

Potential of interrelating information on the health and management of Camelids

D. Dessalegne¹ S.I. Boardman¹ F.J. Dein²
D.C. Bourne¹

Key words

Camelidae - Animal health - Animal husbandry method - Information system - Database.

Summary

References on camel are scarce, widely scattered and difficult to access. An interactive information system may be useful if minimum qualities are available. This system must be simple and friendly. WildPro™ multimedia is an information network on wildlife, which answers this type of demand. A module on health and management of Camelids has been launched.

■ INTRODUCTION

In contrast to other livestock species there has been a serious limitation in research (13) and hence available publications or scientific information on diseases and husbandry of Camelids. The information available was also widely scattered and difficult to access. However, in the past three decades there has been a shift from this trend. There is an increased awareness of the importance of the camel and its diverse habitats. Development of the camel racing industry in the Middle East has initiated more interest in both basic and applied research on camel diseases and husbandry worldwide (11). There is an apparent increase in research output and information is communicated by traditional media: books, journals, newsletters as well as electronic formats. Although this development is encouraging, the problem of disseminating interactive and interrelated information to those professionals who need it most at distant parts of the world remains yet to be addressed.

The objective of this paper was to highlight the problems that exist in accessing relevant information and the potential of using an interactive data management system to bridge the gap. This would also assert the current demand for even closer collaboration between specialist institutions and individuals in the field to tackle an ever-pressing need for accessibility to relevant and interrelated information.

■ SOURCES OF INFORMATION

Information can be stored in many ways and could be procured from various sources. One of the traditional sources of information is the memory (8). Memory can be obtained from empirical knowledge that is accumulated over generations and/or can be acquired from scientific studies. The information can be communicated orally as in traditional folklore, and scientific information is mainly communicated in written media such as books, journals and periodicals, and recently in electronic formats (5). Written documents (hard copy) however remain as the main sources and means of storing information. The linear organization of the information, the extensive lag time and the high cost related to publishing as well as the limitation in indexing are the salient problems of written media. Moreover, the physical form and limitation of space in written media restrict its ability to present huge volumes of data in an interrelated format and portable size (1, 2, 8).

1. Wildlife Information Network, Royal Veterinary College, Royal College Street, London NW1 0TU, UK

E-mail: win@wildlifeinformation.org

2. National Wildlife Research Center, USGS, WI, USA

E-mail: joshua_dein@usgs.gov

The advents of computers and recent advances in information technology have made it possible to store and retrieve huge volumes of information in a very short period. In spite of their value, databases tend to be inflexible as they require specific keyword-search mechanisms for specific information (5). The user has to spend more time filtering through unsolicited information to retrieve the relevant material (12). Although the World Wide Web (www) and electronic mail (e-mail) are gaining enormous popularity, inadequate or general lack of reference section and refereed information render its validity questionable and restrict its scientific acceptability.

■ INFORMATION REQUIRED

An interactive information system must address the needs of the end-user by presenting information in a concise and clear format (7). It has to be practical, applicable to different situations and specific cases conveying interrelated and integrated information in an easily obtainable mechanism (8). These are but some of the essential minimum qualities an information management system should have. The development of such a comprehensive system demands the input of multidisciplinary expertise. A multidisciplinary approach will assure a broader viewpoint in presenting information that will meet the users' needs.

■ ATTRIBUTES OF INTERACTIVE INFORMATION SYSTEMS

An interactive information system is developed in a simple and user-friendly interface in order to be practical to people at different skill levels (3, 4). The use of multiple entry points and pathways will allow a speedy navigation within the system and minimize the time required to search different areas of interest. A simplified data entry process will guarantee the possibility of multi-authoring, editing and/or updating the system, while at the same time making use of existing databases will ease its expandability (4, 12). The system can also incorporate visual aid facilities for efficient communication. The user can easily search for information on a single species and/or multiple species that will be affected by a given agent or vice versa. It can hyperlink to related web sites and enables the user to navigate from one source to various other sites without logging out (5, 10). The development of WildPro™ as an interactive data management system has considered these parameters.

■ WILDPRO™ MULTIMEDIA

Wildlife Information Network was conceived as a result of the recognition of an acute dearth of relevant information wildlife veterinary officers and managers in most Southeast Asian countries faced. The lack of hands-on care information was a serious hindrance to efficiently execute their day-to-day activities (9). To abate the problem it was envisaged to send relevant information packages to information centers and to help them establish mini information banks. However, this approach proved to be both logistically and costwise inefficient and unsustainable. At that juncture, the potential of an electronic information system as an alternative (1) solution to bridge the information gap was considered. Subsequently, a survey was carried out to identify the pertinent areas of need and to appraise the professionals' access to computers as well as the frequently used software packages.

The development of the WildPro™ Multimedia V.5 'Concept Evaluation' was funded by the Overseas Development Administration (ODA~now DFID), UK. The 'Concept Evaluation' was distributed to over 500 professionals in 65 countries (2, 4). Among the 360 evaluators from 33 countries who responded within the planned period, 96% thought that WildPro™ would be a useful tool to professionals, and 82% replied that they would use it as a reference regularly.

Subsequently, the following WildPro™ modular projects were launched: Wildlife Welfare Advisory Support Programme (WWASP), London Waterfowl Health and Management (LWP), Elephant Health and Management Module, Health and Management of Camelids and London Wildlife Projects. All the projects culminate with WildPro™ modules. The modules will be accessible on a web site or a CD-ROM. The Wildlife Information Network (WIN) web site (www.wildlifeinformation.org) was launched recently and the prototype LWP module can be viewed. Following the prototype trial period, professionals can access the site after subscribing annually at a nominal fee to cover costs and sustain the system.

