HERBAL HARVESTS WITH A FUTURE
Towards sustainable sources for medicinal plants
Plantlife International
Plantlife International is a charity dedicated exclusively to conserving all forms of plant life, in their natural habitats, in the UK, Europe and across the world. We act directly to stop common wild plants becoming rare in the wild, to rescue wild plants on the brink of extinction and to protect sites of exceptional botanical importance. We carry out practical conservation work, influence relevant policy, and collaborate widely to promote the cause of wild plant conservation.

Plantlife International
14 Rollestone Street
Salisbury
Wiltshire, SP1 1DX
UK
Tel: +44 (0)1722 342730 Fax: +44 (0)1722 329035
E-mail: enquiries@plantlife.org.uk
Website: www.plantlife.org.uk

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Written by
Gail Vines based on research by Julia Behrens.
Julia Behrens
9 Walpole Terrace
Brighton, Sussex
BN2 2EB

A copy of the full research report is available on request from Plantlife International.

This is a Plantlife International project conducted in collaboration with the Herbal Apothecary (Planet Herbs) and WWF-UK
The importance of the herbal medicine industry is growing. More than 80 per cent of the world’s population depends on herbal medicine for their primary health care and more than a quarter of the United Kingdom population use herbal medicine regularly. Most material used in herbal medicine and vitamin supplements is taken from wild plants and the rapidly growing demand for medicinal plants, compounded by habitat loss, is putting pressure on many species. The need for action is recognised in the Global Strategy for Plant Conservation targets agreed by the Parties to the Convention on Biological Diversity. Research conducted for this paper included interviews with a number of people connected with the UK herbal medicine industry. The results are a set of recommendations aimed at achieving greater sustainability throughout the industry. Plantlife International proposes the introduction of certification schemes with appropriate chain of custody mechanisms, the development of a code of practice for industry, the incorporation of sustainability principles in law, more support for cultivation and a new programme of research and education.

**Ancient medicines, new dilemmas**

Perhaps because a delight in wild plants seems to us the most natural and innocent of emotions, it’s easy to forget that, in much of the world, wild species are prized as much for their value as food or as medicinal remedies. The World Health Organization estimates that more than 80 per cent of the world population depends primarily on herbal medicine for their basic healthcare needs.

Today, the ancient art of herbal medicine is undergoing something of a renaissance in the developed world. Four UK universities currently offer BSc degrees in herbal medicine, reflecting the resurgence of interest in traditional botanical treatments for a wide variety of ills. In one recent British poll, a quarter of the people surveyed said they use herbal medicine regularly. Not surprisingly, herbalism has become big business: in 1994, for instance, £88 million of herbal medicines and health foods were imported into Britain alone.

This remarkable revival raises new dilemmas for plant conservationists. Although some plant species used in large quantities in herbal medicine are cultivated, in terms of the number of species utilized, the great majority are still collected from the wild. Some of these are common and fast-growing and there is no conservation concern. However, others are more vulnerable with their populations becoming diminished. The dangers are genetic erosion of populations, local extinction and habitat degradation.

As any school child knows, plants are the foundation upon which the rest of life depends. Without wild plants the animal kingdom would vanish. Indeed, the life-support systems of the planet can only be maintained by protecting plant diversity. If we are to continue to benefit from wild plants, for example through medicine, Plantlife International believes that they must be used sustainably. This is why we are committed to the principles of sustainable use as enshrined in the Convention on Biological Diversity agreed at the Earth Summit in Rio in 1992. This also explains why we worked for and will help to implement the Global Strategy for Plant Conservation. Three of the sixteen targets commit governments to use plants sustainably.

A quarter of the British population use herbal medicine regularly.
Uncontrolled harvesting from the wild

Why conservation action is urgently needed

The pressure on wild plant communities can be substantial. In Europe alone, for instance, some 1300 medicinal plants are used commercially, with up to 90 per cent collected from the wild. Worldwide, some two-thirds of all medicinal plants are harvested from the wild. Most raw material in international trade comes from Europe, North America, India and China, where wild collection is often an important part of rural economies.

At the moment, wasteful harvesting techniques are commonplace. For instance, only the leaves of the bearberry _Arctostaphylos uva-ursi_ – are used in treatments for kidney or digestive problems, yet often the whole plant is uprooted. If only the required parts of the plant had been collected, it might not now be so rare in Albania, Bulgaria, the Czech Republic, Romania and the Netherlands.

