BACKGROUND STUDY PAPER NO. 11

April 2001

E

منظمة الأغذية والزراعة للأمم المتحدة

联合国粮食及农业组织

Food and Agriculture Organization of the United Nations

Organisation des Nations Unies pour l'alimentation et l'agriculture

Organización de las Naciones Unidas para la Agricultura y la Alimentación

COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

NUTRITIONAL VALUE OF SOME OF THE CROPS UNDER DISCUSSION IN THE DEVELOPMENT OF A MULTILATERAL SYSTEM

This paper has been prepared by the Nutrition Division of FAO, (in particular, by Simon Chevassus and Robert Weisell, from the Nutrition Planning, Assessment and Evaluation Service, with the assistance of Ximena Flores, FAO Consultant), at the request of the CGRFA Secretariat and in order to facilitate the negotiations for the revision of the International Undertaking on Plant Genetic Resources in harmony with the Convention on Biological Diversity.

W0000

CONTENTS

NUTRITIONAL VALUE OF SOME OF THE CROPS UNDER DISCUSSION IN THE DEVELOPMENT OF A MULTILATERAL SYSTEM

1. INTRODUCTION

The revision of the International Undertaking, in harmony with the Convention on Biological Diversity, is currently under negotiation in the FAO Commission on Genetic Resources for Food and Agriculture. The Commission is negotiating a Multilateral System for facilitated access to plant genetic resources for food and agriculture materials, and the sharing of benefits arising from their use. Through the discussions, a list of crops that would be covered under the Multilateral System is being developed. Two criteria were used to establish the list of crops that appears in Annex 1 of the Negotiation Draft[1] developed during the Fourth Extraordinary Session of the CGRFA: (i) their importance for food security at local, national or global level; and (ii) countries' interdependence with respect to plant genetic resources.

The aim of this paper is to analyse the nutritional contribution to food and nutritional security provided by individual crops. This study is complementary to a previous one that focused on a *Contribution to the estimation of countries' interdependence in the area of plant genetic resources*.[2] In that study, the contribution of crops to food security was evaluated only in terms of energy supply, i.e., the proportion of the national diet in terms of energy intake provided by individual crops. Since this indicator does not give a full picture of crops' nutritional importance, the present study widens the scope by analysing also the role of plants as contributors of proteins, lipids, minerals and vitamins.

This study considers the various crops (grouped by genus) that countries have proposed for coverage in the Multilateral System. The analysis concentrates on the *per caput* total energy, total protein and total lipid available, plus the *per caput* supply of iron and vitamin A. Global and regional data, as well as national data, are presented, but only graphically for selected countries.

The analysis has shown the importance of food crops not only in terms of energy supply but also as fundamental sources of nutrients. The results show from food supply data which proxy the food consumption pattern that in developing countries, plants play the most important role in providing fundamental nutrients in the diet, while animal food in general satisfies only a small proportion of those needs. Dietary diversity in plant food consumption is needed in order to ensure adequate nutrition.

2. OBJECTIVES

The objective of this study was to supply information on the nutritional contribution to food and nutritional security provided by individual crops covered by the Multilateral System.[3]

The study considers energy, proteins, lipids (fats), vitamin A and iron to determine which crops are important for human consumption in terms of nutritional contribution to food and nutrition security.

1. Document CGRFA/CG-5/01/2.
2. Background Study Paper No. 7.
3. Listed in Annex I to paper CGRFA/CG-3/00/2.

3. BASIC CONSIDERATIONS

Food security at the household level implies having physical and economic access to foods that are adequate in terms of quantity, quality and safety. Energy intake, expressed as kilocalories or kilojoules, is a fundamental parameter in assessing human nutrition. Staple food availability at the national, regional and household levels is often adopted as the basis of nutritional well-being.

However, any discussion of food and nutritional security must encompass not only the total energy supplied by foods, but also the quality differences in nutritional characteristics such as the protein, fat and micronutrient content. Nutritional status is affected by a wide range of factors, which may lead to inadequate or excessive nutrient intakes, or impair their optimal utilization. The factors most directly influencing nutrition can be analysed under the categories of food, health and care. Each of these is essential for good nutrition and they can often influence each other. Nutritional well-being is the result of the food nutrients being consumed and absorbed relative to requirements. Requirements are determined by various factors, such as age, sex, body size, physical activity, growth, pregnancy and lactation, infections, and the efficiency of nutrient utilization.

Proteins are made up of amino acids, the body's building blocks. Not all proteins are equal, and their different qualities derive from the composition of the amino acids of which they are constructed. There are eleven essential amino acids or amino acid precursors that cannot be synthesized by humans and must be obtained in the appropriate proportions from the food supply. As a general rule, meat, eggs and dairy products have the highest quality protein, but protein from pulses and cereals, when combined, also provide high quality protein.

Dietary lipids are found in plant products and contain more than double the energy per unit weight compared to carbohydrates and proteins. A high energy intake is required by the very young, but the size of the young stomach is limited. Thus, lipids play a crucial role as an energy-rich source. Moreover, lipids contribute to the diet's palatability and also provide the necessary medium for the absorption of the fat-soluble vitamins (vitamin A and its precursors, and vitamins D, E and K). Dietary lipids come in many molecular sizes and structures, each having different beneficial and detrimental effects on the organism. Like essential amino acids, there are also essential fatty acids (FAs) which must be consumed since the body cannot synthesize them. These are fatty acids in the n-3 (omega-3) and n-6 (omega-6) series. The n-3 and n-6 fatty acids make up a crucial part of the membrane structure and are precursors of eiconsanoids, highly reactive and potent compounds.

Among the micronutrient deficiencies, the most commonly documented are lack of iron (over 2 000 million persons affected), lack of iodine (over 1 000 million persons at risk) and insufficient vitamin A (40 million persons affected). Iodine deficiency can be found worldwide, particularly affecting populations located in mountainous or flood-prone areas, where soils are deficient in iodine. Vitamin A deficiency occurs especially in areas where there is low consumption of fruits and vegetables, and sometimes low lipid intake. Iron deficiency is widespread, primarily affecting women of child-bearing age and young children.

Quality considerations of nutrition are decisive in attaining public health objectives, such as the provision of macronutrients (proteins and lipids (fats and oils)) and micronutrients, and particularly those micronutrients associated with common public health problems (vitamin A, iron and iodine). Indeed, in order to achieve food and nutritional security for the poorest, the provision of these nutrients is often the first priority.

4. METHODOLOGY

Crop selection

The study is based on the crops listed in Annex 1 of the current International Undertaking Negotiation Draft[4] many of which are intended for human consumption. In order to conduct the study, these crops from Annex 1 were linked or associated with selected primary and derived (processed) commodities from the FAOSTAT database.[5] Because the study attempts to analyse the importance of any single plant genus for human consumption by grouping commodities by genus the FAO Food Balance Sheets have not been employed, since they are based on an aggregation criteria unrelated to genus. [6]

For each nutrient, a Nutrition Conversion Factor (NCF) specific to each FAO commodity was selected and used to calculate the energy or nutrient availability from that commodity. It was decided to employ the "international value" as opposed to a country specific value in order to make calculations simpler and more comparable across countries and regions.

Grouping FAO commodities by genus

Table 1 shows the food crops organized by genus, combining the primary commodities and their derived products falling in the same commodity group. A genus can be associated with several commodities and their derivatives. For example, *Triticum* is associated with eleven commodities: wheat, wheat flour, wheat bran, macaroni, wheat germ, bread, whole wheat bulgur, pastry, wheat starch, wheat gluten and wheat fermented beverages. The table also shows the standard common name(s) of the different genera.[7]

The analysis has considered 321 commodities, grouped into 86 genera and 14 generic commodities (such as cereals not elsewhere specified; fruits; pulses; vegetables; nuts; spices not specified; vermouths and similar; berries; mushrooms; anise, badian and fennel; nutmeg, mace, cardamoms; oilseeds; and sweeteners). In the case of sweeteners (*de facto* sugar products), for example, it is difficult to relate some commodities (such as sugar non-centrifugal, sugar refined, molasses) to a specific genus (Cane, *Saccharum*, or Beet, *Beta*).

Estimating energy and nutrient contribution of crops in dietary energy supply

Seven different tables have been produced drawing upon FAOSTAT annual average data for various regional groupings for the three-year period 1996-98.

The analysis concentrates on the per caput energy, protein and lipid amounts available, plus the per caput amount of iron and Vitamin A. Global and regional data are presented (Tables 2 to 8) and the most important genera are presented graphically for each nutrient analysed (Graphs 1 to 7), while national data are supplied as tables for some selected countries (Tables 9 to 14).

4. Document CGRFA/CG-5/01/2

5. FAOSTAT is an on-line, multilingual database currently containing over 1 million time-series records covering international statistics in the following areas: Production, Trade, Food Balance Sheets, Fertilizer and Pesticides, Land Use and Irrigation, Forest Products, Fishery Products, Population, Agricultural Machinery, and Food Aid Shipments.

