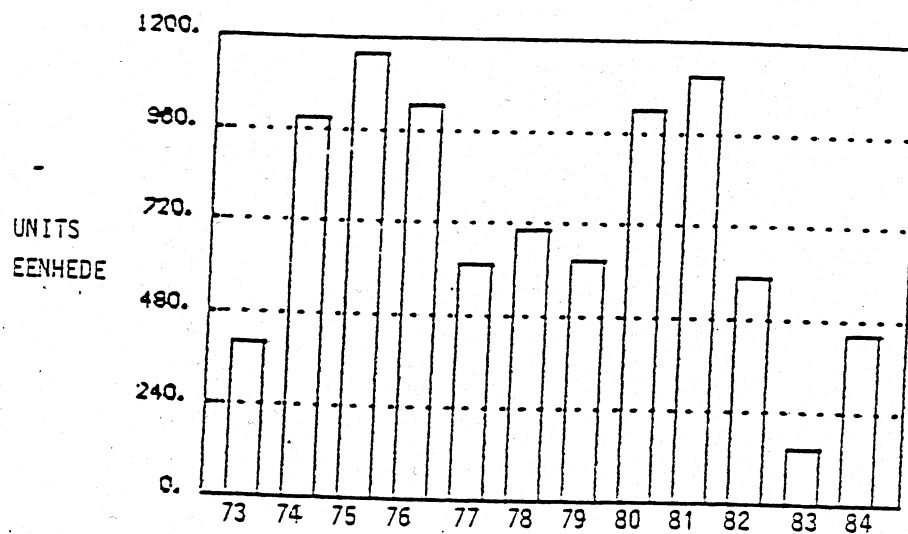
1973	451
1974	687
1975	814
1976	798
1977	594
1978	494
1979	474
1980	537
1981	1151
1982	863
1983	490 Est./Ser.
1984	550 Est./Ser.

FF

Attachment  
Aanhegsel 10

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P.T.O. COMBINES  
K.A.T. STROPER



CALENDAR YEARS  
KALENDERJARE

UNITS  
EENHEDE

1973	404
1974	991
1975	1159
1976	1031
1977	617
1978	708
1979	627
1980	1022
1981	1114
1982	589
1983	150 Est./Ber.
1984	450 Est./Ber.

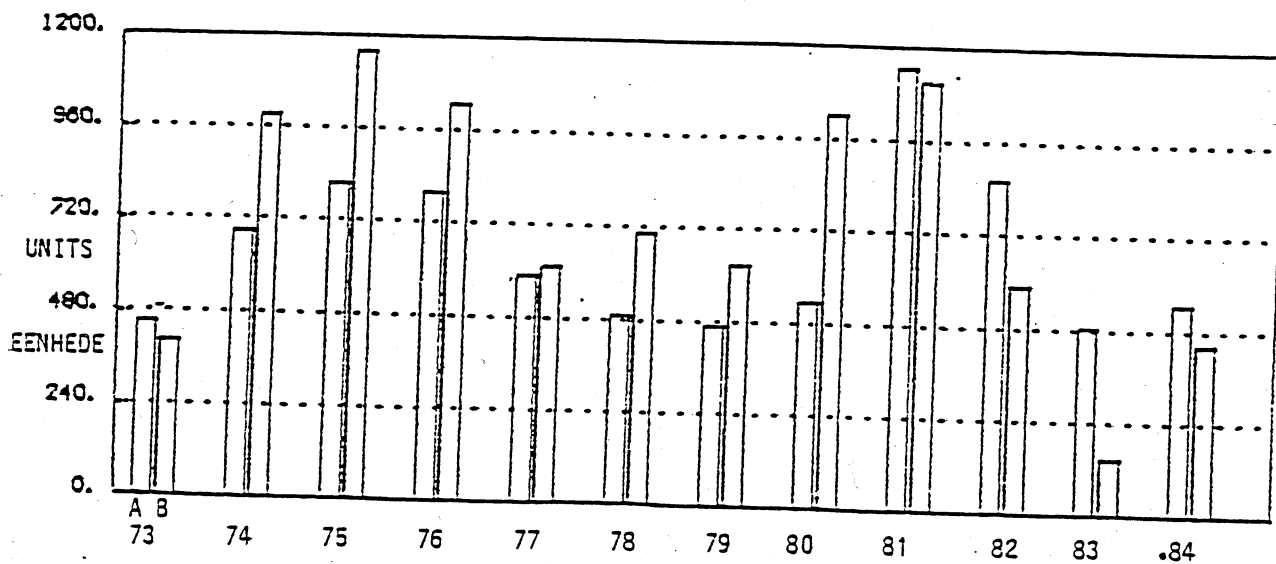


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Attachment  
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11

