

# Traditional Knowledge Related to the Utilization of Animal Origin Bioresources



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# National Target 10

**Ensure that the genetic diversity of natural flora and fauna, cultivated plants, agricultural and domestic animals is maintained; a Bank of Human, Animal, Plant and Microorganism Genetic Resources of the Republic of Belarus has been formed and is replenished; conditions to implement the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity have been created.**

It corresponds to **Aichi Targets 13 and 16**



## **Aichi Target 13**

By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.



## **Aichi Target 16**

By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.

# Activities of the National Plan of Actions to Implement the National Target 10 (2 activities)



51. Formation and replenishment of a Bank of Human, Animal, Plant and Microorganism Genetic Resources

52. Formation and maintenance of a computer database of certificates and descriptive data of the gene pool samples of economically useful plants and animals



## Case Study

### Traditional knowledge of the Hoodia plant

#### Convention on Biological Diversity: ABS

#### Theme: Traditional Knowledge

In the context of access and benefit-sharing, **traditional knowledge** refers to the knowledge, innovations and practices of indigenous and local communities (ILCs) related to genetic resources. This traditional knowledge is developed through the experiences of communities over centuries, adapted to local needs, cultures and environments and passed down from generation to generation.



The Hoodia plant is a succulent species indigenous to Southern Africa. It has been used for centuries by the indigenous San peoples to stave off hunger and thirst, when food is scarce and during long hunting trips. Traditional knowledge related to Hoodia has been passed down through generations of San peoples.

In 1996, the South African-based Council for Scientific and Industrial Research (CSIR) patented the active compounds of Hoodia, which were found to suppress appetite. The commercial potential of Hoodia as an appetite suppressant in the anti-obesity market led to licensing agreements between CSIR and some large pharmaceuticals companies to develop and commercialize a Hoodia-based product. However, these actions were initially taken without the consent of the San peoples.

As a result of media coverage of the potentially lucrative agreements made to develop the plant's properties and an outcry by a South African NGO, measures were taken to initiate negotiations between CSIR and the San peoples. This led to a benefit-sharing agreement, which included monetary and non-monetary benefits, and the setup of the San Hoodia Benefit-Sharing Trust. The agreement called for milestone payments during the product development period and royalty income in the case of successful commercialization of a product. Funds will be used for the development, education and training of the San community and to support projects and institutions working to improve research and protection of the San's traditional knowledge and heritage. Although it is expected that larger amounts of money will flow from the agreement at a later stage, some payments have since been awarded to the trust fund and are being used to strengthen the institutional base of the San across borders in Southern Africa.

**Traditional knowledge is a vital source of information for identifying uses of genetic resources that humanity as a whole can benefit from.**

# General Guidelines for Methodologies on Research and Evaluation of Traditional Medicine

## Contents

Acknowledgements.....	ii
Foreword .....	v
Introduction.....	
1 Definitions .....	1
General Considerations.....	1
Purpose of the Guidelines.....	2
Use of the Guidelines .....	2 1.
Methodologies for Research and Evaluation of Herbal Medicines .....	3 1.1
Definitions.....	3 1.2
Botanical Verification and Quality Considerations .....	4 1.3
Research and Evaluation of Safety and Efficacy.....	4 2.
Methodologies for Research and Evaluation of Traditional Procedure-Based Therapies.....	9
2.1 Types of Traditional Procedure-Based Therapies .....	9 2.2
Evaluation of Safety and Efficacy .....	9 3.
Clinical Research.....	11 3.1
General Considerations .....	11 3.2
Literature Review .....	11 3.3
Selection of Study Design .....	12 4.
Other Issues and Considerations .....	17 4.1
Pragmatic Research Issues.....	17 4.2
Ethics.....	17 4.3
Education and Training .....	18 4.4
Surveillance Systems.....	18

