SCIENTIFIC OPINION

Scientific opinion on the substantiation of health claims related to *Helianthus tuberosus* L. and decreasing potentially pathogenic intestinal microorganisms (ID 2819), breaking down lactose (ID 2819) and maintenance or achievement of a normal body weight (ID 2820) pursuant to Article 13(1) of Regulation (EC) No 1924/2006[1]

EFSA Panel on Dietetic Products, Nutrition and Allergies (NDA)[2]

European Food Safety Authority (EFSA), Parma, Italy

SUMMARY

Following a request from the European Commission, the Panel on Dietetic Products, Nutrition and Allergies was asked to provide a scientific opinion on a list of health claims pursuant to Article 13 of Regulation 1924/2006. This opinion addresses the scientific substantiation of health claims in relation to *Helianthus tuberosus* L. and the following claimed effects: decreasing potentially pathogenic intestinal microorganisms, breaking down lactose, and maintenance or achievement of a normal body weight. The scientific substantiation is based on the information provided by the Member States in the consolidated list of Article 13 health claims and references that EFSA has received from Member States or directly from stakeholders.

The food constituent that is the subject of the health claims is *Helianthus tuberosus* L.. The Panel considers that *Helianthus tuberosus* L. has been sufficiently characterised with the following conditions of use: dry extract: 135 mg/day, or liquid preparation: 0.5-1 mL/day equivalent to 297-594 mg of fresh root.

Decreasing potentially pathogenic intestinal microorganisms

The claimed effect "gut health" is not sufficiently defined, but from the proposed wordings the Panel assumes that the claimed effect refers to decreasing potentially pathogenic intestinal microorganisms. The Panel considers that decreasing potentially pathogenic intestinal microorganisms might be beneficial to human health.

The Panel notes that the references cited did not provide any scientific data that could be used to substantiate the claimed effect. The Panel concludes that a cause and effect relationship has not been

1 On request from the European Commission, Question No EFSA-Q-2008-3552, EFSA-Q-2008-3553, adopted on 02 July 2009.

2 Panel members: Jean-Louis Bresson, Albert Flynn, Marina Heinonen, Karin Hulshof, Hannu Korhonen, Pagona Lagiou, Martinus Løvik, Rosangela Marchelli, Ambroise Martin, Bevan Moseley, Hildegard Przyrembel, Seppo Salminen, Sean (J.J.) Strain, Stephan Strobel, Inge Tetens, Henk van den Berg, Hendrik van Loveren and Hans Verhagen.
Correspondence: nda@efsa.europa.eu

For citation purposes: EFSA Panel on Dietetic Products, Nutrition and Allergies (NDA); Scientific opinion on the substantiation of health claims related to *Helianthus tuberosus* L. and decreasing potentially pathogenic intestinal microorganisms (ID 2819), breaking down lactose (ID 2819) and maintenance or achievement of a normal body weight (ID 2820) pursuant to Article 13(1) of Regulation (EC) No 1924/2006 on request from the European Commission. EFSA Journal 2009; 7(9):1292. [14 pp.]. doi:10.2903/j.efsa.2009.1292. Available online: www.efsa.europa.eu

established between the consumption of *Helianthus tuberosus* L. and decreasing potentially pathogenic intestinal microorganisms.

Breaking down lactose

The claimed effect "gut health" is not sufficiently defined, but from the proposed wordings the Panel assumes that the claimed effect refers to breaking down lactose. The Panel considers that breaking down lactose might be beneficial to human health.

The Panel notes that the references cited did not provide any scientific data that could be used to substantiate the claimed effect. The Panel concludes that a cause and effect relationship has not been established between the consumption of *Helianthus tuberosus* L. and breaking down lactose.

Maintenance or achievement of a normal body weight

The claimed effect is "weight control". Weight control can be interpreted as the maintenance or achievement of a normal body weight. The Panel considers that the maintenance or achievement of a normal body weight is beneficial to human health.