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COMBINES  
STROPER

A  
S.P.  
SELF AANGEDREWE VS

B  
P T O  
K A T

UNITS / EENHEDE  
S.P.  
SELF AANGEDREWE

P T O  
K A T

CALENDAR YEARS  
KALENDER JARE

1973	451	404
1974	687	991
1975	814	1159
1976	798	1031
1977	594	617
1978	494	708
1979	474	627
1980	537	1022
1981	1151	1114
1982	863	589
Est./Ber. 1983	490	150
Est./Ber. 1984	550	450

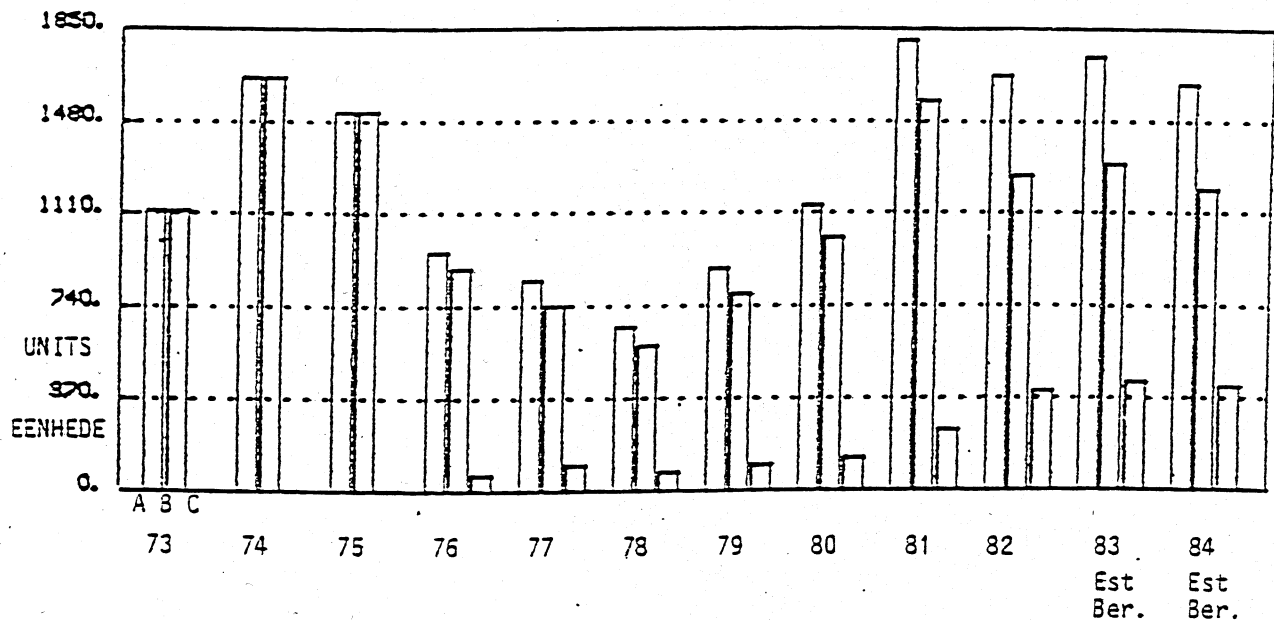
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Attachment  
Aanhegsel

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## BALERS

CALENDAR YEARS  
KALENDER JAARE

UNITS / EENHEDE

	A	B	C
	Industry/ Industrie	Square Vierkantige Balers	Round Ronde Balers
1973	1125	1125	-
1974	1663	1663	-
1975	1520	1520	-
1976	962	897	65
1977	848	744	104
1978	665	583	82
1979	895	788	107
1980	1144	1010	134
1981	1812	1566	246
1982	1667	1253	404
Est/Ber. 1983	1744	1308	436
Est/Ber. 1984	1635	1210	425