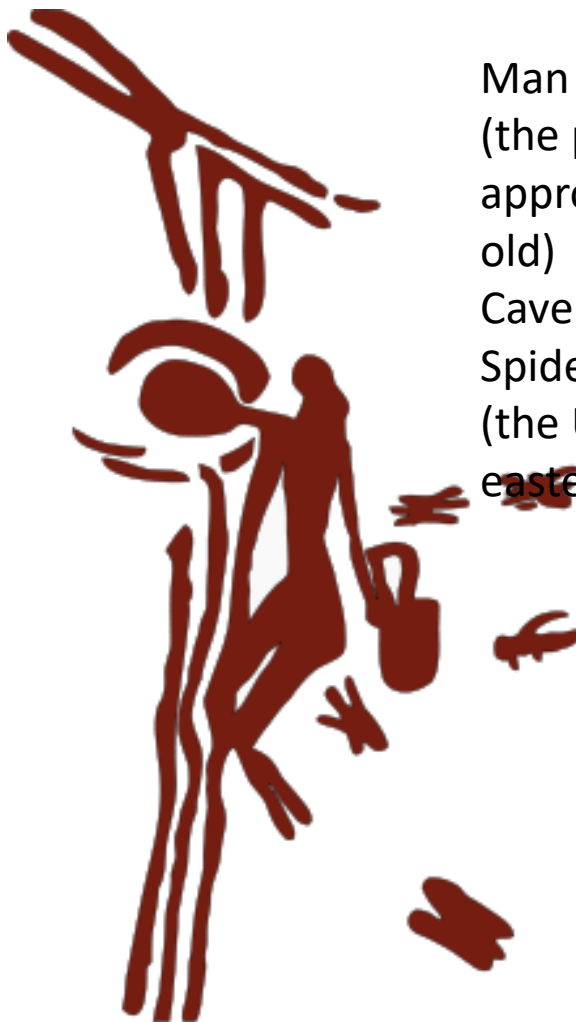
**Traditional medicine** has a long history. It is the sum total of the knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health, as well as in the prevention, diagnosis, improvement or treatment of physical and mental illnesses. The terms complementary/alternative/non-conventional medicine are used interchangeably with traditional medicine in some countries.

Traditional use can be based on traditional knowledge of the existence and use of a substance, but it is not necessarily attended by some kind of scientific evaluation or in-depth study. For many products and substances, there are few scientific studies performed with regard to the type of their effects and implications. Data, confirming traditional use, can be applied to support the affirmations that there are therapeutic properties. For regulatory purposes, the Complementary Medicines Evaluation Committee (CMEC) has introduced the following definition of “traditional use”.

*Documentary information on the use of a substance by three or more generations in certain health states or for medical purposes can serve as “traditional use” evidence.*

*(In cases where traditional use is mostly confirmed by an oral story rather than in writing, then supporting information should be obtained from related practitioners or indigenous groups who preserve such a story)*

Context plays an important role in the process of “traditional use” evaluation. As a rule, most types of traditional medicine use a mixture of substances and certain rules of conduct promoting health nutrition and health habits are applied to them. Therefore, it is necessary to consider the theories, concepts and cultural context of a certain type of treatment.



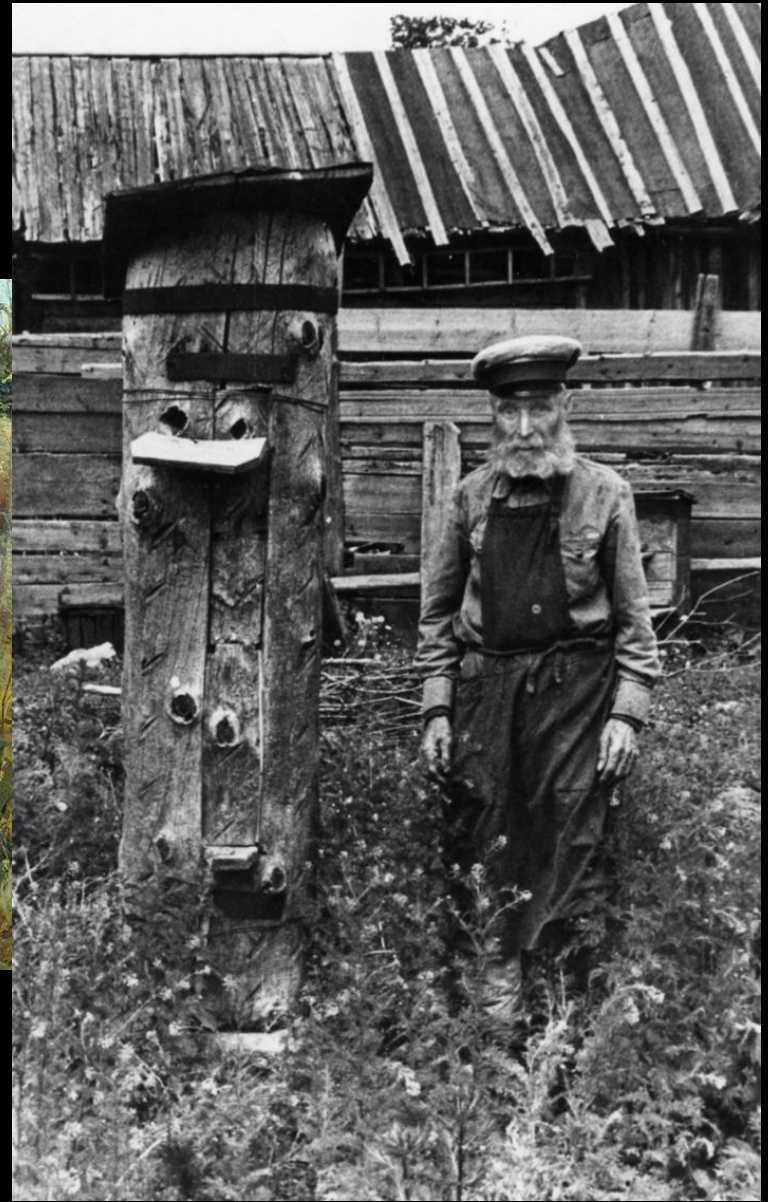
Man of Bicorp  
(the painting is  
approximately 8000-year-  
old)  
Cave painting in the  
Spider Cave  
(the Upper Paleolithic,  
eastern Spain)