6. The FAO Food Balance Sheet shows the sources of supply for each food item and its utilization (i.e. each primary commodity and a number of processed commodities potentially available for human consumption). The commodities are classified by major food groups (cereals, starchy roots, sweeteners, pulses, tree nuts, oil crops, vegetables, fruit, stimulants, spices, alcoholic beverages, meat, milk, eggs, fish and seafood, vegetable oils, animal fats, and miscellaneous). Thus maize, for example, appears under cereals, vegetables (green corn) and oil (germ of maize).

7. Common names are used to clarify to which genus a particular crop belongs.

5. SOME LIMITATIONS OF THE STUDY

The main limitation of the study is the source of information:

- ***FAOSTAT*** data give no indication of the differences that may exist in the diet consumed by different population groups, e.g. different socio-economic groups, nor of differences among ecological zones and geographical areas within a country; neither do they provide information on seasonal variations in the total food supply. To obtain a complete picture, food consumption surveys showing the distribution of the national food supply at various times of the year among different groups of the population are required.
- ***Food supply data*** in many cases ignore losses of food and nutrients in the household (during storage, in preparation and cooking, through being fed to domestic animals, or by being thrown away). Furthermore, the data are only as good as the national statistics from which they are derived. Not only do they omit gathered foods, supplies from home gardens and local markets, but coverage of commercial supplies may be incomplete. In many cases national statistics agencies have to estimate quantities lost, wasted or used for non-food purposes.
- ***National data*** cannot reveal significant social, economic and regional differences in diet within countries. Just as global data can miss species of national importance, so can national data omit species that are important for particular socio-economic groups.
- ***Many minor crops*** or underutilized crop species,[8] although important contributors to total food availability and food security, are not recorded in national statistics.
- ***There are no data on key plants*** – the leaf vegetables, herbs, spices and other flavourings in the cuisines of the world. In many diets, a number of plant ingredients that weigh little and are negligible sources of nutrients are indispensable parts of the culinary repertoire because they make the nutritional staples more palatable. However, some spices are an important source of vitamin A and other micronutrients (e.g. chili and other capsicums provide more than 6% in Asia and the Pacific).
- ***Other important plant species*** are not included in statistics, such as forages important for animal diets.
- ***The comparisons are made*** relative to presumed total intakes and these intakes may be inadequate.

6. RESULTS

Global level (See Table 2 and Graph 1)

At the global level, the study shows that >65% of energy food supply is provided by only four crops and their derivatives. Rice and wheat each provide 25% of total plant-derived energy supplies, while sweeteners (sugar products - mainly sugar cane and sugar beet) provide 11% and maize 6.5%. Other

8. The terms “minor crops” and “underutilized species” are used variously to refer to plants that fulfil a wide range of functions. These plants are:
   - Staple crops for specific regions or localities. Such “minor staples” include various species of yam, proso millet, fonio (hungry rice), bambara groundnut, oca, taro/cocoyam, canihua, breadfruit, *Amaranthus*, quinoa, acanyt and buckwheat.
   - Vegetables, fruits and other species, including wild plants and “weeds” gathered for food which contribute to nutrition and dietary diversification.
   - Multipurpose trees, including trees managed in agroforestry systems and wild species that are harvested.
   - Crops that can contribute to agricultural diversification, including uncultivated or little cultivated species with alimentary or agricultural potential.

   Source: FAO. 1998. *The State of the World’s Plant Genetic Resources for Food and Agriculture.*

crops that supply a significant amount of energy are soybean (3%), with potato, cassava, sorghum, barley and peanuts each providing 2% of total energy intake. Fruits also provide 2%. Only a small amount of energy is provided by brassica (cabbages, rape, mustard), palm, millets, sunflower, sweet potato and beans (<1.5% each).

In terms of quantity, the most important sources of protein are wheat (>36%), rice (>22%), maize (>7%), soybean (>5%), beans and potatoes (>3% each), sorghum, peanut and millet (>2% each), chickpea and barley (>1% each), while other crops total 2%.

The importance of crops as suppliers of lipids is clear from the fact that soybean provides >20% of total lipids, peanut and palm (>11% each), brassica (cabbage, rape and mustards), and sunflower (>10% each), coconut (>6%), wheat (>5%), rice and maize (>4% each), cotton and olives (>3% each), and sesame, sorghum and cacao (>1% each).

Iron is provided by wheat (22%), rice (9%), maize (7%), soybean (5%), sweeteners (sugar cane and sugar beet) (4.5%), potato and beans (4% each), millet and sorghum (3% each), sweet potato, cassava, chickpea and tomato (>2% each), and barley, cabbage, rape, mustards, peppers, onion, leek, garlic (>1% each). Vegetables not elsewhere specified, spices and other cereals not elsewhere specified in FAO statistics contribute 7%, 2% and 1%, respectively.

The main sources of vitamin A are: palm (25%), carrot (16%), hibiscus (11%), peppers (6%), tomato and sweet potato (>5% each), mango (>3%), melons and spinach (>2% each), and lettuce and citrus (>1% each). Other unspecified plants contribute 18%.

The study has confirmed that there is a relatively narrow range of crop consumption patterns throughout the world, since four crops – rice, wheat, sugar (both cane and beet) and maize – provide >65% of human energy supplies intake from plants. The total energy provided by plants is 84%, while animals contribute the balance (16%). Plants supply 63% of protein, and animals 37%.

Africa (See Table 3 and Graph 2)

In Africa, plants provide the bulk of energy food supplies (93%), the rest coming from animal sources. Plants are also an important source of proteins and lipids, with 79% and 78%, respectively, the rest coming from animal sources.

The main sources of energy are maize, wheat, cassava, sorghum, rice, sweeteners (mainly sugar cane and sugar beet) and millet (which represents several genera). Regarding proteins, the main sources are cereals (wheat, maize, sorghum, millet and rice). Palm, peanut, sunflower, soybean, maize and sorghum are important sources of lipid. The main suppliers of iron are maize, sorghum, cassava, millet and wheat. The main sources of Vitamin A are palm, hibiscus, chili and other capsicums, carrots and other unspecified plants.

Asia and the Pacific (See Table 4 and Graph 3)

In Asia and the Pacific, plants provide 87% of energy food supplies, while animal sources provide 13%. Plants are also an important source of proteins (71%), while animals provide only 29%. Lipids sources are 56% from plant and 44% from animal products.

The main sources of energy and proteins are basically two cereals: rice and wheat. The sources of lipids are mainly soybean, peanut, brassica, palm, coconut, rice and sweet potato. A high percentage (>40%) is provided by animal products. The main suppliers of iron are wheat, rice, soybean and other unspecified plants. Vitamin A comes from palm, hibiscus and carrot, with a high percentage from unspecified plants.

Near East (See Table 5 and Graph 4)

In the Near East, plants provide 88% of energy food supplies, while only 12% come from animals. Plants are also an important source of protein (73%), animal sources providing the balance. Lipids derive from plant and animal products, 66% and 34%, respectively.

Wheat supplies >50% of total plant-derived energy food supplies and >60% of proteins. Other sources of energy are sweeteners (sugar cane and sugar beet mainly), rice, maize, sorghum and sunflower. Rice, maize, sorghum, chickpea and potatoes are also important sources of protein. Maize, sunflower seeds, soybean, palm, wheat and cotton seeds are the main contributors of lipids. Iron comes from wheat, followed by maize, and then sorghum, sweeteners (sugar products), tomato, potato, barley, chickpea and other unspecified plants. Palm, hibiscus, carrot, tomato and other unspecified plants are the main sources of vitamin A.

Europe (See Table 6 and Graph 5)

In Europe, plants provide 72.5% of the energy from the food supply, against 27.5% from animal products. In contrast, animal products supply 54% of total protein, and plants only 46%. The same situation is found with regard to lipids, where animal and plant products provide, respectively, 54% and 46%.

Wheat is the main source of energy and protein, supplying almost 37% and 57%, respectively, of total plant intake. Other important sources of energy are sweeteners (sugar cane and sugar beet mainly), potato, sunflower, barley and maize, while low levels of protein are provided by potato, maize, rye, barley, beans and rice. Lipids are mainly supplied by sunflower and olive, followed by brassica (cabbage, rape mustard), soybean, wheat, maize, peanut and cacao. Wheat is also the main contributor of iron. Other contributors are potato, tomato, maize, grapes and other unspecified plants. Vitamin A comes mainly from carrot, followed by unspecified vegetables, and then tomato and palm.

Latin America and the Caribbean (See Table 7 and Graph 6)

In Latin America and the Caribbean, plants provide 81% of the total energy intake, against the 19% provided by animal products. Regarding protein and lipids, plants and animal products provide almost equal proportions. Plants and animal products provide, respectively, 53% and 47% of total protein, and 54% and 46% of lipids.

