

Supply of veterinary medicinal products to an emerging farming community in the North West Province of South Africa

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ABSTRACT

A study was conducted in the Madikwe District of the North West Province to investigate the supply of veterinary medicinal products to small-scale, subsistence and emerging farmers. A combination of individual interviews, focus groups and direct observation was used to collect data. Stock remedies were made available to farmers within the district at Field Service Units that were managed by administrative staff of the Directorate of Field Services. The state veterinarian and animal health technicians were not directly involved with the sale of products. Most farmers still travelled to farmers' cooperatives in the larger centres outside the district to purchase the veterinary medicinal products they needed. Factors such as the quality of service provided, affordability and availability of required products as well as inaccessibility of outlets to all farmers contributed to the poor support of these outlets by the farmers of the district.

Key words: drug regulation, drug supply, emerging livestock farmers, focus groups, South Africa, subsistence, veterinary medicinal products.

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INTRODUCTION

The use, manufacture and supply of veterinary medicinal products are regulated and controlled to protect the public^{3,16,17,18}. However, these regulations and control measures also limit access to certain products, which are only available through suitably qualified professionals who are able to advise on their correct use.

In South Africa, veterinary medicinal products are currently registered in terms of 2 Acts, namely¹⁶:

- The Medicines and Related Substances Control Act, 1965 (Act 101 of 1965), administered by the National Department of Health (namely veterinary medicines), and
- The Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act 36 of 1947), administered by the National Department of Agriculture (namely stock remedies).

Veterinary medicines, registered in

terms of Act 101/65, are grouped into various schedules (unscheduled – Schedule 9) based on their safety, use and habit-forming potential. Unscheduled medicines are over-the-counter products and are legally available directly to the public from any retail outlet. Pharmacists may supply any medicine up to Schedule 2 directly to clients for use in animals without a veterinary prescription. A veterinary prescription is required for all other scheduled substances¹⁸.

Stock remedies, registered in terms of Act 36/47, are over-the-counter products that are legally available to farmers from any retail outlet without the prescription of a veterinarian. In South Africa, these products are generally available through farmers' cooperatives, which are retail outlets situated in towns throughout South Africa and that specialise in the sale of products commonly required by commercial farmers such as fertilisers, stock feeds and agricultural remedies. Stock remedies are meant to provide readily available products for the treatment of economically important livestock diseases that can be diagnosed easily by a farmer. Farmers are assumed to have a fair knowledge of such animal diseases. The indications and directions for the use of stock remedies must be clearly stipulated on

the label of these products, which are submitted for approval to the relevant regulatory authority. The user of a stock remedy (other than a veterinarian) may not deviate from the indications and directions on the label. A stock remedy may only be sold in its original packaging, except when sold by a pharmacist on prescription of a veterinarian or by a veterinarian^{16,17,18}.

Veterinary services in South Africa are divided into private and public sectors, of which the private sector is comparatively large and well developed. Approximately two-thirds of the members of the South African Veterinary Association work in private practice (South African Veterinary Association, pers. comm., 2002). The private sector serves the needs of individuals whereas the public sector serves the needs of all communities on a national basis. Most commercial farmers in South Africa make use of private veterinary services. In the private sector, veterinary medicinal products are supplied via the manufacturer and distributor to pharmacists as well as directly to veterinarians and members of other health professions. The product then reaches the public mainly through the veterinarian but also occasionally through the pharmacist. Depending on the scheduling status of the product, a veterinary prescription may be required before a drug can be supplied to the public. Drugs that are exempted from scheduling, such as stock remedies, are available directly to the public via farmers' cooperatives and other retail outlets (G E Swan, University of Pretoria, pers. comm., 1998).

Agriculture in South Africa can be broadly divided into 2 components, the surplus-producing, commercially orientated and capital-intensive farming communities and the small-scale, subsistence-oriented farming communities that are situated in the former homelands or national states¹⁹. For many years, agricultural and veterinary research in South Africa focused on the needs of the commercial farmers⁷. Since the national elections in 1994, the new government has realised the need for development aid for small-scale farmers to stimulate the