The Panel notes that the references cited did not provide any scientific data that could be used to substantiate the claimed effect. The Panel concludes that a cause and effect relationship has not been established between the consumption of *Helianthus tuberosus* L. and the maintenance or achievement of a normal body weight.

KEY WORDS

Helianthus tuberosus L., intestinal microorganisms, lactose absorption, body weight, health claims.

TABLE OF CONTENTS

BACKGROUND AS PROVIDED BY THE EUROPEAN COMMISSION

See Appendix A

TERMS OF REFERENCE AS PROVIDED BY THE EUROPEAN COMMISSION

See Appendix A

EFSA DISCLAIMER

See Appendix B

ACKNOWLEDGEMENTS

The European Food Safety Authority wishes to thank for the preparation of this opinion:

The members of the Working Group on Claims: Jean-Louis Bresson, Albert Flynn, Marina Heinonen, Hannu Korhonen, Martinus Løvik, Ambroise Martin, Hildegard Przyrembel, Seppo Salminen, Sean (J.J.) Strain, Inge Tetens, Henk van den Berg, Hendrik van Loveren and Hans Verhagen.

The members of the Claims/Sub-Working Group Characterisation of Botanicals: Robert Anton, Luc Delmulle, Kirsten Pilegaard, Mauro Serafini and Hans Verhagen.

INFORMATION AS PROVIDED IN THE CONSOLIDATED LIST

The consolidated list of health claims pursuant to Article 13 of Regulation 1924/2006[3] submitted by Member States contains main entry claims with corresponding conditions of use and literature from similar health claims. The information provided in the consolidated list for the health claims subject to this opinion is tabulated in Appendix C.

ASSESSMENT

1. Characterisation of the food/constituent

The food constituent that is the subject of the claim is Jerusalem artichoke with the scientific name *Helianthus tuberosus* L.. The characterisation of *Helianthus tuberosus* L. is performed by comparing data provided as conditions of use to information extracted from standard reference textbooks (see Table 2 below and Appendix D for list of standard reference textbooks used for the characterisation).

Table 2. Information on *Helianthus tuberosus* L. from standard reference textbooks and the information provided as conditions of use.

ID	Scientific name	Part used	Nature of the preparation	Conditions of use
Text-book	***Helianthus tuberosus* L. =** ***H. mollissimus* E. E. Watson** **Asteraceae (Compositae)** **Vernacular name: Jerusalem artichoke**	**Tuber**	**Fresh; juice; extract; tincture.**	**Common food (topinambur)** **Source of inuline.**
2819	Jerusalem artichoke *Note: It is assumed to be* Helianthus tuberosus *L.*	Tuber (Root)	Dried raw material; extract	Dry extract: 135 mg/day. Liquid preparation: 0.5-1 mL/day equivalent to 297-594 mg of fresh root.
2820	Jerusalem artichoke *Note: It is assumed to be* Helianthus tuberosus *L.*	Tuber (Root)	Dried raw material; extract	Dry extract: 135 mg/day. Liquid preparation: 0.5-1 mL/day equivalent to 297-594 mg of fresh root.

The Panel considers that the food constituent, *Helianthus tuberosus* L., which is the subject of the health claim is sufficiently characterised with the following conditions of use: Dry extract: 135 mg/day, or liquid preparation: 0.5-1 mL/day equivalent to 297-594 mg of fresh root.

[3] Regulation (EC) No 1924/2006 of the European Parliament and of the Council of 20 December 2006 on nutrition and health claims made on foods. OJ L 404, 30.12.2006, p. 9–25.

2. Relevance of the claimed effect to human health

2.1. Decreasing potentially pathogenic intestinal microorganisms (ID 2819)

The claimed effect is "gut health". The Panel assumes that the target population is the general population.

"Gut health" is not sufficiently defined. From the proposed wordings, the Panel assumes that the claimed effect refers to the aspect of: e.g. "supports the gut's population of beneficial bacteria".