Sweeteners (sugar cane and sugar beet mainly), maize, wheat, rice, soybean and cassava are the main sources of energy from plants. Proteins come largely from cereals (wheat, maize and rice), together with beans and potatoes. Soybean is the major contributor of lipids, followed by sunflower, palm, maize, coconut and wheat. Iron is supplied mainly by maize, bean, wheat, sweeteners, cassava, rice and potato. The main source of vitamin A is palm, followed by carrot, tomato, mango and other unspecified plants.

North America (See Table 8 and Graph 7)

In North America, plants provide 73% of the energy food supplies, with 27% coming from animal products. The main sources of protein are animal products (62.5%), while plants provide 37.5%. Lipids derive both from plant and animal products (52% and 48%, respectively).

The main sources of energy from plants are wheat and sweeteners (sugar cane and sugar beet mainly), followed by soybean, maize, barley, potato and rice. Wheat is also the main supplier of protein, while smaller proportions are provided by potato, maize, bean, peanut and rice. Soybean is the main contributor of lipids (>50%), followed by brassica (cabbage, rape, mustard), peanut, maize and wheat. Iron comes from wheat, sweeteners, potato, bean, maize and tomato. Carrot is the main supplier of vitamin A, followed by tomato, chili and other capsicums, lettuce and other unspecified plants.

7. CONCLUSIONS

The diets of Africa, Asia and the Pacific, the Near East and Latin America and the Caribbean are dominated by plant products, in contrast to North America and Europe. As income increases, the proportional contribution from plants decreases and that from animal products increases. Thus, for those countries and regions more susceptible to food shortages and stress, plant products and their nutrients play a more crucial role.

Total *per caput* energy supply increases as the economic productivity of a region increases. It should be noted that this increase is not simply due to the fact that people eat more as income increases, but rather that, with affluence, food waste is more prevalent, more secondary products are consumed and the reporting of food production, import and export figures are more complete.

As incomes increase, so does the amount and proportion of total energy, protein and lipid derived from animal products.

The contribution from plant products to protein and lipid in the diet is more important in poorer countries. In such countries, many of the plants products listed in Annex 1 of the Negotiation Draft contribute significant amounts of energy, as well as protein, lipid and the major micronutrients.

It is useful to compare the protein supply to a requirement value for protein. Assumptions must be made in determining a universal requirement value, and in adjusting the protein intake for digestibility and protein quality. Roughly, it can be said that the safe minimum level of intake of high quality protein is from 50 to 55 gram per day for men and 45 to 50 gram per day for women.

The "effective" amount of protein supplied in terms of reference protein is 40.9 gram for Africa, 49.5 gram for Asia and the Pacific, 53.2 gram for Latin America and the Caribbean, and 53.3 gram for the Near East. The correction factor for Latin America, the Caribbean and the Near East may have been too severe on account of the greater intake of animal products compared to the other two regions. The corrected intake of protein is below the requirement level in Africa, is marginally low in Asia and the Pacific, and just sufficient in Latin America and in the Near East.

For comparison, the corrected protein supply values for the USA, Canada and Europe are 81, 70 and 71 gram, respectively. Without doubt, in these three cases the correction has been too severe. It should also be remembered that, for the developing world, since the *per caput* supply amounts are perhaps underestimated and with them the protein supply. Thus, the actual amount of proteins reaching the population may be slightly greater than statistics imply.

The supply of lipids in the diet can come from concentrated sources (such as vegetable oil) or indirectly (the lipids in meat or pulses). The quality of the lipid in terms of fatty acid composition is important, and refers to both the presence of essential fatty acids and the absence of fatty acids considered to contribute to cardiovascular diseases. Lipid intake in many of the food-insecure areas of the world is low and dependent on plants (mainly in Africa and Asia), but lipids of plant origin contain more essential fatty acids.

Perhaps the most vital role played by many of the crops listed in Annex 1 of the Negotiation Draft is to contribute micronutrients. However, there is a problem with statistics, where they exist, in that they do not capture the available amounts of many of the crops that contain substantial amounts of the micronutrients. It is also difficult to assess the effective micronutrient availability in the crops due to deterioration during storage, processing and cooking, and the presence of inhibitors for particular nutrients or synergistic effects with other components of the diet.

Plant species diversity remains a significant factor for world food and nutritional security and cannot be measured only by energy supply. This is particularly the case in the developing countries, and a wide range of plants provide important nutritional benefits in a range of food production systems. Therefore it should be a conservation priority to maintain both this wide array of species and the diversity of genetic variants within each species.

8. SOURCES CONSULTED

FAO. 1991. Food Balance Sheets, 1984-1986 average.

FAO. 1992. International Conference on Nutrition. Nutrition and Development – A global assessment.

FAO. 1996. The State of the World's Plant Genetic Resources for Food and Agriculture. Background Documentation for the International Technical Conference on Plant Genetic Resources. Leipzig, Germany, June, 1996.

FAO. 1997. Food Balance Sheet, 1994.

FAO. 1998. *The State of the World's Plant Genetic Resources for Food and Agriculture.*

FAO. 2000. *The State of Food and Agriculture 2000*.

FAOSTAT Database.

Flores Palacios, X. 1997. Contribution to the Estimation of Countries' Interdependence in the Area of Plant Genetic Resources. Commission on Genetic Resources for Food and Agriculture. Background Study Paper, No. 7. FAO.

Broggio, M. (ed) 1998. *Which list of plant genetic resources for food and agriculture for the future multilateral system?* Proceedings of the International Workshop on Inter-Dependence and Food Security. Florence, Italy: IAO [Istituto Agronomico per l'Oltremare].

Prescott-Allen, R., & Prescott-Allen, C. 1990. How many plants feed the world? *Conservation Biology*, **4**(4).

TABLES AND GRAPHS

Table 1. Part A: Genera, their common name(s) and the FAO Food Commodity included in the genus

Note: *nes* = not elsewhere specified

ACTINIDIA Kiwi

ALLIUM Onion, leek, garlic
- Onions & Shallots, Green
- Onions, Dry
- Garlic
- Leeks & other vegetable alliums

ANANAS Pineapple
- Pineapples
- Pineapples, Canned
- Pineapple juice – Single strength
- Pineapple juice – Concentrated

ANACARDIUM Cashew
- Cashew Nuts
- Cashew Nuts Shelled
- Cashew apple

ARACHIS Peanut
- Groundnuts in Shell
- Groundnuts Shelled
- Oil of Groundnuts
- Cake of Groundnuts
- Prepared Groundnuts
- Peanut Butter

ARECA Betel nut

ASPARAGUS Asparagus

AVENA Oat
- Oats
- Oats, Rolled

BERTHOLLETIA Brazil nut
- Brazil Nuts
- Brazil Nuts Shelled

BRASSICA Cabbages, rape, mustard
- Rapeseed
- Oil of Rapeseed
- Mustard Seed
- Oil of Mustard Seed
- Flour of Mustard
- Cabbages
- Cauliflower

BUTYROSPERMUM Shea-butter seed
- Karite Nuts (Shea nuts)
- Butter of Karite Nuts

CAJANUS Pigeon pea

CAMELLIA Tea
- Tea
- Mate
- Extract of Tea, Mate, Prepared
- Tea *nes*

CAPSICUM Chili & other capsicums
- Chilies & Peppers
- Pimento, Allspice

CARICA Papaya

CARTHAMUS Safflower
- Safflower Seed
- Oil of Safflower

CASTANEA Hazelnut

CERATONIA Caroba

CHENOPODIUM Quinoa

CICER Chickpea

CICHORIUM Chicory root

CINNAMOMUM Cinnamon (Canella)

CITRUS Citrus
- Oranges
- Orange juice – Single-strength
- Orange juice – Concentrated
- Tangerines, Mandarins, Clementines, Satsumas
- Tangerine Juice
- Lemons and Limes
- Lemon juice – Single-Strength
- Lemon juice – Concentrated
- Grapefruit and Pomelos
- Grapefruit juice – Single strength
- Grapefruit juice – Concentrated
- Citrus Fruit *nes*
- Citrus juice – Single strength
- Citrus juice – Concentrated

COCOS Coconut
- Coconuts
- Coconuts, Desiccated
- Copra
- Oil of Coconuts

COFFEA Coffee
- Coffee, Green
- Coffee, Roasted
- Coffee – Substances containing Coffee
- Coffee Extracts

COLA Kola nut

COLOCASIA Taro
- Yautia (Cocoyam)
- Taro (Coco Yam)

CORYLUS Hazelnut
- Hazelnuts (Filberts)
- Hazelnuts Shelled

CUCURBITA Pumpkin & Melon
- Melonseed
- Pumpkins, Squashes, Gourds
- Cucumbers and Gherkins
- Watermelons
- Cantaloupes & other Melons