The Health and Management of Camelids is the result of WIN's collaboration with the Ministry of Agriculture, Ethiopia. The collaboration was an effort to identify and control a mysterious camel disease that had swept through the Horn of Africa Region during 1996-97. This was followed up by a preliminary survey of camel production in pastoral regions of Ethiopia that highlighted, among other factors, the critical lack of relevant and current information on the camel (6). The problem was emphasized in academic and research institutions as well as rural development agencies. It then became apparent that the problem would be best tackled through adoption of an information management system, to provide vital veterinary and husbandry practice information and to hyperlink with collaborating expert research and laboratory centers worldwide (6). Hence, the WildPro™ Health and Management of Camelids was launched.

The project's call for collaboration has received an overwhelming response from distinguished Camelid specialist institutions and individuals worldwide. The system relies on data that is in the public domain. The multidisciplinary project steering group will appraise the meta-data forms, identify professionals as referees, and oversee that reference and other data presentation standards are observed.

■ CONCLUSION

WildPro™ will be a success if it provides the end-user with vital information when and where it is most needed to help in the care of animals in particular and society in general. Finally, the following quotation from Robert Day "...scientific communication is a two-way process. ...(it) is useless unless it is both received and understood by its intended audience" sums up the aspiration of the Wildlife Information Network.

Acknowledgments

We would like to express our sincere gratitude to Mr. G. Stuoldulsky and Ms. A. Poole of the Royal Veterinary College, to FARMAfrica, UK, and Arunvale Alpaca Farm. D. Dessalegne also wishes to thank Mr. I.M.W. Boardman for making the attendance to this workshop a reality.

REFERENCES

1. BENNETT P.M., GASCOYEN S.C., HART M.G., KIRKWOOD J.K., HOWKEY C.M., 1991. Development of LYNX: a computer application for disease diagnosis and health monitoring in wild mammals, birds and reptiles. *Vet. Rec.*, **128**: 496-499.
2. BOARDMAN S.I., 1997. WildPro™ Multimedia: a database management system for the health, welfare and conservation of wild animals. In: Annual Conference of the Association of Veterinary Teachers and Research Workers, Scarborough, UK, April 1997.
3. BOARDMAN S.I., 1999. Introduction to Wildlife Information Network and the London Waterfowl Project. In: Proc. Waterfowl Information Network Conference, London, UK, 16-17 September 1999.
4. BOARDMAN S.I., DEIN F.J., 1998. WildPro™ Multimedia: an electronic manual on the health, management and natural history of captive and free ranging animals. In: Proc. Joint Conf. American Association of Zoo Veterinarians and American Association of Wildlife Veterinary, Omaha, NE, USA, 17-22 October 1998, p. 107-108.
5. BOURNE D., BOARDMAN S.I., DEIN F.J., 1998. The London Waterfowl Project: information, communication and expert assistance. In: 3rd Int. Conf. European Wildlife Diseases Association, Edinburgh, UK, 16-20 September 1998.
6. BROWN N., DESSALEGNE D., HEPBURN R., 1997. A preliminary assessment of camel production in pastoral regions of Ethiopia. Report of collaboration between the Ministry of Agriculture, Ethiopia, and the Wildlife Information Network, Addis Ababa, Ethiopia.
7. DAY R.A., 1995. How to write and publish a scientific paper, 4th ed. Cambridge, UK, Cambridge University Press.
8. DEIN F.J., BOARDMAN S.I., 1999. Integrating and accessing multidisciplinary information. In: Int. Conf. Waterfowl Information Network, London UK, 16-17 September 1999.
9. JACKSON S.I., 1994 Wildlife veterinary education programme - Computer interfaces and the domestic animal model. In: 4th Conf. South-East Asian Zoological Parks Association, Hong Kong.
10. STOSKOPF M.K., 1998. Expert systems, boon or pitfall? In: Proc. Joint Conf. American Association of Zoo Veterinarians and American Association of Wildlife Veterinary, Omaha, NE, USA, 17-22 October 1998.
11. WERNEREY U., KAADEN O.R., 1997. Infectious diseases camelids, English translation by J.H. Buzanoski. Berlin, Germany, Blackwell Wissenschafts-Verlag.
12. WESEBERG K., DEIN F.J., 1998. Citation databases for zoo and wildlife veterinarians. In: Proc. Joint Conf. American Association of Zoo Veterinarians and American Association of Wildlife Veterinary, Omaha, NE, USA, 17-22 October 1998.
13. WILSON R.T., 1987. The Camel. London, UK, Longman.

Résumé

Dessalegne D., Boardman S.I., Dein F.J., Bourne D.C. Potentiel de la mise en relation d'informations sur la santé et l'élevage des camélidés

Les références sur les camélidés sont peu nombreuses, très dispersées et peu accessibles. Un système d'information interactif peut être utile sous réserve de quelques qualités minimales. Ce système doit être simple et convivial. WildPro™ Multimedia est un réseau d'informations sur la faune sauvage qui répond à ce type de demande. Un module sur la santé et l'élevage des camélidés est en cours de réalisation.

Mots-clés : Camelidae - Santé animale - Méthode d'élevage - Système d'information - Banque de données.

Resumen

Dessalegne D., Boardman S.I., Dein F.J., Bourne D.C. Potencial para interrelacionar información sobre la salud y el manejo de los camélidos

Las referencias sobre los camellos son escasas, dispersas y de difícil acceso. Un sistema de información interactivo sería útil si existiesen calidades mínimas. Este sistema debe ser simple y accesible. WildPro™ multimedia es una red de información sobre vida silvestre que responde a este tipo de demanda. Se lanza un módulo sobre la salud y el manejo de los camélidos.

Palabras clave: Camelidae - Sanidad animal - Metodo de crianza - Sistema de información - Base de datos.