The numbers/proportions of bacterial groups that would constitute a "healthy intestinal flora" have not been established. Increasing the number of any groups of bacteria is not in itself considered as beneficial. The Panel considers that no evidence has been provided that the aspect of the claimed effect "supports the gut's population of beneficial bacteria" is beneficial to human health.

The Panel considers that "supports the gut's population of beneficial bacteria" in the context of decreasing potentially pathogenic intestinal microorganisms might be beneficial to human health.

2.2. Breaking down lactose (ID 2819)

The claimed effect is "gut health". The Panel assumes that the target population is individuals whose own lactase enzyme production is insufficient for breaking down lactose.

"Gut health" is not sufficiently defined. From the proposed wordings, the Panel assumes that the claimed effect refers to breaking down lactose.

The Panel considers that breaking down lactose may be beneficial to the health of individuals with symptomatic lactose maldigestion.

2.3. Maintenance or achievement of a normal body weight (ID 2820)

The claimed effect is "weight control". The Panel assumes that the target population is the general population.

Weight control can be interpreted as the contribution to the maintenance of a normal body weight. In this context even a moderate weight loss in overweight subjects without achieving a normal body weight is considered beneficial to health.

The Panel considers that the maintenance or achievement of a normal body weight is beneficial to human health.

3. Scientific substantiation of the claimed effect

3.1. Decreasing potentially pathogenic intestinal microorganisms (ID 2819)

Four references were cited to substantiate the claimed effect. One review was related to different applications of inulin and oligofructose in health and nutrition, however did not specifically address *Helianthus tuberosus* L.. Another review was related to digestion and fermentation of "prebiotics" in general. The Panel notes that these references are not directly related to *Helianthus tuberosus* L.. A third review was related to fructans of *Helianthus tuberosus* L., but did not address the claimed effect and one trial was performed with a concentrate of *Helianthus tuberosus* L., but also did not address the claimed effect. The Panel notes that the reference cited did not provide any scientific data that could be used to substantiate the claimed effect.

The Panel concludes that a cause and effect relationship has not been established between the consumption of *Helianthus tuberosus* L. and decreasing potentially pathogenic intestinal microorganisms.

3.2. Breaking down lactose (ID 2819)

Four references were cited to substantiate the claimed effect. One review was related to different applications of inulin and oligofructose in health and nutrition, however did not specifically address *Helianthus tuberosus* L.. Another review was related to digestion and fermentation of "prebiotics" in general. The Panel notes that these references are not directly related to *Helianthus tuberosus* L.. A third review was related to fructans of *Helianthus tuberosus* L., but did not address the claimed effect and one trial was performed with a concentrate of *Helianthus tuberosus* L., but also did not address the claimed effect. The Panel notes that the reference cited did not provide any scientific data that could be used to substantiate the claimed effect.

The Panel concludes that a cause and effect relationship has not been established between the consumption of *Helianthus tuberosus* L. and breaking down lactose.

3.3. Maintenance or achievement of a normal body weight (ID 2820)

Four references were cited to substantiate the claimed effect. One review was related to different applications of inulin and oligofructose in health and nutrition, however did not specifically address *Helianthus tuberosus* L.. Another review was related to digestion and fermentation of "prebiotics" in general. The Panel notes that these references are not directly related to *Helianthus tuberosus* L.. A third review was related to fructans of *Helianthus tuberosus* L., but did not address the claimed effect and one trial was performed with a concentrate of *Helianthus tuberosus* L., but also did not address the claimed effect. The Panel notes that the reference cited did not provide any scientific data that could be used to substantiate the claimed effect.

The Panel concludes that a cause and effect relationship has not been established between the consumption of *Helianthus tuberosus* L. and the maintenance or achievement of a normal body weight.