CYDONIA Quince

CYNARA Artichoke

DAUCUS Carrot

DIGITARIA Fonio
- Fonio
- Flour of Fonio

DIOSCOREA Yam

DIOSPYROS Persimmons

EUGENIA Cloves, Whole+Stems

ELAEIS Oil & Kernel palm
- Oil Palm Fruit
- Palm Kernels
- Oil of Palm
- Oil of Palm Kernels

FAGOPYRUM Buckwheat
- Buckwheat
- Flour of buckwheat

FICUS Fig
- Figs
- Figs, Dried

GLYCINE Soybean
- Soybeans
- Oil of Soya Beans
- Cake of Soya Beans
- Soya Sauce
- Soya Paste
- Soya Curd

GOSSYPIUM Cotton
- Cotton Seed
- Oil of Cotton Seed

HELIANTHUS Sunflower
- Sunflower Seed
- Oil of Sunflower Seed

HIBISCUS Hibiscus

HORDEUM Barley
- Barley
- Pot Barley
- Barley, Pearled
- Barley Flour and Grits
- Malt of Barley
- Malt Extracts
- Beer of Barley

IPOMOEA Sweet Potato

JUGLANS Walnut
- Walnuts
- Walnuts Shelled

LACTUCA Lettuce

LENS Lentil

LINUM Flax
- Linseed

Oil of Linseed
LUPINUS Lupine
MALUS Apple
Apples
Fermented beverages excluding wine
Applejuice – Single strength
Applejuice – Concentrated
MANGO Mango
Mangoes
Mango Juice
Mango Pulp
MANIHOT Cassava
Cassava
Flour of Cassava
Cassava Tapioca
Cassava Dried
Cassava Starch
Cassava Leaves
PENNISETUM *& others* Millet
Millet
Flour of Millet
Beer of Millet
MUSA Banana, plantain
Bananas
Plantains
OLEA Olive
Olives
Oil of Olive
Olives, Preserved
Oil of Olive Residues
ORYZA Rice
Rice, Paddy
Rice, Husked
Milled/Husked Rice
Milled Paddy Rice
Rice, Broken
Rice Gluten
Rice Starch
Bran of Rice
Oil of Rice Bran
Rice Flour
Rice – Fermented Beverages
PAPAVER Poppy seed
Poppy Seed
Oil of Poppy Seed
PERSEA Avocado
PHASEOLUS Bean
Beans, Dry
Beans, Green
String Beans
PHOENIX Date
PIPER Pepper
PISTACIA Pistachio
PISUM Pea
Peas Dry
Peas Green
PRUNUS Prunus
Almonds
Almonds, Shelled
Apricots
Dry Apricots
Sour Cherries
Cherries
Peaches and Nectarines
Plums
Plums, Dried (Prunes)
Plum juice – Single strength
Plum juice – Concentrated
PYRUS Pear
RICINUS Castor bean
Secale Rye
Rye
Flour of Rye
SESAMUM Sesame
Sesame Seed
Oil of Sesame Seed
Cake of Sesame Seed
SOLANUM *[lycopersicon].* Tomato
Tomatoes
Tomato juice – Concentrated
Tomato juice – Single-Strength
Tomato Paste
Peeled Tomatoes
SOLANUM *[melongena].* Eggplant
SOLANUM *[tuberosum].* Potato
Potatoes
Flour of Potatoes
Potatoes, frozen
Potato Starch
Potato Tapioca
SORGHUM Sorghum
Sorghum
Flour of Sorghum
Beer of Sorghum
SPINACIA Spinach
STILLINGIA Stillingia
THEOBROMA Cacao
Cocoa Beans
Cocoa Paste
Cocoa Butter
Cocoa Powder and Cake
Chocolate Products *nes*
TRITICALE Triticale
Triticale
Flour of Triticale
TRITICUM Wheat
Wheat
Flour of Wheat
Bran of Wheat
Macaroni
Germ of Wheat
Bread
Bulgur, Wholemeal
Pastry
Wheat Starch
Wheat Gluten
Wheat Fermented Beverage
VANILLA Vanilla
VERNICIA Oil of Tung
VICIA Faba bean
Broad Beans, Dry
Vetches
Broad Beans, Green
VIGNA Cowpea
VITIS Grape & Raisin
Grapes
Raisins
Grape Juice
Must of Grapes
Wine
VOANDZEIA Bambara groundnut
ZEA
Maize
Maize
Germ of Maize
Flour of Maize
Oil of Maize
Maize Gluten
Starch of Maize
Beer of Maize
Pop Corn
Green Corn (Maize)
Sweet Corn – Frozen
Sweet Corn – Prepared or preserved
ZINGIBER Ginger

Table 1 (Cont.). Part B: Food groups by common name and their derived products for product groups not attributable to a single genus

Note: *nes* = not elsewhere specified

ANISE, BADIAN, FENNEL

BERRIES
- Strawberries
- Raspberries
- Gooseberries
- Currants
- Blueberries
- Cranberries
- Berries *nes*

CEREAL *nes*
- Breakfast Cereals
- Canary Seed
- Mixed grains
- Flour of Mixed Grains
- Cereal *nes*
- Infant Food
- Wafers
- Flour of Cereals
- Cereal – Prepared *nes*
- Mixes and Doughs
- Food Prep. Flour, Malt Extract

FRUITS *nes*
- Stone Fruit *nes*, Fresh
- Pome juice *nes*, Fresh
- Fruit Tropical Fresh *nes*
- Fruit Tropical Dried *nes*
- Fruit Fresh *nes*
- Fruit Dried *nes*
- Fruit Juice *nes*
- Fruit Prepared *nes*
- Flour of Fruit
- Fruit Nut, Peel, Sugar Preserved
- Homogenous Cooked Fruit Preserve
- Beverages – Non-alcoholic
- Beverages – Distilled alcoholic

MUSHROOMS
- Mushrooms
- Dried Mushrooms
- Canned Mushrooms

NUTMEG, MACE, CARDAMOM

NUTS *nes*
- Nuts *nes*
- Prepared Nuts (Excluding Groundnuts)

OILSEEDS
- Oilseeds *nes*
- Oil of Vegetable Origin *nes*
- Flour/Meal of Oilseeds

PULSES *nes*
- Pulses *nes*
- Flour of Pulses

ROOTS & TUBERS *nes*
- Roots and Tubers *nes*
- Flour of Roots and Tubers
- Roots and Tubers Dried

SPICES *nes*

SWEETENERS sugar cane & beet
- Fructose Chemically Pure
- Maltose Chemically Pure
- Sugar Cane
- Sugar Beets
- Maple Sugar and Syrups
- Sugar Crops *nes*
- Sugar (Centrifugal, Raw)
- Sugar non-Centrifugal
- Sugar Refined
- Molasses
- Other Fructose and Syrup
- Sugar and Syrups *nes*
- Sugar Confectionery
- Beet Pulp, Dry
- Sugars, Flavoured
- Glucose and Dextrose
- Lactose
- Isoglucose

VERMOUTHS AND SIMILAR

VEGETABLES *nes*
- Vegetable Products – Fresh or Dried
- Vegetables Fresh *nes*
- Vegetables Dried *nes*
- Vegetables Canned *nes*
- Juice of Vegetables *nes*
- Vegetables Dehydrated
- Vegetables Preserved by vinegar
- Vegetables Prepared *nes*
- Vegetables Frozen
- Vegetables in Temporary Preservative
- Vegetables Prepared or Preserved Frozen
- Homogenized Vegetable Preparations

.

Table 2A. World – Percent energy, protein, lipids, iron and Vitamin A supply from different crop groups relative to total supply from plants Average of three years (1996 -1998). (Source: FAOSTAT commodities database)

Food	Energy (%)	Food	Protein (%)	Food	Lipid (%)	Food	Iron (%)	Food	Vit. A[1] (%)
Rice	25.0	Wheat	35.6	Soybean	20.4	Wheat	21.6	Palm[3]	25.4
Wheat	24.6	Rice	22.4	Peanut	11.2	Rice	8.5	Vegetables *nes*	18.1
Sweeteners	10.6	Maize	6.8	Palm[3]	10.5	Maize	7.0	Carrot	15.7
Maize	6.5	Soybean	4.6	Brassicas[2]	9.7	Vegetables *nes*	7.0	Hibiscus	10.7
Soybean	3.2	Beans	3.1	Sunflower	9.6	Soybean	4.9	Peppers	5.5
Potato	2.4	Potato	2.7	Coconut	6.2	Sweeteners	4.5	Tomato	4.8
Cassava	1.8	Vegetables *nes*	2.3	Wheat	5.3	Potato	3.9	Sweet potato	4.6
Peanut	1.7	Sorghum	2.3	Rice	3.9	Beans	3.7	Mango	3.2
Fruits *nes*	1.7	Peanut	1.9	Maize	3.5	Millets[4]	3.3	Melons	2.1
Sorghum	1.6	Millets[4]	1.8	Cotton	3.4	Sorghum	3.3	Spinach	1.9
Barley	1.6	Chickpea	1.3	Olives	3.2	Sweet potato	2.3	Lettuce	1.0
Brassicas[2]	1.5	Barley	1.1	Sesame	1.4	Cassava	2.2	Citrus	1.0
Palm[3]	1.4			Sorghum	1.0	Spices *nes*	1.9		
Millets[4]	1.3			Cacao	1.0	Chickpea	1.8		
Sunflower	1.3					Tomato	1.6		
Sweet potato	1.2					Barley	1.3		
Beans	1.0					Brassicas[2]	1.2		
						Peppers	1.2		
						Allium	1.1		
						Cereal *nes*.	1.0		

Notes: *nes* = not elsewhere specified. (1) Vitamin A equivalent. (2) Includes cabbages, rapes and mustards. (3) Oil and kernel palm. (4) *Pennisetum* millets only; excludes *Digitaria* millets.