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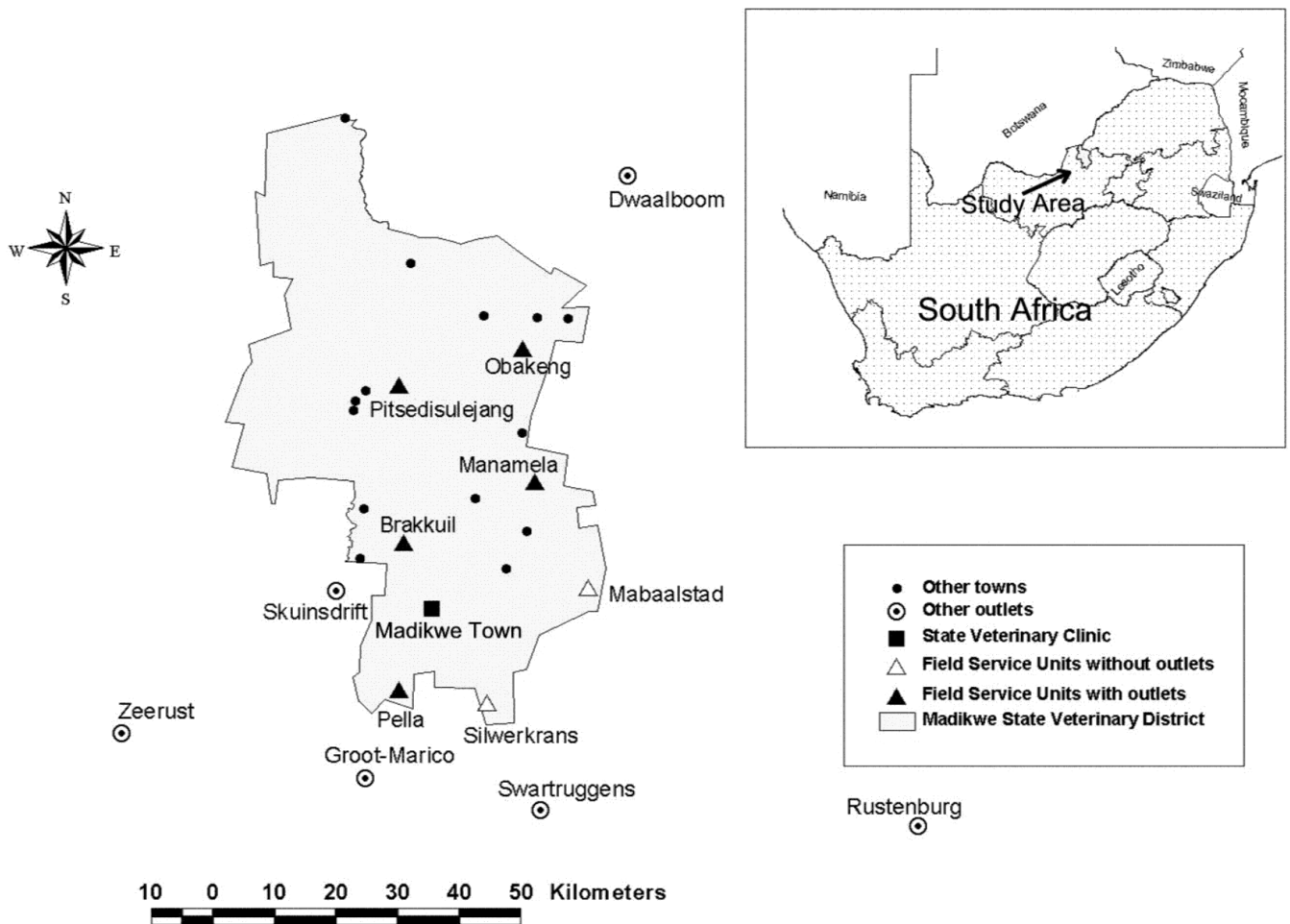


Fig. 1: Outlets for veterinary medicinal products in the Madikwe District.

development of an emerging class of commercial farmers¹¹. A number of studies have been done to characterise these resource-poor, small-scale farmers and to describe their veterinary needs^{7-10,12-15}.

These studies showed that:

- A large number of these farmers are in the former homelands (*e.g.* Bophuthatswana),
- most of these farmers make use of communal grazing for their livestock,
- these farmers may be situated in rural, semi-rural as well as peri-urban areas,
- unemployment rates are high in these areas,
- there is a moderate to high level of illiteracy in these areas,
- the most commonly kept production animals are cattle, goats and chickens,
- many of the inhabitants of these areas also keep dogs and donkeys, and
- the average farmer owns few animals (approximately 10 in most studies).