# IMPLEMENT SALES

## R'MILL IMPLEMENT VERKOPE

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
PLOUGHS / HARROWS PLOEË / SKOTTEL ËE	6,6	11,6	15,3	16,6	19,1	14,1	14,38	26,7	37,2	26,0
CULTIVATORS SKOFFELS	3,7	4,9	6,5	6,6	6,5	8,5	11,21	19,2	24,7	19,1
LOADERS LAAIGRAWE	0,3	0,4	1,7	1,7	1,3	1,3	1,41	2,6	4,7	5,1
PLANTERS	4,9	5,4	9,5	9,6	12,4	14,3	15,03	24,4	35,4	29,1
PEST CONTROL INSEK BEHEER	1,2	2,5	4,6	4,2	6,4	6,1	5,67	10,8	16,6	12,3
HARVESTERS STROPER	7,4	16,4	30,2	37,2	28,6	24,8	27,4	38,7	89,4	76,7
PEANUT HARVESTERS GRONDBOOM STROPER	0,5	1,7	2,0	1,6	1,5	1,9	1,31	1,4	2,4	0,8
POTATO EQUIPMENT AARTAPPEL TOERUSTING	0,3	0,5	0,8	1,2	0,7	8,6	0,38	1,5	2,4	2,3
TOBACCO EQUIPMENT TABAK TOERUSTING	2,6	2,7	4,6	5,5	6,0	2,8	1,14	1,0	2,3	6,0
HAY EQUIPMENT HOOI TOERUSTING	8,0	11,2	14,6	12,6	11,1	9,7	12,09	18,3	31,9	33,7
HAMMERMILLS HAMERGEULE	1,6	2,1	2,1	1,6	0,9	1,3	1,77	3,6	4,7	3,9
TOTAL/TOTAAL	37,1	59,4	91,9	98,4	94,5	93,4	91,79	148,2	251,7	215,0