CONCLUSIONS

On the basis of the data presented, the Panel concludes that:

Decreasing potentially pathogenic intestinal microorganisms (ID 2819)

- The food constituent *Helianthus tuberosus* L., which is the subject of the health claim is sufficiently characterised with the following conditions of use: Dry extract: 135 mg/day, or liquid preparation: 0.5-1 mL/day, equivalent to 297-594 mg of fresh root.
- The claimed effect is "gut health". The target population is assumed to be the general population. Decreasing potentially pathogenic intestinal microorganisms might be beneficial to human health.
- A cause and effect relationship has not been established between the consumption of *Helianthus tuberosus* L. and decreasing potentially pathogenic intestinal microorganisms.

Breaking down lactose (ID 2819)

- The food constituent *Helianthus tuberosus* L., which is the subject of the health claim is sufficiently characterised with the following conditions of use: Dry extract: 135 mg/day, or liquid preparation: 0.5-1 mL/day equivalent to 297-594 mg of fresh root
- The claimed effect is "gut health". The target population is assumed to be individuals whose own lactase enzyme production is insufficient for breaking down lactose. Breaking down lactose may be beneficial to the health of individuals with symptomatic lactose maldigestion.
- A cause and effect relationship has not been established between the consumption of *Helianthus tuberosus* L. and breaking down lactose.

Maintenance or achievement of a normal body weight (ID 2820)

- The food constituent *Helianthus tuberosus* L., which is the subject of the health claim is sufficiently characterised with the following conditions of use: Dry extract: 135 mg/day, or liquid preparation: 0.5-1 mL/day equivalent to 297-594 mg of fresh root
- The claimed effect is "weight control". The target population is assumed to be the general population. The maintenance or achievement of a normal body weight is beneficial to human health.
- A cause and effect relationship has not been established between the consumption of *Helianthus tuberosus* L. and the maintenance or achievement of a normal body weight.

DOCUMENTATION PROVIDED TO EFSA

Health claims pursuant to Article 13 of Regulation (EC) No 1924/2006 (No: EFSA-Q-2008-3552, EFSA-Q-2008-3553). The scientific substantiation is based on the information provided by the Member States in the consolidated list of Article 13 health claims and references that EFSA has received from Member States or directly from stakeholders.

The full list of supporting references as provided to EFSA is available on: http://www.efsa.europa.eu/panels/nda/claims/article13.htm.

APPENDICES

APPENDIX A

BACKGROUND AND TERMS OF REFERENCE AS PROVIDED BY THE EUROPEAN COMMISSION

The Regulation 1924/2006 on nutrition and health claims made on foods[4] (hereinafter "the Regulation") entered into force on 19th January 2007.

Article 13 of the Regulation foresees that the Commission shall adopt a Community list of permitted health claims other than those referring to the reduction of disease risk and to children's development and health. This Community list shall be adopted through the Regulatory Committee procedure and following consultation of the European Food Safety Authority (EFSA).

Health claims are defined as "any claim that states, suggests or implies that a relationship exists between a food category, a food or one of its constituents and health".

In accordance with Article 13 (1) health claims other than those referring to the reduction of disease risk and to children's development and health are health claims describing or referring to:

a) the role of a nutrient or other substance in growth, development and the functions of the body; or

b) psychological and behavioural functions; or

c) without prejudice to Directive 96/8/EC, slimming or weight-control or a reduction in the sense of hunger or an increase in the sense of satiety or to the reduction of the available energy from the diet.

To be included in the Community list of permitted health claims, the claims shall be:

(i) based on generally accepted scientific evidence; and

(ii) well understood by the average consumer.

Member States provided the Commission with lists of claims as referred to in Article 13(1) by 31 January 2008 accompanied by the conditions applying to them and by references to the relevant scientific justification. These lists have been consolidated into the list which forms the basis for the EFSA consultation in accordance with Article 13 (3).

ISSUES THAT NEED TO BE CONSIDERED

IMPORTANCE AND PERTINENCE OF THE FOOD[5]

Foods are commonly involved in many different functions[6] of the body, and for one single food many health claims may therefore be scientifically true. Therefore, the relative importance of food e.g. nutrients in relation to other nutrients for the expressed beneficial effect should be considered: for functions affected by a large number of dietary factors it should be considered whether a reference to a single food is scientifically pertinent.