Table 2B. World – Annual per caput quantitative contribution from all genera and food groups. Average of three years (1996 -1998). (Source: FAOSTAT commodities database)

Genus or food group	Mean energy for 1996-98		Protein	Lipids	Iron	Vitamin A equivalent
	kcal	kJ	g	g	mg	µg
ORYZA	210 096	879 040	3 906.8	494.5	379.0	0.0
TRITICUM	207 043	866 267	6 201.1	668.8	964.6	0.0
SWEETENERS	89 221	373 299	34.6	0.0	202.7	0.0
ZEA	54 672	228 749	1 189.1	443.7	314.3	1 305.7
GLYCINE	26 820	112 213	805.0	2 586.0	219.4	33.1
SOLANUM [TUBEROSUM]	19 833	82 982	467.0	29.1	176.3	382.1
MANIHOT	15 472	64 734	106.1	28.0	98.0	13.9
ARACHIS	14 240	59 582	322.8	1 422.0	40.0	0.0
FRUITS *nes*	14 002	58 585	34.5	29.6	25.0	2 627.3
SORGHUM	13 883	58 087	401.6	130.0	147.5	65.7
HORDEUM	13 621	56 991	197.5	13.1	57.5	0.0
BRASSICA	12 460	52 134	115.4	1 223.4	53.3	774.8
ELAEIS	11 690	48 912	0.1	1 322.2	0.1	73 281.9
MILLET (*PENNISETUM*, NOT *DIGITARIA*)	11 001	46 028	311.6	96.0	147.8	0.0
HELIANTHUS	10 776	45 088	9.1	1 213.1	2.7	1.9
IPOMOEA	10 490	43 890	79.8	22.8	102.6	13 207.5
PHASEOLUS	8 408	35 181	543.0	42.9	166.6	340.2
COCOS	7 890	33 010	56.4	780.4	42.5	0.0
MUSA	7 335	30 690	82.9	34.0	29.8	2 354.3
VEGETABLES *nes*	6 686	27 975	403.1	59.7	312.8	52 297.7
MALUS	4 496	18 813	9.5	22.3	18.9	243.7

Genus or food group	Mean energy for 1996-98		Protein	Lipids	Iron	Vitamin A equivalent
	kcal	kJ	g	g	mg	µg
VITIS	4 388	18 359	18.0	10.1	23.8	147.1
ALLIUM	4 014	16 793	158.6	18.9	51.1	2 711.1
CICER	3 908	16 352	219.4	49.1	79.7	109.2
CITRUS	3 894	16 292	75.9	14.1	16.1	2 829.4
GOSSYPIUM	3 783	15 826	0.0	427.9	0.0	0.0
OLEA	3 675	15 375	3.4	410.4	3.7	38.8
SECALE	3 221	13 477	85.2	17.0	19.0	0.0
CUCURBITA & CUCUMIS	2 984	12 484	87.2	49.5	42.0	5 994.6
DIOSCOREA	2 746	11 489	35.3	5.4	13.6	0.0
CEREAL *nes*	2 629	10 999	67.5	12.9	46.7	2.3
SOLANUM [LYCOPERSICON]	2 390	9 998	112.1	27.7	71.7	13 767.5
PISUM	2 248	9 404	147.0	12.1	30.7	314.6
PRUNUS	2 054	8 594	42.7	61.2	9.9	2 038.6
CAPSICUM	1 760	7 364	70.5	68.3	53.2	15 857.0
SESAMUM	1 732	7 248	24.3	175.2	20.1	1.4
PULSES *nes*	1 665	6 968	107.8	9.8	28.4	26.1
MANGO	1 537	6 431	13.6	6.9	4.4	9 088.4
CACAO	1 375	5 754	36.6	122.2	16.3	10.1
CAJANUS	1 338	5 600	81.6	6.6	19.1	104.1
LENS	1 335	5 585	93.4	6.9	27.0	38.6
VICIA	1 259	5 268	88.2	7.3	26.6	36.5
AVENA	1 171	4 898	48.7	19.2	12.8	30.8
PHOENIX	1 085	4 538	10.4	2.8	11.8	59.1
PYRUS	1 079	4 515	8.0	8.0	4.0	36.6
DAUCUS	1 064	4 453	25.2	5.6	11.2	45 372.2
ROOTS & TUBERS *nes*	984	4 119	17.3	2.2	8.9	128.2
VIGNA	913	3 821	62.5	4.8	17.4	4.5
ANANAS	788	3 296	5.2	3.1	4.9	19.5
COLOCASIA	690	2 887	12.0	1.6	7.8	0.0
SOLANUM [MELONGENA]	687	2 872	29.4	3.3	13.1	185.2
SPICES *nes*	665	2 783	22.3	30.6	87.1	908.1
ANACARDIUM	563	2 355	14.7	39.8	7.6	212.7
JUGLANS	527	2 203	11.7	50.7	2.0	9.8
OILSEEDS	516	2 159	13.3	48.0	4.5	4.9
COFFEA	464	1 939	59.8	0.0	17.8	0.0
ZINGIBER	417	1 744	10.9	7.2	13.8	18.0
NUTS *nes*	406	1 697	10.5	37.9	2.2	0.7
PERSEA	403	1 685	5.1	38.3	2.7	158.5
FAGOPYRUM	376	1 575	7.7	1.4	2.2	0.0
CORYLUS	349	1 460	7.2	34.6	1.8	3.9
TRITICALE	301	1 259	10.1	1.9	2.0	0.0
LACTUCA	295	1 236	27.1	4.9	17.2	2 888.3
BERTHOLLETIA	268	1 119	5.4	7.6	4.2	3.3
CARTHAMUS	266	1 112	0.3	29.9	0.3	0.0
BERRIES	264	1 105	5.3	2.8	4.2	49.5
ARECA	234	979	4.7	4.2	4.0	3.3
TEA	233	973	58.2	0.0	0.3	0.0
DIOSPYROS	225	943	1.6	0.8	3.0	501.0
HIBISCUS	204	852	10.5	2.0	16.4	30 869.6
BUTYROSPERMUM	194	811	0.1	22.9	0.0	0.0
CARICA	189	789	2.9	0.7	0.7	977.0
ANISE, BADIAN, FENNEL	187	782	8.6	8.1	10.0	7.6
SPINACIA	185	775	24.3	3.5	24.3	5 604.0
PISTACIA	166	696	5.9	13.9	2.0	6.6
CASTANEA	135	565	1.5	1.5	0.6	1.9

Genus or food group	Mean energy for 1996-98		Protein	Lipids	Iron	Vitamin A equivalent
	kcal	kJ	g	g	mg	µg
FICUS	132	553	1.5	0.6	0.9	17.5
PIPER	111	464	4.3	1.1	8.7	3.8
COLA	108	450	2.8	0.6	1.8	0.0
DIGITARIA	107	450	3.0	0.9	1.3	0.0
MUSHROOMS	102	426	7.0	1.3	3.6	0.0
ACTINIDIA	68	285	1.2	0.5	0.5	20.3
ASPARAGUS	67	278	8.9	0.6	20.0	264.2
LINUM	53	221	0.4	5.4	0.1	0.1
NUTMEG, MACE, CARDAMOM	52	219	0.6	3.6	0.3	1.0
VERMOUTHS AND SIMILAR	51	211	0.0	0.0	0.1	0.0
CINNAMON (CANELLA)	37	155	0.6	0.5	5.4	3.7
CYNARA	36	150	2.0	0.2	1.3	12.9
VOANDZEIA	26	110	1.3	0.5	0.5	0.2
PAPAVER	23	96	0.8	1.9	0.4	0.0
CICHORIUM	23	95	0.4	0.1	0.3	0.3
CYDONIA	19	80	0.1	0.1	0.2	1.4
STILLINGIA	18	76	0.0	2.0	0.0	0.0
CLOVES, WHOLE+STEMS	16	66	0.3	1.0	0.4	2.6
LUPINUS	10	40	1.0	0.3	0.2	0.0
VANILLA	4	15	0.1	0.1	0.0	0.0
CERATONIA	1	4	0.0	0.0	0.1	0.0
RICINUS	0	0	0.0	0.0	0.0	0.0
TOTAL	2 306	9 648	47.8	34.6	12.3	790.2

Table 2C. World – Summary of plant vs animal products as sources of energy, protein and lipid. Based on data in Table 2B.