Sometimes the damage can lead to degradation of habitats. Industrial-scale harvesting of wild thyme _Thymus_ spp. in Spain involves the uprooting of whole plants and can lead to extensive soil erosion. In addition, some rare species of thyme are becoming endangered through indiscriminate collection. Similar problems with unsuitable harvesting methods have been experienced in the case of kava kava _Piper methysticum_ in the South Pacific. The main active ingredients
kava are found in the roots and rootstocks, and are a group of compounds known as the kavalactones. In one incident in 1996, 17 people died in a landslide that followed clear-harvesting.

The plight of liquorice *Glycyrrhiza glabra*, popularly used in cough syrups, toothpastes, drink flavourings, cakes and fire extinguishers, hints at the scale of the problem. Europe imported some 6000 tonnes of the root in 1996, mostly from Asia, and, in the same year, exported 2700 tonnes. A huge decline in exports from Turkey, Europe’s biggest exporter – from 3040 tonnes in 1991 to only 985 tonnes in 1996 – reflects the growing impact of non-sustainable harvesting. The plant is now rare in Bulgaria and threatened in both Hungary and Turkey. Many other commonly used medicinal plants are under threat, including unicorn root *Chamaederrion luteum*, goldenseal *Hydrastis canadensis* and American ginseng *Panax quinquefolius*. Asian ginseng *Panax ginseng* is also rare in the wild now, although the huge demand is now mostly supplied by cultivation especially in Korea.

The challenge for everyone – herbalist and conservationist alike – is to find ways to support the use of herbal medicine without fostering the overexploitation of the world’s wild plants. At the moment, the trade in medicinal plants is huge, and largely unmonitored. It is highly likely that many harvesting practices are at present unsustainable, threatening populations of medicinal plants and their habitats, and also the livelihoods of those people engaged in their collection. Urgent action is needed to find workable global solutions.
Legislation today lacks sustainability clause

Current legislation is unable to ensure that medicinal plants are exploited in sustainable ways. At the global level, the regulation of international trade in botanicals (and other plant, as well as animal, species) is covered by CITES, the Convention for International Trade in Endangered Species of Wild Fauna and Flora. This treaty, established in 1973 and signed by 143 countries, prohibits trade in more than 600 species of animals and plants (listed in Appendix I) threatened with extinction. Only one species of medicinal plant, Saussurea lappa, has been specifically listed in Appendix I because of concerns about its trade as a medicinal. Appendix II lists 21,000 species of plants that may become extinct if nothing is done to protect them. They may be imported for commercial purposes if they have received an export licence, which should confirm that they have been obtained legally and from sustainable sources. Forty-seven European medicinal plant species, all of them bulbous plants, and 82 non-native European species are listed on Appendix II.

TRAFFIC, established in 1976 as a joint programme of the World Wildlife Fund (WWF) and the World Conservation Union (IUCN) is a non-governmental organisation which works closely with the CITES Secretariat. TRAFFIC concentrates on international law and agreements relating to sustainable wildlife trade. It is becoming increasingly concerned about the medicinal plant trade and is now gathering information and lobbying to inform and encourage industry, practitioners, consumers, and state and federal agencies to take steps to protect species and to ensure supplies of medicinal plants will continue to be available in the future.

At a European level, new legislation in the form of amendments to the European Union Wildlife Trade Regulation came into effect on 1 June 1997. These amendments are designed to provide stricter controls than previously, in view of the problems brought about by abolition of internal borders. The revised EU regulations are stricter than those of CITES and include additional ‘at risk’ categories. One of these categories refers to ‘species in need of monitoring’. For example, it includes arnica (also known as leopard’s bane) Arnica montana, bearberry Arctostaphylos uva-ursi, yellow gentian Gentiana lutea, and bogbean (also known as marsh trefoil or bug bean) Menyanthes trifoliata, all imported in such numbers as to warrant a watchful eye.