It should also be considered if the information on the characteristics of the food contains aspects pertinent to the beneficial effect.

SUBSTANTIATION OF CLAIMS BY GENERALLY ACCEPTABLE SCIENTIFIC EVIDENCE

Scientific substantiation is the main aspect to be taken into account to authorise health claims. Claims should be scientifically substantiated by taking into account the totality of the available scientific data, and by weighing the evidence, and shall demonstrate the extent to which:

[4] OJ L12, 18/01/2007
[5] The term 'food' when used in this Terms of Reference refers to a food constituent, the food or the food category.
[6] The term 'function' when used in this Terms of Reference refers to health claims in Article 13(1)(a), (b) and (c).

(a) the claimed effect of the food is beneficial for human health,

(b) a cause and effect relationship is established between consumption of the food and the claimed effect in humans (such as: the strength, consistency, specificity, dose-response, and biological plausibility of the relationship),

(c) the quantity of the food and pattern of consumption required to obtain the claimed effect could reasonably be achieved as part of a balanced diet,

(d) the specific study group(s) in which the evidence was obtained is representative of the target population for which the claim is intended.

EFSA has mentioned in its scientific and technical guidance for the preparation and presentation of the application for authorisation of health claims consistent criteria for the potential sources of scientific data. Such sources may not be available for all health claims. Nevertheless it will be relevant and important that EFSA comments on the availability and quality of such data in order to allow the regulator to judge and make a risk management decision about the acceptability of health claims included in the submitted list.

The scientific evidence about the role of a food on a nutritional or physiological function is not enough to justify the claim. The beneficial effect of the dietary intake has also to be demonstrated. Moreover, the beneficial effect should be significant i.e. satisfactorily demonstrate to beneficially affect identified functions in the body in a way which is relevant to health. Although an appreciation of the beneficial effect in relation to the nutritional status of the European population may be of interest, the presence or absence of the actual need for a nutrient or other substance with nutritional or physiological effect for that population should not, however, condition such considerations.

Different types of effects can be claimed. Claims referring to the maintenance of a function may be distinct from claims referring to the improvement of a function. EFSA may wish to comment whether such different claims comply with the criteria laid down in the Regulation.

WORDING OF HEALTH CLAIMS

Scientific substantiation of health claims is the main aspect on which EFSA's opinion is requested. However, the wording of health claims should also be commented by EFSA in its opinion.

There is potentially a plethora of expressions that may be used to convey the relationship between the food and the function. This may be due to commercial practices, consumer perception and linguistic or cultural differences across the EU. Nevertheless, the wording used to make health claims should be truthful, clear, reliable and useful to the consumer in choosing a healthy diet.

In addition to fulfilling the general principles and conditions of the Regulation laid down in Article 3 and 5, Article 13(1)(a) stipulates that health claims shall describe or refer to "the role of a nutrient or other substance in growth, development and the functions of the body". Therefore, the requirement to describe or refer to the 'role' of a nutrient or substance in growth, development and the functions of the body should be carefully considered.

The specificity of the wording is very important. Health claims such as "Substance X supports the function of the joints" may not sufficiently do so, whereas a claim such as "Substance X helps maintain the flexibility of the joints" would. In the first example of a claim it is unclear which of the various functions of the joints is described or referred to contrary to the latter example which specifies this by using the word "flexibility".

The clarity of the wording is very important. The guiding principle should be that the description or reference to the role of the nutrient or other substance shall be clear and unambiguous and therefore be specified to the extent possible i.e. descriptive words/ terms which can have multiple meanings should be avoided. To this end, wordings like "strengthens your natural defences" or "contain antioxidants" should be considered as well as "may" or "might" as opposed to words like "contributes", "aids" or "helps".

In addition, for functions affected by a large number of dietary factors it should be considered whether wordings such as "indispensable", "necessary", "essential" and "important" reflects the strength of the scientific evidence.