	Energy		Protein		Lipid	
	kcal	%	g	%	g	%
Plant sources	2 338	84.0	47.3	63.4	39.8	54.7
Animal sources	445	16.0	27.3	36.6	32.9	45.3
Total	2 783	100	74.6	100	72.7	100

Table 3A. Africa – Percent energy, protein, lipids, iron and Vitamin A supply from different crop groups relative to total supply from plants Average of three years (1996 -1998). (Source: FAOSTAT commodities database)

Food	Energy (%)	Food	Protein (%)	Food	Lipid (%)	Food	Iron (%)	Food	Vit. A[1] (%)
Maize	17.1	Wheat	20.2	Palm[3]	23.1	Maize	15.2	Palm[3]	45.4
Wheat	13.9	Maize	18.7	Peanut	19.5	Sorghum	13.0	Hibiscus	18.2
Cassava	10.9	Sorghum	11.5	Sunflower	8.9	Cassava	10.2	Vegetables *nes*	7.8
Sorghum	8.4	Millets[4]	7.0	Soybean	7.1	Millets[4]	9.9	Chili & other capsicum	6.4
Rice	7.0	Rice	6.6	Maize	5.7	Wheat	9.6	Carrot	5.1
Sweeteners	5.8	Cassava	3.7	Sorghum	4.6	Beans	3.1	Banana & plantain	3.7
Millets[4]	5.2	Beans	3.4	Cotton	2.7	Rice	3.1	Sweet potato	3.7
Palm[3]	3.4	Peanut	3.4	Wheat	2.7	Vegetables *nes*	2.9	Mango	2.0
Peanut	3.2	Cowpea	3.2	Millets[4]	2.6	Cowpea	2.7	Tomato	2.0
Yam	2.9	Barley	2.1	Brassicas[2]	2.5	Cereal *nes*	2.1	Fruits *nes*	1.0
Banana & plantain	2.6	Pulses *nes*	1.9	Olive	2.5	Yam	2.1	Maize	1.0
Barley	1.8	Yam	1.8	Coconut	2.3	Barley	2.0		
Sunflower	1.3	Cereal *nes*	1.7	Sesame	2.0	Banana & plantain	1.9		
Cereal *nes*	1.3	Soybean	1.5	Pumpkin & melon	1.6	Sweet potato	1.8		
Sweet potato	1.2	Banana & plantain	1.4	Shea-butter	1.4	Pulses *nes*	1.5		
Soybean	1.2	Faba bean	1.4	Rice	1.3	Pumpkins & melons	1.4		
Beans	1.1	Vegetables *nes*	1.3	Oilseeds	1.3	Apple	1.3		
Cowpea	1.0			Cassava	1.0	Peanut	1.3		
						Faba bean	1.2		
						Soybean	1.1		
						Chili & other capsicum	1.1		
						Potato	1.0		
						Roots& tubers *nes*	1.0		

Notes: *nes* = not elsewhere specified. (1) Vitamin A equivalent. (2) Includes cabbages, rapes and mustards. (3) Oil and kernel palm. (4) *Pennisetum* millets only; excludes *Digitaria* millets.

Table 3B. Africa – Annual per caput quantitative contribution from all genera and food groups. Average of three years (1996 -1998). (Source: FAOSTAT commodities database)

Genus or food group	Mean energy for 1996-98		Protein	Lipids	Iron	Vitamin A equivalent
	kcal	kJ	g	g	mg	µg
ZEA	134 500	562 749	3 054.7	750.5	823.4	3 340.8
TRITICUM	109 328	457 427	3 288.9	355.0	516.4	0.0
MANIHOT	85 730	358 693	609.2	160.9	550.1	74.9
SORGHUM	65 668	274 756	1 869.9	600.2	704.0	303.1
ORYZA	55 214	231 017	1 078.5	173.1	165.7	0.0

Genus or food group	Mean energy for 1996-98		Protein	Lipids	Iron	Vitamin A equivalent
	kcal	kJ	g	g	mg	µg
SWEETENERS	45 284	189 470	5.5	0.0	39.0	0.0
MILLET [*PENNISETUM*, NOT *DIGITARIA*]	40 510	169 495	1 135.8	348.0	536.2	0.0
ELAEIS	26 851	112 343	1.0	3 035.4	0.9	150 826.1
ARACHIS	25 491	106 655	551.4	2 561.0	69.6	0.0
DIOSCOREA	22 592	94 524	290.8	44.7	111.8	0.0
MUSA	20 532	85 905	223.1	86.2	101.4	12 418.6
HORDEUM	14 492	60 634	337.0	41.8	110.1	0.0
HELIANTHUS	10 393	43 484	4.2	1 172.9	1.3	0.9
CEREAL *nes*	10 330	43 221	282.5	32.7	113.5	0.4
IPOMOEA	9 708	40 618	73.9	21.1	95.0	12 222.9
GLYCINE	9 435	39 475	252.0	935.3	59.8	11.0
PHASEOLUS	8 553	35 784	554.0	42.9	166.1	134.8
VIGNA	7 557	31 620	517.1	39.8	143.6	36.8
SOLANUM [TUBEROSUM]	6 243	26 122	148.7	9.3	55.8	122.9
MALUS	5 867	24 549	12.5	2.9	69.9	32.4
ROOTS & TUBERS *nes*	5 485	22 951	96.4	12.1	54.2	841.6
FRUITS *nes*	5 102	21 348	36.3	29.8	23.2	3 405.0
PULSES *nes*	4 806	20 107	311.0	28.3	82.0	75.4
VEGETABLES *nes*	3 401	14 228	203.9	29.5	157.9	26 022.9
COLOCASIA	3 351	14 019	58.4	7.8	39.0	0.0
GOSSYPIUM	3 185	13 324	0.0	360.2	0.0	0.0
CUCURBITA & CUCUMIS	3 137	13 127	129.6	210.7	75.6	2 161.8
VICIA	3 048	12 752	221.4	17.7	66.5	79.3
BRASSICA	3 046	12 746	8.6	330.7	4.3	62.8
COCOS	2 933	12 274	13.3	305.5	10.0	0.0
OLEA	2 920	12 218	4.8	322.3	4.9	53.7
SESAMUM	2 795	11 693	60.0	264.9	49.5	3.4
CITRUS	2 453	10 264	47.7	13.1	9.6	896.9
CAPSICUM	2 085	8 722	82.1	90.3	59.6	21 232.1
PISUM	1 717	7 186	111.8	9.0	22.2	102.7
BUTYROSPERMUM	1 590	6 651	0.7	188.0	0.2	0.1
PHOENIX	1 545	6 466	14.9	4.0	16.8	84.2
CICER	1 537	6 429	86.3	19.3	31.3	42.9
OILSEEDS	1 461	6 112	0.9	164.6	0.3	0.3
ALLIUM	1 290	5 396	52.1	7.5	22.7	3 084.3
SOLANUM [LYCOPERSICON]	1 282	5 365	59.6	14.7	40.1	6 566.0
VITIS	1 215	5 083	5.0	3.1	6.3	47.0
MANGO	1 121	4 690	10.0	5.0	2.5	6 683.6
COLA	948	3 965	24.4	5.4	16.3	0.0
PRUNUS	947	3 963	27.7	58.7	5.9	805.8
LENS	755	3 158	52.8	3.9	15.3	21.8
DIGITARIA	743	3 107	18.8	4.6	7.1	0.0
ANANAS	659	2 758	4.8	4.5	4.8	22.3
ANACARDIUM	627	2 622	18.4	49.0	9.4	95.2