Demands for some of these plants can be particularly high because they are used for a variety of complaints, and incorporated into hundreds of herbal preparations and vitamin supplements. Bogbean, for instance, has been traditionally used for rheumatic complaints, skin diseases and for reducing fevers, and is also recognised as an aid to digestion and a stimulant to the appetite. Yet this beautiful marsh plant, with its frothy pinkish-white flowers, grows in fragile wetlands, and is declining throughout central and southern Europe owing to habitat destruction. It is included in the Red
In the UK, the Medicine Control Agency enforces laws regulating medicine, and is responsible for safeguarding public health by ensuring that all medicines on the UK market meet appropriate standards of safety, quality and efficacy. At present, many herbal products are marketed in the UK as food or dietary supplements. There is a proposal for a Traditional Herbal Medicine Product Directive to be drawn up under the EU, a matter that is causing concern in the herbal industry, which fears that new labeling and testing requirements will increase their costs and consumer choice may be unnecessarily restricted. Unfortunately, the proposed legislation does not at present include any requirement that herbal products are produced through sustainable harvesting (see www.herbalert.org). Other efforts are under way to regulate the sourcing of medicinal plants from cultivation and wild collection. The most influential is likely to be the WHO guidelines on Good Agriculture and Collection Practice currently under development although these will not be legally binding. WWF, TRAFFIC and IUCN are advising and lobbying hard for the inclusion of appropriate sustainability criteria in these guidelines.

Meeting the targets

International action for plant conservation

The medicinal plants industry also needs to take action if the UK is to meet its international obligations, which include ensuring that by 2010 at least 30 per cent of all plant-based products are derived from sources that are sustainably managed. This follows adoption of a Global Strategy for Plant Conservation at the Sixth Conference of the Parties to the Convention on Biological Diversity in April 2002. The strategy has 16 outcome-oriented targets to be achieved by 2010. The third of the five objectives of the strategy calls for plant diversity to be used sustainably, and includes three targets, which signatory nations need to meet by 2010, that are directly relevant to the future of the botanicals industry:

**Target 11**  No species of wild flora endangered by international trade

**Target 12** 30 per cent of plant-based products derived from sources that are sustainably managed

**Target 13** The decline of plant resources, and associated local and indigenous knowledge, innovations and practices, that support sustainable livelihoods, local food security and health care, halted

Bogbean Menyanthes trifoliata, prescribed for rheumatism, is declining throughout central and Eastern Europe.

The root of yellow gentian Gentiana lutea is used to treat anorexia, low stomach acidity, anemia and acts as a digestive tonic.
Part II The research

How sustainable is the UK herbal medicine industry?

As a first step towards the sustainable sourcing of medicinal plants, a survey was commissioned by Plantlife International in collaboration with WWF-UK (World Wide Fund for Nature), Herbal Apothecary and members of the UK Medicinal Plant Sustainability Forum. The objective was to canvas views about sustainability from people working in the UK herbal medicine industry, as well as members of herbal associations and conservationists. From these consultations, we have drawn up a set of recommendations, including a code of practice that could be considered for adoption throughout the herbal medical industry to encourage sustainable sourcing of medicinal plants by herbal companies.

UK companies, industry associations and research institutions interviewed

**Companies**
- Baldwin & Co
- Herbal Apothecary
- The Herb Exchange Ltd
- Herbal Botanics
- Solar
- Rutland Organics
- Body Shop
- Granary Herbs
- Quest
- Proline Botanicals
- Potters
- Neal’s Yard
- CNC
- Nelson
- Weleda
- East West Herbs
- Boots

**Industry associations**
- National Institute of Medical Herbalists
- British Herb Trade Association
- Health Food Manufacturing Association
- Chinese Medicine Association of Suppliers

**Herbal associations**
- National Herb Association
- European Herbgrowers Association
- Permaculture Association

Many well-known high-street shops are benefiting from the popularity of herbal products.
Results of the survey
The key findings of the research are detailed below. Not only was there remarkable consistency in the views expressed, but also all those interviewed expressed extremely strong opinions about these topics. A copy of the full research report is available from Plantlife International.

New alliances needed
Our research showed that there is a limited but growing awareness of the conservation problems associated with the botanicals industry. Most companies said simply that they relied on “reputable dealers” for supplies of herbal materials. They were aware, however, that, because most materials are bought through intermediaries, it is difficult for them to know whether the materials that they purchase have been sourced sustainably. There was strong agreement that partnerships and mechanisms should be developed between companies, NGOs and source countries to ensure that the trade is socially and environmentally responsible.