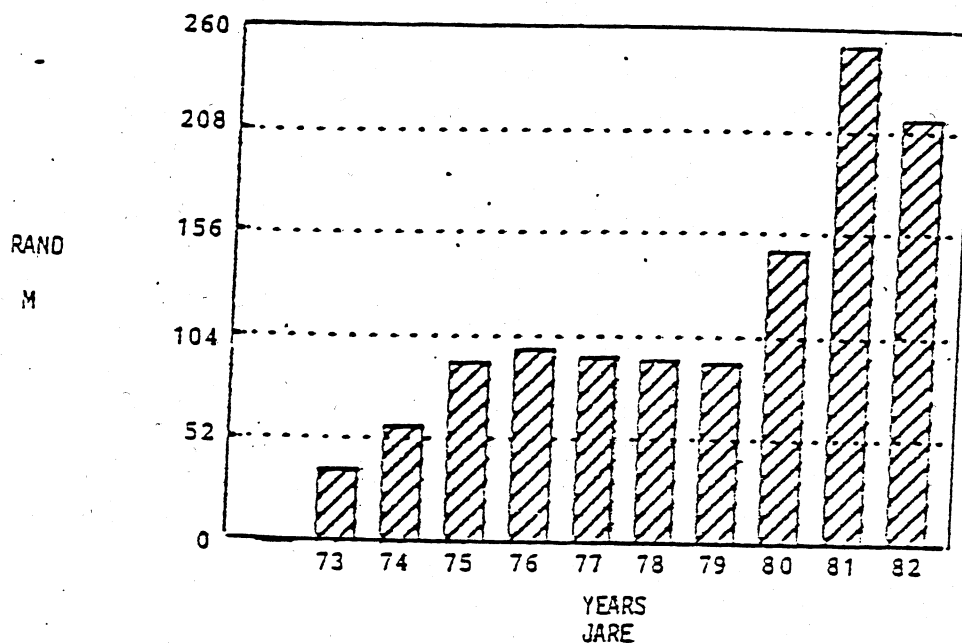
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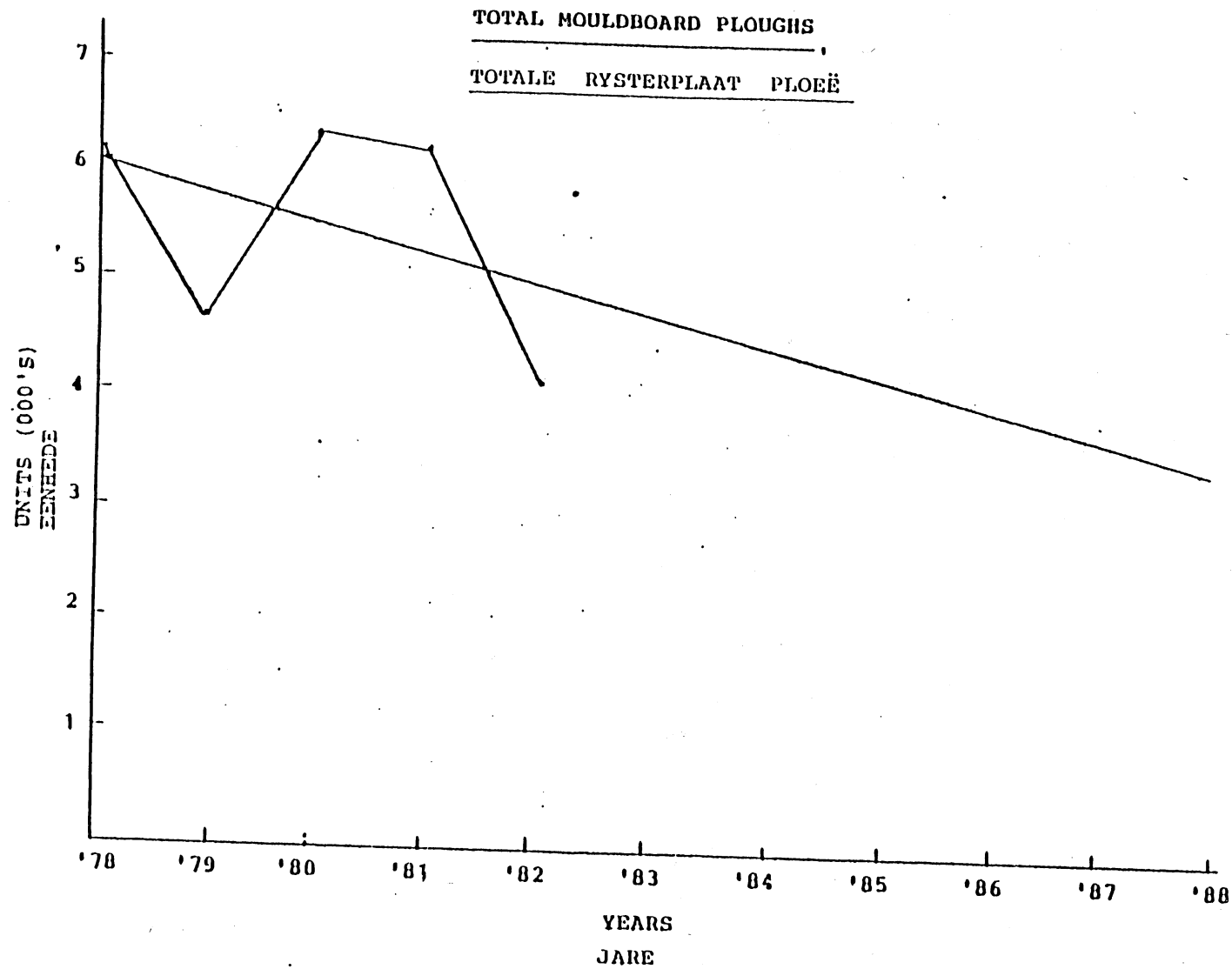
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Attachment  
Aanhegse14  
45IMPLEMENTS  
IMPLEMENTECALENDAR YEARS  
KALENDER JARE3