Genus or food group	Mean energy for 1996-98		Protein	Lipids	Iron	Vitamin A equivalent
	kcal	kJ	g	g	mg	µg
CAJANUS	615	2 573	37.5	3.0	8.8	47.8
ZINGIBER	427	1 786	11.2	7.4	14.1	18.5
NUTS *nes*	419	1 752	11.1	39.7	2.6	0.2
DAUCUS	400	1 675	9.5	2.1	4.2	17 066.6
HIBISCUS	399	1 669	20.6	3.9	32.2	60 483.9
AVENA	354	1 481	14.7	5.8	3.9	9.2
CARICA	353	1 479	5.4	1.4	1.4	1 830.8
CACAO	351	1 471	8.1	31.0	3.8	2.0
PERSEA	279	1 167	3.5	26.5	1.9	109.7
VOANDZEIA	232	969	11.2	4.0	4.8	1.9
COFFEA	213	893	29.2	0.0	9.0	0.0
TEA	194	810	48.4	0.0	0.0	0.0
ANISE, BADIAN, FENNEL	190	795	8.7	8.2	10.2	7.7
FICUS	183	764	2.1	0.8	1.3	22.8
SPICES *nes*	165	692	5.5	7.6	21.6	225.6
CARTHAMUS	140	586	2.7	14.4	2.7	0.0
PYRUS	135	563	1.0	1.0	0.5	4.6
SOLANUM [MELONGENA]	65	274	2.8	0.3	1.2	17.7
FAGOPYRUM	55	229	1.0	0.2	0.3	0.0
PIPER	37	154	1.4	0.4	2.9	1.3
JUGLANS	30	124	0.7	2.8	0.1	0.5
BERTHOLLETIA	26	109	0.6	2.6	0.1	0.0
LINUM	25	103	0.9	1.7	0.1	0.2
SECALE	24	101	0.6	0.1	0.1	0.0
VERMOUTHS AND SIMILAR	22	94	0.0	0.0	0.1	0.0
CYNARA	22	91	1.2	0.1	0.8	7.8
CYDONIA	18	74	0.1	0.1	0.2	1.3
CLOVES, WHOLE+STEMS	17	70	0.3	1.0	0.4	2.7
CICHORIUM	16	68	0.3	0.1	0.2	0.2
CORYLUS	15	61	0.3	1.4	0.1	0.2
NUTMEG, MACE, CARDAMOM	14	57	0.2	0.9	0.1	0.3
CINNAMON (CANELLA)	13	53	0.2	0.2	1.9	1.3
LACTUCA	11	45	1.0	0.2	0.6	104.2
PISTACIA	10	40	0.3	0.8	0.1	0.4
SPINACIA	8	34	1.1	0.2	1.1	246.0
MUSHROOMS	7	28	0.4	0.1	0.1	0.0
ASPARAGUS	6	25	0.8	0.0	1.8	23.5
CERATONIA	4	17	0.1	0.0	0.3	0.0
BERRIES	4	17	0.1	0.1	0.1	0.4
VANILLA	4	15	0.1	0.1	0.0	0.0
ACTINIDIA	1	3	0.0	0.0	0.0	0.2
CASTANEA	1	3	0.0	0.0	0.0	0.0
ARECA	0	2	0.0	0.0	0.0	0.0

Genus or food group	Mean energy for 1996-98		Protein	Lipids	Iron	Vitamin A equivalent
	kcal	kJ	g	g	mg	µg
TOTAL	2 151	8 998	44.6	36.0	14.8	910.0

Note: Other genera contributed <0.95% each (*Diospyros, Lupinus, Papaver, Ricinus. Stillingia, Triticale*)

Table 3C. Africa – Summary of plant vs animal products as sources of energy, protein and lipid. Based on data in Table 3B.

	Energy		Protein		Lipid	
	kcal	%	g	%	g	%
Plant sources	2 177	92.9	45.4	79.1	39.0	78.2
Animal sources	167	7.1	12.0	20.9	10.9	21.8
Total	2 344	100	57.4	100	49.9	100

Table 4A. Asia and the Pacific – Percent energy, protein, lipids, iron and Vitamin A supply from different crop groups relative to total supply from plants Average of three years (1996 -1998). (Source: FAOSTAT commodities database)

Food	Energy (%)	Food	Protein (%)	Food	Lipid (%)	Food	Iron (%)	Food	Vit. A[1] (%)
Rice	38.9	Rice	33.3	Soybean	19.1	Wheat	19.8	Vegetables *nes*	24.3
Wheat	22.4	Wheat	31.0	Peanut	14.4	Rice	13.0	Palm[3]	23.8
Sweeteners	7.4	Soybean	7.3	Brassicas[2]	13.0	Vegetables nes	9.7	Hibiscus	12.2
Maize	3.8	Maize	3.7	Palm[3]	10.9	Soybean	8.1	Carrot	9.6
Soybean	3.0	Vegetables *nes*	3.0	Coconut	10.4	Sweeteners	5.7	Sweet potato	6.7
Peanut	1.9	Beans	2.1	Rice	6.8	Maize	4.0	Chili & other capsicum	6.0
Sweet potato	1.9	Chickpea	1.8	Wheat	5.1	Sweet potato	3.5	Mango	4.1
Fruits *nes*	1.9	Peanut	1.8	Sunflower	3.5	Millets[4]	3.2	Spinach	2.8
Brassicas[2]	1.8	Millets[4]	1.7	Cotton	3.3	Spices *nes*	3.1	Tomato	2.6
Coconut	1.4	Sorghum	1.6	Maize	1.8	Chickpea	2.7	Pumpkins & melons	2.1
Potato	1.3	Potato	1.4	Sesame	1.7	Bean	2.6		
Palm[3]	1.3	Allium	1.0			Sorghum	2.3		
Millets[4]	1.3					Potato	2.2		
Sorghum	1.2					Cocos	1.5		
Vegetables *nes*	1.1					Brassicas[2]	1.3		
						Chili & other capsicums	1.2		
						Allium	1.2		

Notes: *nes* = not elsewhere specified. (1) Vitamin A equivalent. (2) Includes cabbages, rapes and mustards. (3) Oil and kernel palm. (4) *Pennisetum* millets only; excludes *Digitaria* millets.

Table 4B. Asia and the Pacific – Annual per caput quantitative contribution from all genera and food groups. Average of three years (1996 -1998). (Source: FAOSTAT commodities database)

Genus or food group	Mean energy for 1996-98		Protein	Lipids	Iron	Vitamin A equivalent
	kcal	kJ	g	g	mg	µg
ORYZA	331 744	1 388 018	6 157.7	776.3	586.3	0.0
TRITICUM	191 051	799 358	5 731.5	580.7	896.0	0.0
SWEETENERS	63 172	264 312	47.3	0.0	256.9	0.0
ZEA	32 343	135 322	688.0	206.6	181.2	723.1
GLYCINE	25 984	108 718	1 344.2	2 189.8	368.0	55.2
ARACHIS	16 253	68 002	329.0	1 645.8	40.8	0.0
IPOMOEA	15 981	66 863	121.6	34.7	156.3	20 120.5
FRUITS *nes*	15 818	66 183	38.2	36.0	27.4	2 443.6
BRASSICA	14 983	62 687	132.5	1 485.7	60.5	862.1
COCOS	12 071	50 504	87.5	1 190.3	66.6	0.0
SOLANUM [TUBEROSUM]	11 268	47 147	261.0	16.4	99.2	212.5
ELAEIS	10 992	45 991	0.0	1 243.5	0.0	71 844.3
MILLET [*PENNISETUM*, NOT *DIGITARIA*]	10 767	45 050	307.2	95.0	146.1	0.0
SORGHUM	9 886	41 363	291.1	95.1	103.8	48.0
VEGETABLES *nes*	9 139	38 238	560.1	81.8	437.4	73 371.5
MANIHOT	6 697	28 019	41.4	11.0	39.0	6.0
HORDEUM	6 600	27 615	99.5	7.5	30.7	0.0
PHASEOLUS	5 907	24 715	381.4	30.3	116.9	156.4
CICER	5 883	24 615	330.3	74.0	120.0	164.3
ALLIUM	4 543	19 009	182.1	19.9	54.3	2 059.3
MUSA	4 100	17 154	47.6	20.3	14.0	475.8
HELIANTHUS	3 581	14 983	0.6	404.7	0.2	0.1
GOSSYPIUM	3 380	14 142	0.0	382.4	0.0	0.0
CUCURBITA &CUCUMIS	3 140	13 138	85.3	30.5	39.3	6 339.5
MALUS	3 045	12 742	6.4	17.7	8.6	195.8
CAJANUS	2 208	9 240	134.6	10.9	31.5	171.7
MANGO	2 099	8 784	18.5	9.4	6.4	12 383.9
CITRUS	2 081	8 706	39.5	7.7	8.4	2 357.4
PISUM	1 999	8 363	130.8	10.8	27.3	280.8
CAPSICUM	1 878	7 857	74.4	77.9	54.9	18 235.4
SESAMUM	1 816	7 598	16.6	191.3	13.7	0.9
PULSES *nes*	1 680	7 029	108.7	9.9	28.7	26.4
SOLANUM [*LYCOPERSICON*]	1 308	5 473	61.5	15.3	38.8	7 744.2
CEREAL *nes*.	1 238	5 180	29.4	7.6	25.7	1.4
LENS	1 224	5 120	85.6	6.4	24.8	35.4
PRUNUS	1 167	4 883	21.1	24.5	4.6	1 108.6
PYRUS	1 100	4 603	8.1	8.1	4.1	37.3
VITIS	1 076	4 503	8.1	5.5	5.0	85.1
SPICES *nes*	1 054	4 412	35.4	48.5	138.0	1 439.3
SOLANUM [*MELONGENA*]	1 049	4 389	45.0	5.0	20.0	283.1
VICIA	823	3 443	56.4	4.8	17.1	19.2
PHOENIX	705	2 951	6.8	1.8	7.7	38.4
DAUCUS	684	2 860	16.2	3.6	7.2	29 142.4
ANANAS	645	2 699	4.0	2.2	3.9	13.5