Similar alternative wordings as mentioned above are used for claims relating to different relationships between the various foods and health. It is not the intention of the regulator to adopt a detailed and rigid list of claims where all possible wordings for the different claims are approved. Therefore, it is not required that EFSA comments on each individual wording for each claim unless the wording is strictly pertinent to a specific claim. It would be appreciated though that EFSA may consider and comment generally on such elements relating to wording to ensure the compliance with the criteria laid down in the Regulation.

In doing so the explanation provided for in recital 16 of the Regulation on the notion of the average consumer should be recalled. In addition, such assessment should take into account the particular perspective and/or knowledge in the target group of the claim, if such is indicated or implied.

TERMS OF REFERENCE

HEALTH CLAIMS OTHER THAN THOSE REFERRING TO THE REDUCTION OF DISEASE RISK AND TO CHILDREN'S DEVELOPMENT AND HEALTH

EFSA should in particular consider, and provide advice on the following aspects:

- Whether adequate information is provided on the characteristics of the food pertinent to the beneficial effect.
- Whether the beneficial effect of the food on the function is substantiated by generally accepted scientific evidence by taking into account the totality of the available scientific data, and by weighing the evidence. In this context EFSA is invited to comment on the nature and quality of the totality of the evidence provided according to consistent criteria.
- The specific importance of the food for the claimed effect. For functions affected by a large number of dietary factors whether a reference to a single food is scientifically pertinent.

In addition, EFSA should consider the claimed effect on the function, and provide advice on the extent to which:

- the claimed effect of the food in the identified function is beneficial.
- a cause and effect relationship has been established between consumption of the food and the claimed effect in humans and whether the magnitude of the effect is related to the quantity consumed.
- where appropriate, the effect on the function is significant in relation to the quantity of the food proposed to be consumed and if this quantity could reasonably be consumed as part of a balanced diet.
- the specific study group(s) in which the evidence was obtained is representative of the target population for which the claim is intended.
- the wordings used to express the claimed effect reflect the scientific evidence and complies with the criteria laid down in the Regulation.

When considering these elements EFSA should also provide advice, when appropriate:

- on the appropriate application of Article 10 (2) (c) and (d) in the Regulation, which provides for additional labelling requirements addressed to persons who should avoid using the food; and/or warnings for products that are likely to present a health risk if consumed to excess.

APPENDIX B

EFSA DISCLAIMER

The present opinion does not constitute, and cannot be construed as, an authorisation to the marketing of the food/food constituent, a positive assessment of its safety, nor a decision on whether the food/food constituent is, or is not, classified as foodstuffs. It should be noted that such an assessment is not foreseen in the framework of Regulation (EC) No 1924/2006.

It should also be highlighted that the scope, the proposed wordings of the claims and the conditions of use as proposed in the Consolidated List may be subject to changes, pending the outcome of the authorisation procedure foreseen in Article 13(3) of Regulation (EC) No 1924/2006.

APPENDIX C

Table 1. Main entry health claims related to *Helianthus tuberosus* L., including conditions of use from similar claims, as proposed in the Consolidated List.

ID	Food or Food constituent	Health Relationship	Proposed wording
2819	Jerusalem artichoke	Gut health	Jerusalem artichoke supports the digestive system so that the stomach is calmed, food is well digested and one obtains a light feeling. Prebiotic inulin maintains the gut's population of beneficial bacteria so that the stomach remains in good shape. The inulin in Jerusalem artichoke supports the gut's population of beneficial bacteria. Promotes lactose absorption.
	Conditions of use - Food supplements in which the daily dose contains 135 mg of dry Jerusalem artichoke extract or in which the daily dose of 0.5-1 ml is equivalent to 297-594 mg of fresh Jerusalem artichoke root.		
	Food or Food constituent	**Health Relationship**	**Proposed wording**
2820	Jerusalum artichoke	Weight control	For pancreas health, fat upper body. Stabilises sugar metabolism, supports pancreas activity and carbohydrate burning so that the desire for sweets and hunger feelings diminish. A sense of satiety is achieved with smaller meals. Jerusalem artichoke also supports the digestive system so that the stomach is calmed, food is well digested and one obtains a light feeling. Inulin together with other Helix Slim substances stabilises insulin secretion in the pancreas. This leads to stabilisation of sugar metabolism, which in turn helps to keep weight under control. Helix Slim brand.
	Conditions of use - Food supplements in which the daily dose contains 135 mg of dry Jerusalem artichoke extract or in which the daily dose of 0.5-1 ml is equivalent to 297-594 mg of fresh Jerusalem artichoke root.		