In the past, veterinary medicinal products were made available to small-scale farmers through State Veterinary Services from government stores (public sector). Recent financial constraints have made it more difficult for State Veterinary Services to fulfil the role of supplier of veterinary medicinal products and sub-

sistence and emerging farmers must now purchase these products through the private sector¹⁵. However, a presumably large number of subsistence and emerging farmers may not have adequate transport to travel to farmers' cooperatives, which are often far away. Furthermore, these farmers find veterinary medicinal products expensive, particularly since dispensing volumes are often too large for the needs of small-scale farmers¹³. Other constraints to the safe and effective use of veterinary medicinal products by subsistence and emerging farmers include lack of knowledge on animal diseases, as well as lack of facilities to apply products correctly^{7,13}.

There are a number of constraints to increased livestock production by emerging farmers in South Africa. These include a large number of infectious diseases as well as internal and external parasites⁴⁻⁶. It is therefore important that emerging farmers should have access to veterinary medicinal products to treat and control disease and parasites affecting livestock, thereby improving the health, well-being and production of these animals.

A study was undertaken to describe and evaluate the adequacy of the current routes and methods of supply of veteri-

nary medicinal products to subsistence and emerging farmers in the Madikwe District of the North West Province in South Africa.

MATERIALS AND METHODS

Study area

The Madikwe District is located in the former national state known as Bophuthatswana (Fig. 1). The district is sparsely populated, has a semi-arid climate and is suited to extensive livestock production. The majority of animals kept by livestock farmers in the district are cattle. Many of the factors listed as characterising resource-poor, small-scale farming are exemplified in the Madikwe District, namely poor infrastructure, high level of illiteracy amongst inhabitants and low average household income. At the time of the study, there were approximately 2000 communal and 60 commercial farmers, who owned their own farms, in the Madikwe District.

Before Bophuthatswana became part of South Africa, the parastatal organisation, Agricor, employed a veterinarian, animal health technicians, extension officers and administration clerks. Agricor built and managed Field Service Units (FSUs)

Table 1: Questionnaire outline used during non-scheduled, structured interviews to determine the adequacy of outlets for veterinary medicinal products and the knowledge of farmers in handling these products.

Category of information	Type of information
Adequacy of outlets	<ol style="list-style-type: none"> 1. Description and type 2. Location 3. Accessibility 4. Reliability 5. Quality assurance 6. Information supplied 7. Knowledge of staff/supplier
Knowledge of handling veterinary medicinal products by farmer	<ol style="list-style-type: none"> 1. Transport 2. Storage
Knowledge of use of veterinary medicinal products by farmer	<ol style="list-style-type: none"> 1. Ability to administer products 2. Perceptions of common diseases in area and ability to recognise these 3. Types of products purchased 4. Access to veterinary and paraveterinary services 5. Training opportunities available regarding animal husbandry and health 6. Alternative sources of information regarding animal husbandry and health

throughout Bophuthatswana. Drug distribution points were set up at certain FSUs to sell stock remedies. When Bophuthatswana became part of South Africa, veterinary services and agricultural extension services were taken over by the Directorate of Veterinary Services and the Directorate of Field Services of the Department of Agriculture, respectively. Veterinarians and animal health technicians became employees of the Directorate of Veterinary Services and extension officers and administration clerks became employees of the Directorate of Field Services. Agriserve, a parastatal organisation affiliated to the Directorate of Field Services, succeeded Agricor. Drug distribution points were privatised where individuals in the communities were interested in taking over the business. In the Madikwe District there were no applicants interested in the business and Agriserve continued to maintain drug distribution points at 5 of the FSUs (Fig. 1) (W Giesecke, Directorate of Veterinary Services, North West Province, pers. comm., 1998).

Data collection

A combination of individual interviews, focus groups and direct observation was used to collect data². Random sampling could not be applied to the farmers due to poor demographic data and infrastructure. Convenience sampling (*i.e.*, respondents were selected from the population based on easy availability and accessibility) was therefore used.

The focus group method was used to interview livestock farmers attending community meetings arranged by the animal health technicians and extension officers. Interviews were based on a questionnaire outline (Table 1), but farmers were given the opportunity to describe the situation freely and express their own views².

All outlets for veterinary medicinal products within the Madikwe District, as well as in the larger surrounding towns were visited. Each outlet was evaluated according to set criteria that were formulated to determine whether only registered stock remedies in their original packaging were sold and whether outlets had adequate facilities to store these products in a manner that maintained their quality and efficacy.