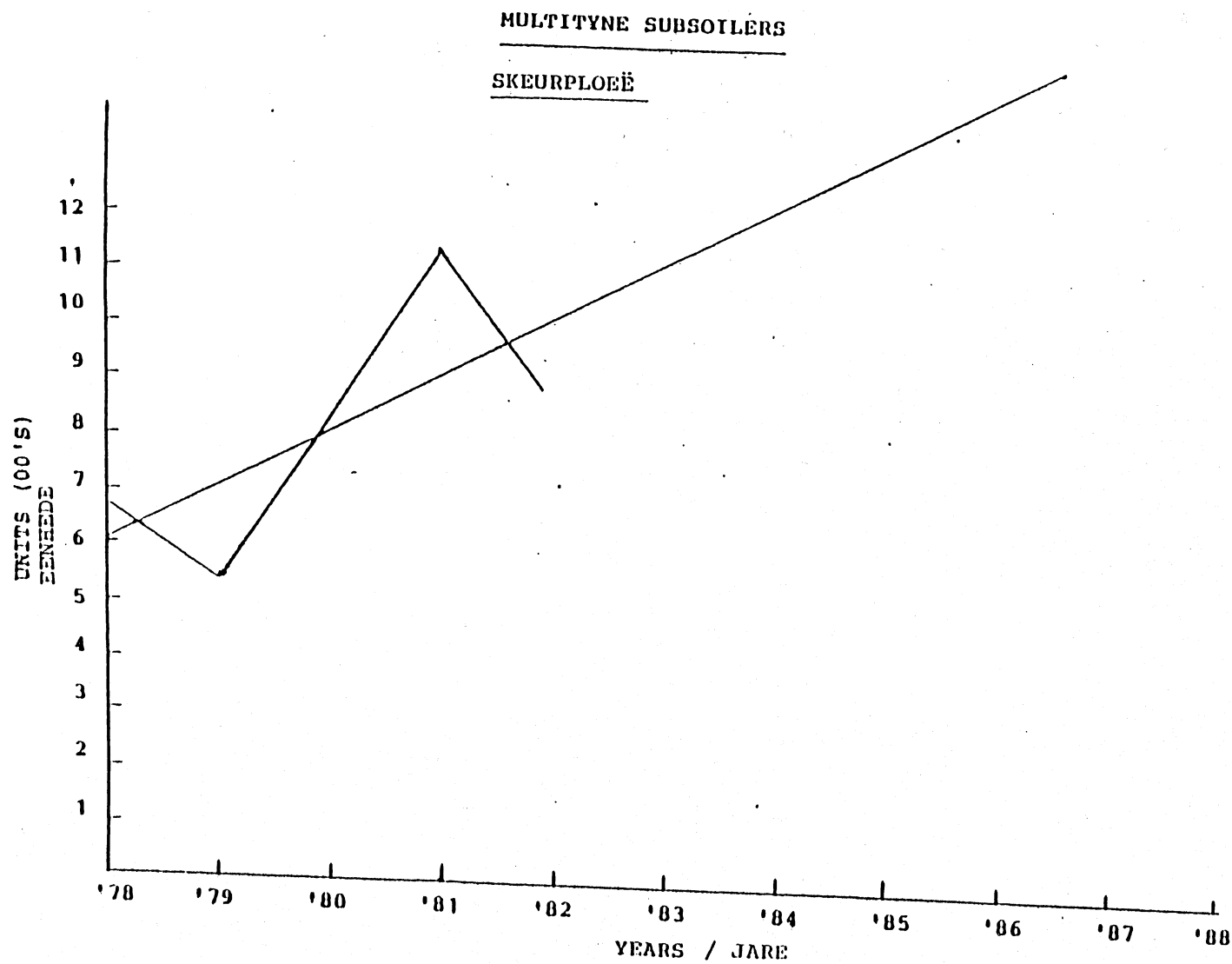
1973	37,1
1974	59,4
1975	91,9
1976	98,4
1977	94,5
1978	93,4
1979	91,8
1980	148,2
1981	251,7
1982	215,0