APPENDIX D

FULL LIST OF STANDARD REFERENCE TEXTBOOKS USED FOR CHARACTERISATION PURPOSES

Bisset NG, Wichtl M (Eds), 2001. Herbal drugs and phytopharmaceuticals. CRC Press/medpharm GmbH Scientific Publishers, Stuttgart.

Blumenthal M, Goldberg A, Brinckmann J (Eds), 2000. Herbal Medicine. Expanded Commission E Monographs. American Botanical Council, Austin, TX.

Bradley P (Ed), 1992. British Herbal Compendium, Vol 1, BHMA Publishing, Exeter.

Brinker F (Ed), 1998. Herb contraindications and drug interactions, Eclectic medical publications, Sandy, OR.

Bruneton J (Ed), 1995. Pharmacognosy, phytochemistry, medicinal plants. Lavoisier, Paris,.

von Bruchhausen F (Ed), 1992. Hager's Handbuch, Band 1 – 10, Springer Verlag, Berlin, Heidelberg.

EMEA (European Medicines Agency), HMPC community monographs, Committee on Herbal Medicinal Products. http://www.emea.europa.eu/htms/human/hmpc/hmpcmonographs.htm

ESCOP (European Scientific Cooperation on Phytotherapy), 2003. ESCOP monographs. Thieme Verlag, Stuttgart.

European Directorate for the Quality of Medicines, 2007. European pharmacopoeia 6th edition. Strasbourg.

Frohne D, Pfänder HJ (Eds), 1997. Giftpflanzen – Ein Handbuch für Apotheker, Toxicologen und Biologen, Wiss. Verlags-Ges, Stuttgart.

Gruenwald J, Brendler T, Jaenicke C (Eds), 2004. PDR for Herbal Medicines. Thomson Healthcare Inc., Montvale.

McGuffin M, Hobbs C, Upton R and Goldberg A (Eds), 1997. Botanical safety handbook. American Herbal Products Association. CRC Press, Boca Raton.

Mills S, Bone K (Eds), 2000. Principles and practice of Phytotherapy, Churchill Livingstone, London, Edinburgh.

Newall CA, Anderson LA, Phillipson JD (Eds), 1996. Herbal medicines, a guide for health-care professionals. Pharmaceutical Press, London.

Tang W and Eisenbrand G (Ed), 1992. Chinese Drugs of Plant Origin, Chemistry, Pharmacology. Springer Verlag, Berlin.

Teuscher E, Anton R, Lobstein A (Eds), 2005. Plantes aromatiques Épices, aromates, condiments et huiles essentielles. Tec et Doc, Lavoisier, Paris.

Tissereand RB, Balacs T (Eds), 1995. Essential oil safety, Churchill Livingstone, London, Edinburgh.

Van Hellemont J (Ed), 1988. Fytotherapeutisch compendium. Stafleu Van Loghum, Bohn .

WHO (World Health Organization), 1990. WHO Monographs on selected medicinal plants, Geneva, (1990).

Wichtl M, Anton R (Eds), 2003. Plantes thérapeutiques (4ème édition allemande – 2ème édition française). Tec et Doc, Lavoisier, Paris.

Wren RC (Ed), 1994. Potters New Encyclopedia of Botanical Drugs and Preparations, CW Daniel Comp. Ltd, Saffron Walden.

Xu L, Wang W (Eds), 2002. Chinese Materia Medica: Combinations & Applications. Donica Publishing.