RESULTS

Interviews

A total of 180 livestock farmers were interviewed on 15 occasions, of which 11 occasions were community meetings and 4 were individual interviews. The community meetings were held in villages throughout the Madikwe District.

Current routes and methods of supply to farmers in the Madikwe District

There is 1 state veterinary clinic in Madikwe Town as well as 7 Field Service Units (FSUs) in villages scattered throughout the Madikwe District (Fig. 1). Each FSU consists of an office for the administration clerk and handling facilities for

livestock.

Products sold at these FSU outlets were obtained from the farmers' cooperatives in the larger towns surrounding the Madikwe District, where they were purchased for the full retail price. They were transported to the FSU outlets in an open light delivery vehicle. The products were sold to the farmers at the full retail price plus 10% to recover the transport costs. At each of the FSUs, an administration clerk managed and sold the products. Stocks were replenished by placing orders to the bookkeeper at the Head Office of the Directorate of Field Services in Madikwe Town. The range of products ordered was determined according to demand by farmers in each particular area.

Farmers also had the option of buying veterinary medicinal products from the farmers' cooperatives and pharmacies in the larger towns surrounding the Madikwe District (Fig. 1).

Outlets for veterinary medicinal products used by farmers

The number of interview occasions at which each type of outlet was mentioned is illustrated in Fig. 2. On 2 occasions,

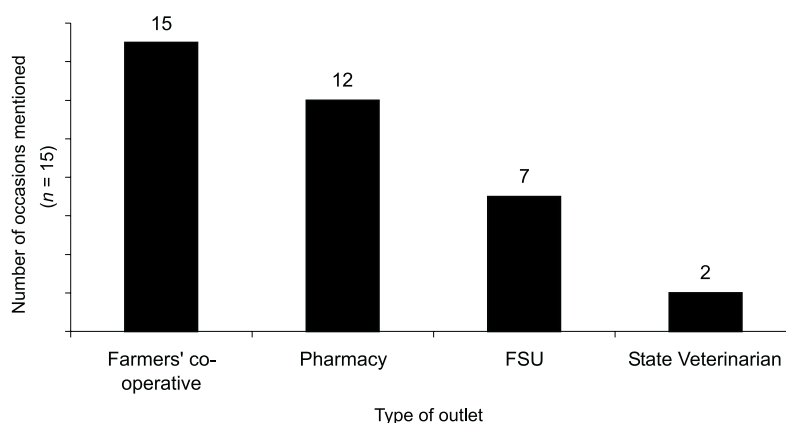


Fig. 2: Number of occasions ($n = 15$) on which farmers mentioned purchasing veterinary medicinal products at each type of outlet.

Table 2: Comments about the different outlets given by farmers at interview occasions (n = 15).

Comments ^a	Number of interview occasions					
	FSUs		Farmers' cooperatives		Pharmacies	
	+ve ^b	-ve	+ve	-ve	+ve	-ve
Staff were able to give advice	1	–	2	–	–	–
Required products were always available	–	15	12	–	–	1
Expired products were never sold	–	3	–	2	–	–
Staff were present to help	–	2	–	–	–	–
Prices were reasonable	–	2	1	–	–	5
Was located in Central Business District of towns and easily accessible	–	–	–	–	1	–
Products were sold in their original packaging and clearly labelled	–	–	–	–	–	3

^aPositive and desirable comments are listed.

^bAt the interviews indicated in the +ve column, farmers mentioned these positive comments; at the interviews indicated in the –ve column, farmers indicated that the opposite was the case. All comments listed were addressed on every interview occasion.

farmers mentioned purchasing products directly from the State Veterinarian.

Farmers indicated on 13 of the 15 interview occasions that they were aware that stock remedies were available at selected FSUs. However, only on 7 of these 15 occasions did they indicate that they purchased products at these outlets.

Accessibility of outlets to farmers

Although FSU outlets were scattered throughout the Madikwe District, there were 6 villages that did not have an outlet available within walking distance for the farmers. For these villages, the nearest FSU outlet was between 10 and 30 km away. Farmers from these villages needed either their own vehicle or were dependent on public transport to travel to an outlet to buy veterinary medicinal products.