Giant fossil bee (Iki Island, Japan) (age: approx.  
19 million years).



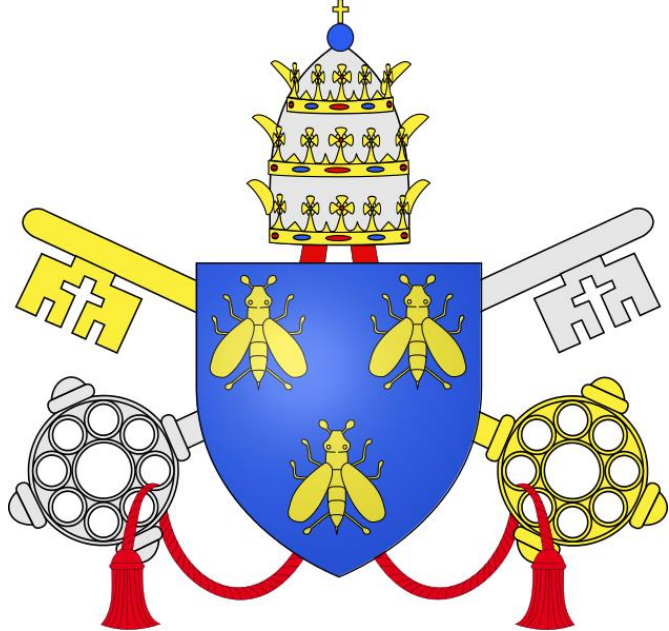
An example of an ancient Egyptian inscription  
depicting a bee











Pope Urban VIII



the city of Simferopol

Bee is found on more than 300 emblems and it conveys various meanings



Silver Roman coin with Barberini coat-of-arms



Commemorative coin "Bee" of Ukraine, reverse, 2010















# Добро пожаловать в Беловежскую пущу

Беловежская пуца представляет собой один из крупнейших лесных массивов равнинной Европы, сохранившийся до наших дней в относительно ненарушенном состоянии.



# Badger's fat



Bear's fat





**РУСКАПС®**  
ТЕХНОЛОГИИ КАЧЕСТВЕННОЙ ЖИЗНИ

# КАСТОРЕУМ

Castoreum  
с БОБРОВОЙ  
СТРУЕЙ



БИОЛОГИЧЕСКИ АКТИВНАЯ ДОБАВКА

**60** капсул массой **450 мг**

Рекомендации по применению: Взрослым по 1 капсуле 2 раза в день во время еды. Продолжительность приема 1 месяц. Перед применением рекомендуется проконсультироваться с врачом.

Капсулы содержат:

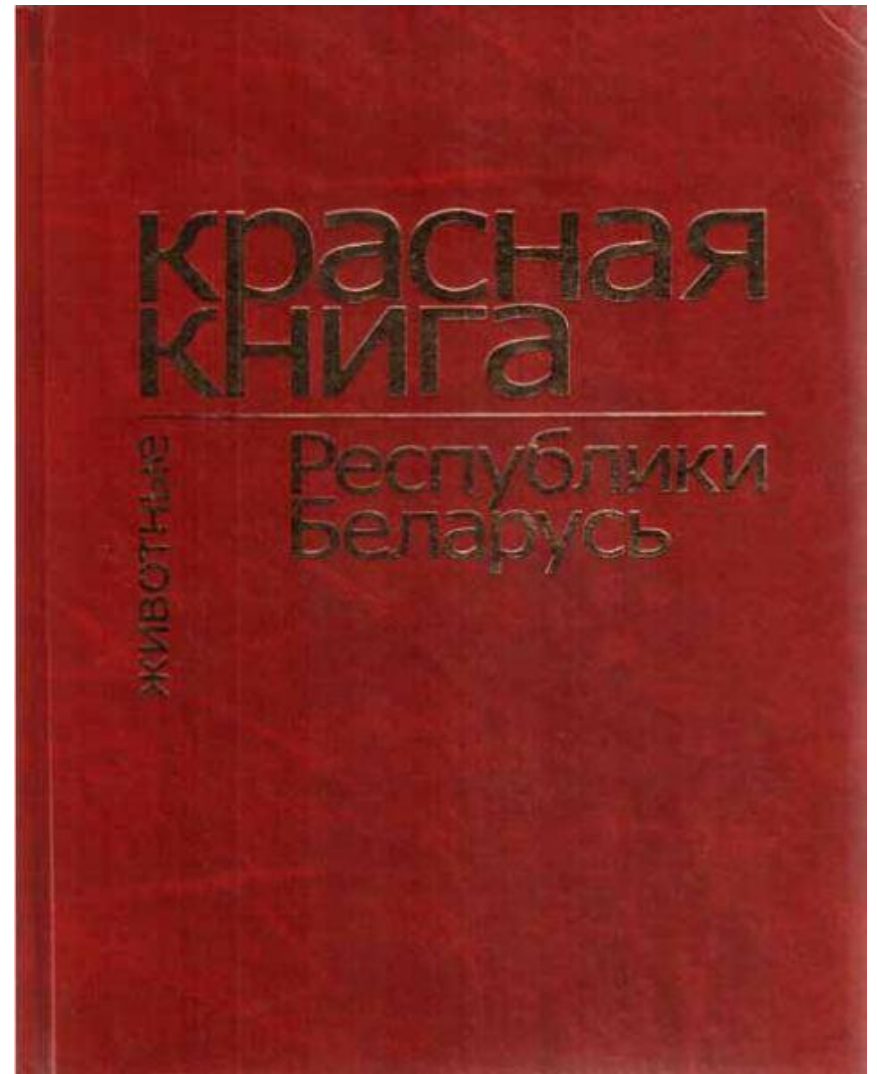
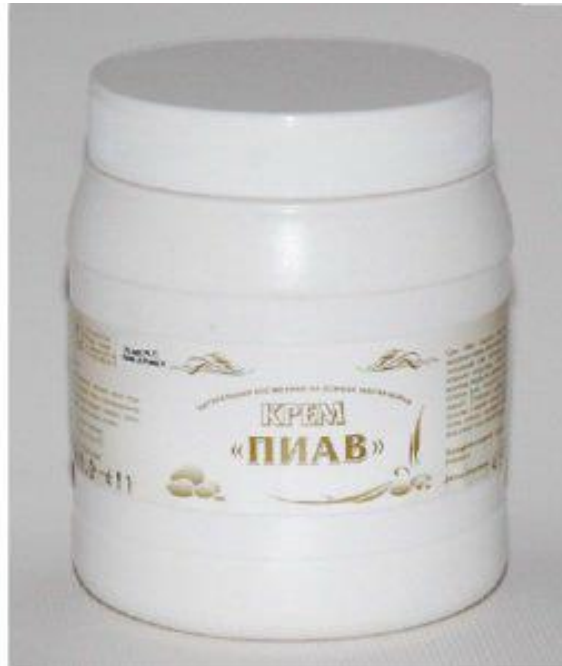
Составные компоненты	Адекватный рекомендуемый уровень содержания в организме, %
Castoreum	100*
Витамин Е	5,2**

Область применения: рекомендуется в качестве биологически активной добавки к пище - биологического источника витамина Е. Действие: физиологический агент - микрокристаллическая целлюлоза (Е460), L-аргинин, витамин Е, твердая капсула из пищевого желатина, бобровая струя, витамин Е, эмульгатор - лецитин (Е477), разрыхлитель - диоксид магния (Е551).

Противопоказания: индивидуальная непереносимость компонентов, беременность, кормление грудью.