FF

Attachment  
aanhegssel

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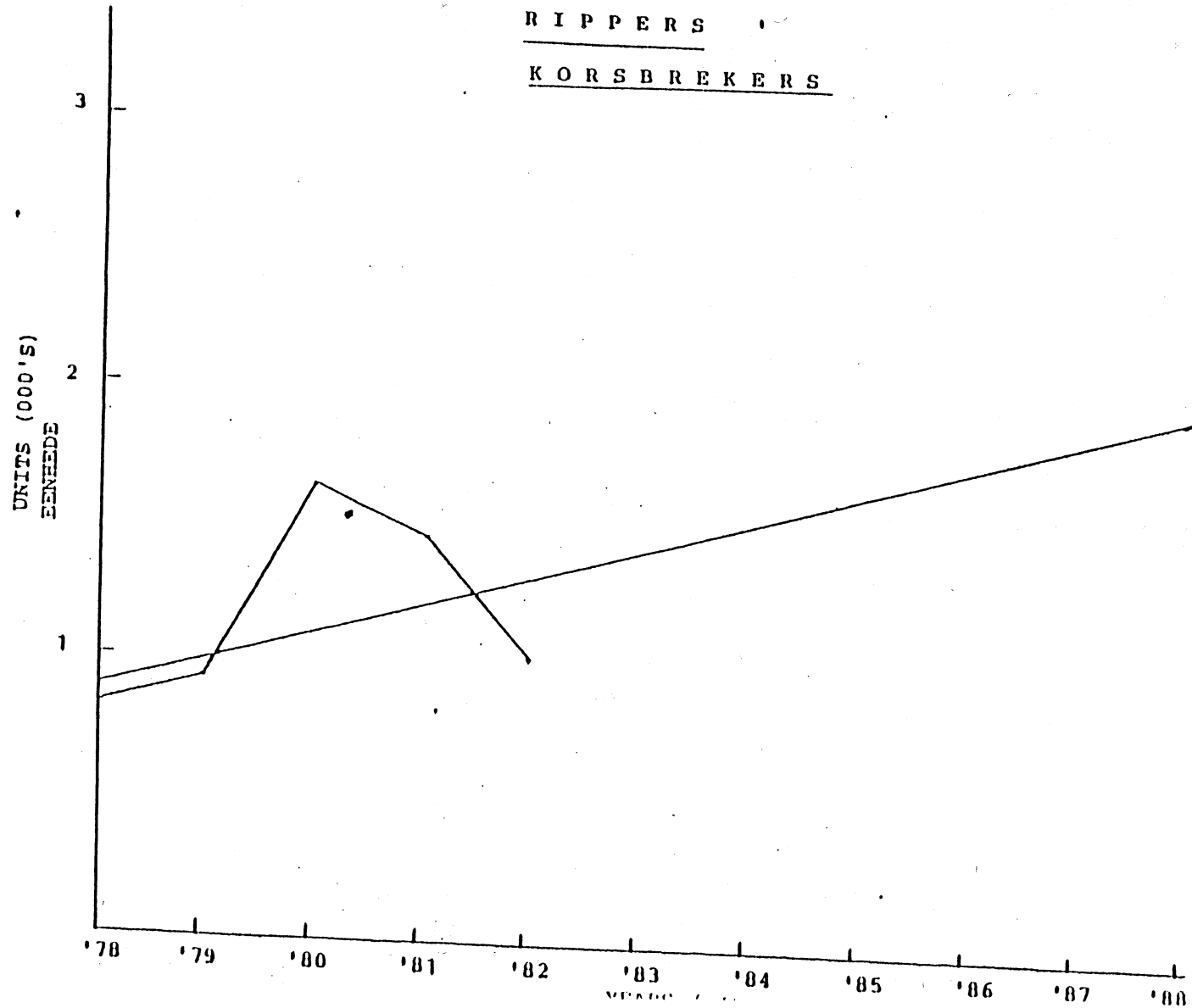