The average distance travelled by farmers to pharmacies and farmers' cooperatives in larger towns was 70 km (range: 10–135 km). Only 5 of the 180 farmers that were interviewed had their own transport. All the other persons interviewed were therefore dependent on public transport, which was either by bus or taxi.

The average return fare for public transport to the larger towns was R28.50 (range: R10–R50). Although transport services were available, farmers felt that public transport was inconvenient. Transport to the larger centres, even if these were further away, appeared to be more reliable and convenient. Many taxis asked the same fare, whether the passenger travelled the full distance or not.

Quality of service provided by outlets

Comments of farmers about the different types of outlets are summarised in Table 2.

The most frequently mentioned criticism of the FSU outlets was that the required products were not always available. Vaccines were specifically mentioned on 3 occasions. Farmers also said that staff at the FSU were not always available to assist them, which meant that they then had to return at a later stage to purchase the products they needed when someone was available.

Reasons offered by farmers for using pharmacies were that these outlets sold certain (scheduled) products that were

not available at farmers' cooperatives and pharmacies were sometimes more conveniently situated in the central business district. Some farmers felt that products were more expensive at pharmacies than at farmers' cooperatives.

The facilities available and measures applied at FSU outlets and farmers' cooperatives to ensure correct storage and safe and effective use of veterinary medicinal products are compared in Table 3.

The major deficiency of the FSU outlets was the lack of facilities to store thermolabile products correctly. Furthermore, the products were kept locked in a single steel cupboard, which made it difficult to categorise them and to separate poisonous substances from other products.

None of the administration clerks, who were responsible for the sale of the veterinary medicinal products, had received any formal training on how to handle and store veterinary drugs properly or on livestock health.

DISCUSSION

The mechanisms by which veterinary medicinal products are supplied should

Table 3: Evaluation of outlets.

Inspection criteria	% Compliance	
	FSUs (n = 5)	Farmers' cooperatives (n = 3)
All remedies sold in their original packaging	100	100
Unregistered remedies never sold	100	100
Scheduled remedies never sold	100	100
Remedies stored securely away from the general public	100	100
Remedies effectively protected from sunlight	100	100
Remedies adequately labelled with relevant indications, instructions and warnings	80	100
Expired stock never displayed for sale	80	100
Remedies in clean condition and labels clearly visible	60	66
Remedies categorised	20	66
Remedies displayed according to therapeutic groups	20	66
Refrigerator available to store thermolabile products	0	100
Poisonous substances separated from other products	0	33
Display clearly visible and attractive	20	66
Ambient temperature controlled	0	100
Adequate shelving	0	100

make necessary products available to those that need them, while ensuring their quality and promoting their safe and effective use. The Office Internationale des Épizooties (OIE) has therefore suggested that channels of distribution be authorised and that professional veterinary supervision be maintained by requiring a prescription for the sale of certain products¹.

In South Africa, certain products have been exempted from scheduling and are registered as stock remedies that can be sold to farmers from any retail outlet. The aim of this is to make those products needed for the treatment of economically important livestock diseases more readily available to farmers.

In the Madikwe District, an attempt was made to improve the availability of veterinary medicinal products to livestock farmers by selling stock remedies at FSU outlets in villages throughout the district. Administrative personnel managed these outlets without veterinary assistance. Since no prescriptions are required for the sale of stock remedies and such retail outlets need not be authorised in South Africa, there was no mechanism whereby veterinary supervision could be maintained.

Despite attempts to make veterinary medicinal products more readily available to farmers at outlets within the Madikwe District, most farmers continued to travel to larger towns outside the district to purchase the products they needed at farmers' cooperatives and pharmacies. A number of possible reasons for this were identified during this study.

Travel within the Madikwe District using public transport was difficult, making it easier for farmers that did not live within walking distance of an FSU outlet to travel to larger towns outside the district. Travel to destinations outside the district was also not more expensive than travel within the district. If a trip could be co-ordinated with other chores, overall costs for travelling to larger towns may even have been less for the farmer, taking into consideration that prices for products at the FSUs were 10 % higher than at farmers' cooperatives.

Another factor that may have discouraged farmers from making an effort to travel to FSU outlets, could be that important products such as vaccines were not available due to lack of facilities to store

these adequately. Even if the products were available, farmers were not assured of being able to purchase them, since administrative staff were not always available to attend to farmers. The sale of veterinary medicinal products was not their primary duty and they occasionally had to leave the office to attend to other matters.