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**V. N. KOKRYAKOV**

**BIOLOGY  
OF ANTIBIOTICS  
FROM ANIMAL  
SOURCES**

**В. Н. КОКРЯКОВ**

**БИОЛОГИЯ  
АНТИБИОТИКОВ  
ЖИВОТНОГО  
ПРОИСХОЖДЕНИЯ**



Zootoxinology: bioecological and biomedical aspects



Д.Б. ГЕЛАШВИЛИ, В.Н. КРЫЛОВ, Е.Б. РОМАНОВА

# ЗООТОКСИНОЛОГИЯ:

БИОЭКОЛОГИЧЕСКИЕ  
И БИОМЕДИЦИНСКИЕ  
АСПЕКТЫ

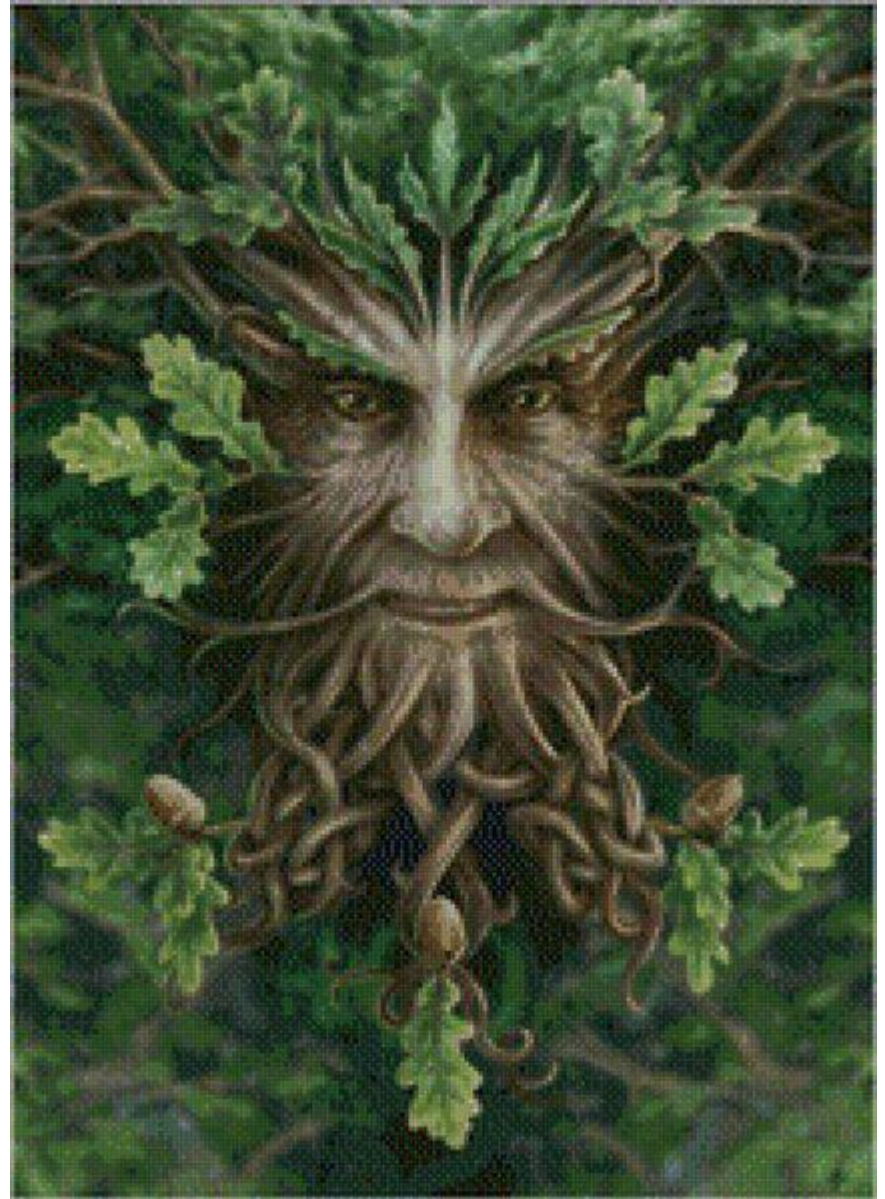
Painkiller based on viper venom



## Definition & Key Terms

**Toxicology** (*Greek: toxicon* – a poison, in which an arrow-head is drowned; *toxikos* – a bow; *logos* – a word, term, doctrine) is normally ***defined as science on the laws (patterns) of toxic chemicals (poisons) and living organisms.***

Being quite common, this definition does not fully reflect the subject of toxicology, a complex of its contemporary trends and objectives, room for research and practical use of the results obtained, its boundaries and relations with other sciences. Therefore, it needs to be confirmed and discussed. The fact that pharmacologists traditionally consider pharmacology as science “on interaction of chemical compounds with living organisms” can serve as evidence, amongst others, that the aforesaid is true. At the end of the last century, Schmiedeberg defined pharmacology as a theory (doctrine) of changes in the living organism when influenced by active chemical substances. N.P. Kravkov called pharmacology as a doctrine of “the influence of all substances able to this or that extent to dissolve or absorb in an organism.”





**Thank you for your attention!!!**