Wild versus cultivated plants
Only six of the seventeen companies interviewed are growing even a small percentage of the medicinal plants that they use. Generally, companies did not see it as their responsibility to invest in the development of cultivated sources. Furthermore, most expressed concern that ‘growing their own’ might not be economically viable in an uncertain market, and suggested that sourcing cultivated stock of many medicinal species through wholesalers is not currently possible. Establishing partnerships with growers and drawing up long-term contracts is one way companies can encourage investment in cultivation of medicinal plants with the added benefit to them of increased control over quality, price and volume. But there are two very important factors here. Firstly, under current market and economic conditions, the cultivation of many medicinal plants is often not viable because, for example, extended production times and the demand for relatively small quantities. Secondly, many medicinal plants are also very difficult to cultivate, because of, for example, low germination rates and very specific ecological requirements.

Worries about regulation
The primary concerns of people working in the botanicals industry focused on impending EU and UK regulations relating, in particular, to labelling and to the safety and standardisation of products.

Guidelines needed
There was consensus that environmental and social issues should be addressed more directly by the industry and herbalists through the creation and adoption of agreed and clear guidelines promoting sustainability and fair trade. It would be useful for manufacturers to access advice on where to purchase sustainably produced ingredients, and also information on methods of sustainable harvesting or cultivation for particular species of plants.
Part III  Recommendations

Steps towards eco-friendly trade in medicinal plants

The following recommendations emerged from the interviews with industry representatives. Plantlife International will work with WWF-UK, Herbal Apocathery and industry partners to help to implement these recommendations.

- Certification of sustainably produced products
  A certification scheme, identified by a generic ‘kite’ mark, for products known to be collected in sustainable ways could help to promote an ecologically responsible market in medicinal plants. A start has been made by the Soil Association with its Organic Wildcrafting Standards, but as yet these are only applicable in specific contexts, for instance where there is assured tenure of collection areas, and are often not fully suitable either for developing, or developed countries. The use of a generic ‘kite’ mark will be of great help to consumers concerned with making socially and environmentally ethical purchases. A generic certification system for medicinal plants is, however, a major undertaking and will take time to evolve. It will have to include third party verification to ensure that standards are being upheld throughout the supply chain.

- Codes of practice
  Codes of practice should be drawn up and promoted by individual companies, industry associations (such as the Health Food Manufacturing Association HFMA) and the British Herbal Manufacturers Association (BHMA)) and practicing herbalists. In developing these codes consideration would need to be given to monitoring their implementation and impact.

- Legislation
  There was general agreement that laws and regulations relating to the sourcing of medicinal plants, at national, EU and international levels, should include sustainability clauses, although as yet none do.

- Research and education
  There is a need for more research into how best to achieve sustainable harvesting and to stimulate cultivation. Alternatives to overexploited species need to be identified to reduce the pressure on wild sources. There is an urgent need to raise awareness among herbalists and consumers about the parlous state of many medicinal plants. At the same time, many plants used in herbal treatments are not endangered, and the problem facing conservationists is how to devise messages to the public that do not create unnecessary alarm, while at the same time gaining public support for necessary actions.

- Support for cultivation
  The herbal industry needs to be encouraged to invest in and support the cultivation of medicinal plants (for example, through long-term partnerships with growers). The use of cultivated plants would also increase the industry’s control over the quality of the final product and in doing so reduce the risk of adulteration, thus directly addressing current concerns over safety and efficacy. Best of all, perhaps, cultivated medicinal plants can be guaranteed to come from a sustainable source, especially if cultivated under an organic stewardship scheme, and therefore reduce pressure on the wild resource. However, efforts should be made to encourage and support cultivation of herbs by small-scale farmers, used to stimulate employment opportunities for former collectors to avoid the loss of an important income source for rural communities across the world.

The unsustainable collection of liquorice Glycyrrhiza glabra threatens its long-term survival in Turkey and some other countries.
FURTHER READING


USEFUL WEBSITES

www.rbgkew.org.uk/peopleplants People and Plants is a partnership of WWF-UK and UNESCO designed to promote the sustainable use of plant resources, and the reconciliation of conservation and development, by focusing on the interface between people and the world of plants.

www.herbalert.org.uk Herbalert is a campaign, launched by the consumer charity The Natural Medicines Society, to provide information to consumers about the herbal products they buy and to steer them to reliable and comprehensive information on medicinal herbs and their use. The campaign will also highlight the need for sustainable harvesting, to ensure long-term availability and campaign to protect the consumers right to have access to high quality herbal products and treatment from qualified medical herbalists.