CONCLUSIONS

The supply of veterinary medicinal products to the farmers of the Madikwe District through FSUs was inadequate and most farmers continued to travel to larger centres to purchase the products they needed. Factors such as the quality of service provided, affordability and availability of required products as well as accessibility of outlets to all farmers should be considered when planning a successful distribution mechanism.

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REFERENCES

1. Anon. 1995 Recommendation No. 1 (Distribution of veterinary medicines). *Veterinary Drug Registration Newsletter of the OIE* 9(1): 91
2. Bless C, Higson-Smith C 1995 *Fundamentals of social research methods: an African perspective* (2nd edn). Juta, Cape Town.
3. Blum R, Herxheimer A, Stenzl C, Woodcock J 1981 *Pharmaceuticals and Health Policy. International perspectives on provision and control of medicines*. Croom Helm, London
4. Coetzer J A W, Thomson G R, Tustin R C 1994 *Infectious diseases of livestock with special reference to southern Africa* (1st edn). Oxford University Press, Oxford
5. Coetzer J A W 1996 An overview of the importance of infectious and parasitic diseases in livestock and wildlife in southern Africa. *Proceedings of the Second All Africa Conference on Animal Agriculture, Pretoria, South Africa*, 1-4 June 1996: 15-160
6. De Jager 1996 The constraints of climate, water and soil on animal production. *Proceedings of the Second All Africa Conference on Animal Agriculture, Pretoria, South Africa*, 1-4

- June 1996: 25-42
7. Dreyer K, Fourie L J, Kok D J 1999 Assessment of cattle owners' perceptions and expectations, and identification of constraints on production in a peri-urban, resource-poor environment. *Onderstepoort Journal of Veterinary Research* 66: 95-102
8. Krecek R C, Cornelius S T, McCrindle C M E 1995 Socio-economic aspects of animal diseases in southern Africa: research priorities in veterinary science. *Journal of the South African Veterinary Association* 66(3): 155-120
9. Leonard D K, Koma L M P K, Ly C, Woods P S A 1999 The institutional economics of privatizing veterinary services in Africa. *Revue scientifique et technique des Office International des Épizooties* 18(2): 544-561
10. Letsoa S S, Krecek R C, Botha C A J, Ngetu X 2000 Animal husbandry in Moretele I of the North-West Province: implications for veterinary training and research. *Journal of the South African Veterinary Association* 7(2): 5-8
11. Mather C 1996 Towards sustainable agriculture in post-apartheid South Africa. *Geo-Journal* 39(1): 41-49
12. McCrindle C M E, Tice G, Mogajane M E, Stewart C G, Mosupi H 1994 An investigation into the potential veterinary needs of a semi-rural low-income community. *Journal of the South African Veterinary Association* 63(3): 90-96
13. McCrindle C M E 1996 Veterinary Needs Appraisal: Mashishing. (Technical Report) Prepared for: Medunsa, SPCA, State Veterinary Services, Civic Association, EJNF, Mpumalanga Parks Board, Private veterinarians - Lydenburg
14. McCrindle C M E 1998 Veterinary Needs Appraisal Report: Zuurbekom, West Rand and Veerening areas Gauteng (Technical Report). CSOU Veterinary Faculty, Medical University of South Africa, Medunsa
15. Stewart C G (ed.) 1997 Resources and needs of animal owners at Jericho. (Technical Report). CSOU Veterinary Faculty, Medical University of South Africa, Medunsa
16. Swan G E, Sykes R D, Schlebusch J 1994 Veterinary drug registration in South Africa: current and future perspectives. *Proceedings of the 6th International Congress of the European Association for Veterinary Pharmacology and Toxicology, Edinburgh, UK*, 7-11 August 1994: 69-70
17. Swan G E 1997 General registration requirements and procedures in South Africa. *Proceedings of the Southern And Eastern African Veterinary Drug Regulatory Affairs Conference, Pretoria, South Africa*, 20 November 1997: 18-20
18. Swan G E, Sykes R D, Schlebusch J 1997 Veterinary drug registration and control in South Africa: current and future perspectives. *Proceedings of the Southern And Eastern African Veterinary Drug Regulatory Affairs Conference, Pretoria, South Africa*, 20 November 1997: 35-37
19. Van Zyl J, van Rooyen J 1991 Agricultural production in South Africa. In: De Klerk M J (ed.) *A harvest of discontent - the South African land question*. IDASA, Cape Town: 9-212