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Attachment  
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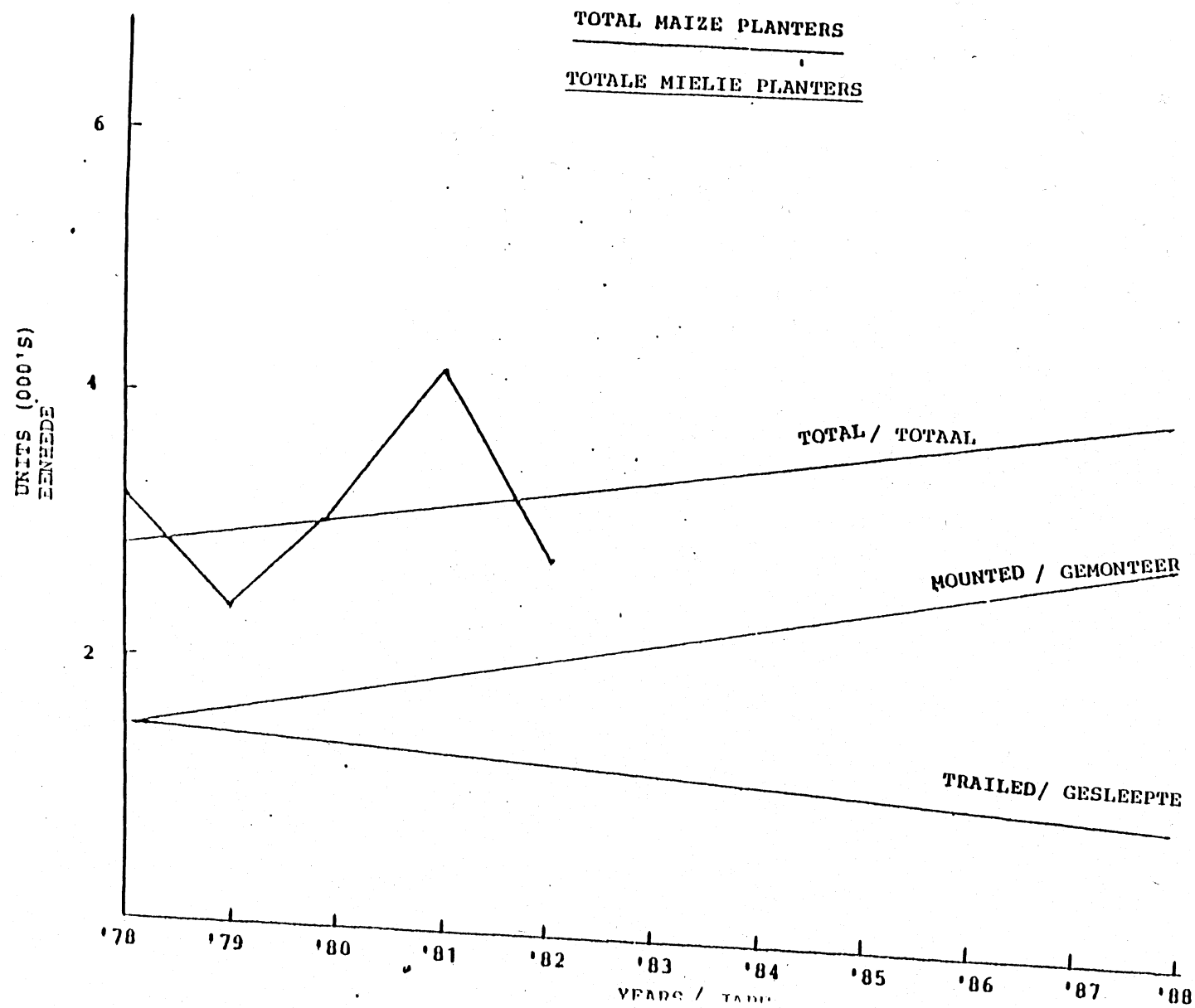
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FF

Attachment  
Aanhegsel  
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FF

Attachment  
aanhegseel

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Attachment  
Aanhegsel

19

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FARM MACHINERYLANDBOU MASJINERIEGENERAL STATISTICSALGEMENE STATISTIEK- YEAR ENDED DEC.R/MILLJAAR EINDIGENDE DES.

	<u>80</u>	<u>81</u>	<u>82</u>	<u>83</u> Est.	<u>84</u> Est.
<u>TOTAL RETAIL SALES</u>	467	745	504	353	409
<u>TOTALE KLEINHANDEL-</u> <u>VERKOPE</u>					
<u>INDEX</u>	100	160	108	75	87
<u>INDEKS</u>					

FF

Attachment  
Aarhegsel20  
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FARM MACHINERY  
TOTAL RETAIL SALES  
LANDBOUMASJINERIE  
TOTALE KLEINHANDELVERKOPE