Genus or food group	Mean energy for 1996-98		Protein	Lipids	Iron	Vitamin A equivalent
	kcal	kJ	g	g	mg	µg
ZINGIBER	590	2 467	15.5	10.2	19.5	25.5
FAGOPYRUM	534	2 236	10.0	1.9	3.0	0.0
ANACARDIUM	524	2 193	14.2	42.4	5.8	2.4
TRITICALE	522	2 183	17.4	3.2	3.5	0.0
ROOTS & TUBERS *nes*	496	2 076	8.8	1.1	3.4	36.3
COLOCASIA	451	1 887	7.9	1.0	5.2	0.0
BERTHOLLETIA	412	1 725	8.2	7.5	7.0	5.9
ARECA	411	1 719	8.2	7.4	7.0	5.9
JUGLANS	402	1 684	8.9	38.8	1.5	7.5
CARTHAMUS	372	1 558	0.1	42.1	0.1	0.0
DIOSPYROS	368	1 540	2.7	1.3	4.9	818.7
CACAO	324	1 357	7.8	28.4	3.6	1.9
SPINACIA	278	1 165	36.5	5.2	36.5	8 419.0
SECALE	277	1 159	7.6	1.5	1.8	0.0
OILSEEDS	267	1 117	8.3	23.8	2.7	3.1
NUTS *nes*	260	1 086	6.7	24.2	1.4	0.4
LACTUCA	248	1 037	22.7	4.1	14.5	2 422.8
HIBISCUS	244	1 019	12.6	2.4	19.6	36 928.9
TEA	192	805	48.1	0.0	0.0	0.0
AVENA	177	742	7.4	2.9	1.9	4.7
PISTACIA	172	721	6.1	14.4	2.0	6.9
OLEA	163	680	0.1	18.2	0.1	1.3
ANISE, BADIAN, FENNEL	149	622	6.8	6.4	8.0	6.0
CASTANEA	118	493	1.3	1.3	0.5	1.6
COFFEA	115	482	14.3	0.0	4.8	0.0
DIOSCOREA	111	465	1.4	0.2	0.6	0.0
ASPARAGUS	102	428	13.6	0.9	30.7	406.3
LINUM	85	356	0.6	8.9	0.1	0.2
PERSEA	85	355	1.1	8.1	0.6	33.4
CARICA	81	340	1.2	0.3	0.3	420.4
PIPER	73	306	2.8	0.7	5.7	2.5
VIGNA	63	265	4.3	0.3	1.2	0.3
MUSHROOMS	60	253	3.2	0.5	1.3	0.0
NUTMEG, MACE, CARDAMOM	53	221	0.6	3.6	0.3	1.0
BERRIES	41	173	0.9	0.6	0.9	3.6
STILLINGIA	32	133	0.0	3.6	0.0	0.0
CINNAMON (CANELLA)	30	124	0.4	0.4	4.3	2.9
CORYLUS	29	121	0.6	2.9	0.2	0.3
ACTINIDIA	24	100	0.4	0.2	0.2	7.1
CLOVES, WHOLE+STEMS	16	65	0.3	1.0	0.4	2.6
FICUS	14	57	0.2	0.1	0.1	2.1
CYDONIA	8	35	0.0	0.0	0.1	0.6
VERMOUTHS AND SIMILAR	4	15	0.0	0.0	0.0	0.0
VANILLA	2	9	0.1	0.1	0.0	0.0

Genus or food group	Mean energy for 1996-98		Protein	Lipids	Iron	Vitamin A equivalent
	kcal	kJ	g	g	mg	µg
CYNARA	1	4	0.1	0.0	0.0	0.4
BUTYROSPERMUM	1	3	0.0	0.1	0.0	0.0
COLA	1	3	0.0	0.0	0.0	0.0
PAPAVER	0	1	0.0	0.0	0.0	0.0
TOTAL	2 337	9 780	50.7	31.4	12.4	827.6

Note: Other genera contributed <0.95% each (*Ceratonia, Cichorium, Digitaria, Lupinus, Ricinus, Voandzeia*)

Table 4C. Asia and the Pacific – Summary of plant vs animal products as sources of energy, protein and lipid. Based on data in Table 4B.

	Energy		Protein		Lipid	
	kcal	%	g	%	g	%
Plant sources	2 343	87.2	49.3	71.0	33.4	55.8
Animal sources	343	12.8	20.1	29.0	26.5	44.2
Total	2 686	100	69.4	100	59.9	100

Table 5A. Near East – Percent energy, protein, lipids, iron and Vitamin A supply from different crop groups relative to total supply from plants Average of three years (1996 -1998). (Source: FAOSTAT commodities database)

Food	energy (%)	Food	Protein (%)	Food	Lipid (%)	Food	Iron (%)	Food	Vit. A[1] (%)
Wheat	50.2	Wheat	63.5	Maize	27.3	Wheat	39.0	Palm[3]	30.8
Sweeteners	11.2	Rice	5.9	Sunflower	14.3	Maize	13.6	Hibiscus	13.0
Rice	7.4	Maize	5.9	Soybean	9.8	Sorghum	4.4	Carrot	11.9
Maize	5.2	Sorghum	3.1	Palm[3]	9.0	Sweeteners	3.5	Tomato	11.7
Sorghum	2.5	Chickpea	2.0	Wheat	8.9	Tomato	3.1	Vegetables *nes*	9.3
Sunflower	2.3	Potato	2.0	Cotton	6.1	Vegetables *nes*	2.9	Chili & other capsicum	6.9
Potato	2.0	Barley	1.8	Olive	5.4	Potato	2.9	Pumpkin & Melon	4.8
Soybean	1.6	Bean	1.4	Peanut	3.1	Chickpea	2.8	Mango	2.2
Barley	1.5	Lentils	1.3	Sesame	2.2	Barley	2.8	Prunus	2.1
Palm[3]	1.4	Faba bean	1.3	Brassicas[2]	1.5	Rice	2.5	Allium	1.7
Dates	1.1	Tomato	1.2	Sorghum	1.3	Dates	2.0	Citrus	1.7
Cotton	1.0	Vegetables *nes*	1.0	Prunus	1.1	Bean	1.7	Spinach	1.0
				Rice	1.0	Faba bean	1.6		
						Lentils	1.5		
						Spices *nes*	1.3		
						Chili & other capsicum	1.2		
						Allium	1.2		
						Pumpkin & Melon	1.2		
						Cereal *nes*	1.0		

Notes: *nes* = not elsewhere specified. (1) Vitamin A equivalent. (2) Includes cabbages, rapes and mustards. (3) Oil and kernel palm.

Table 5B. Near East – Annual per caput quantitative contribution from all genera and food groups. Average of three years (1996 -1998). (Source: FAOSTAT commodities database)

Genus or food group	Mean energy for 1996-98		Protein	Lipids	Iron	Vitamin A equivalent
	kcal	kJ	g	g	mg	µg
TRITICUM	434 712	1 818 833	13 004.0	1 382.9	2 025.3	0.0
SWEETENERS	96 506	403 780	29.4	0.0	180.1	0.0
ORYZA	64 168	268 480	1 207.8	149.4	128.4	0.0
ZEA	45 079	188 612	1 200.5	4 226.1	705.3	119.3
SORGHUM	21 607	90 404	636.2	207.9	226.8	105.0
HELIANTHUS	19 691	82 389	7.5	2 222.7	2.2	1.5
SOLANUM [*TUBEROSUM*]	16 923	70 805	402.9	25.1	151.3	333.8
GLYCINE	13 477	56 390	22.5	1 512.7	5.5	1.0
HORDEUM	13 403	56 079	361.1	53.1	145.9	0.0
ELAEIS	12 389	51 834	0.1	1 401.3	0.1	80 799.7
PHOENIX	9 508	39 780	91.4	24.4	103.6	518.0
GOSSYPIUM	8 387	35 090	0.0	948.7	0.0	0.0

Genus or food group	Mean energy for 1996-98		Protein	Lipids	Iron	Vitamin A equivalent
	kcal	kJ	g	g	mg	µg
OLEA	7 674	32 107	17.9	837.1	18.2	200.2
CICER	7 196	30 108	404.0	90.5	146.7	201.0
VITIS	6 663	27 878	62.5	40.3	30.4	608.7
CITRUS	5 861	24 522	121.7	22.8	25.7	4 348.0
SOLANUM [*LYCOPERSICON*]	5 324	22 276	249.7	62.0	159.7	30 680.0
CUCURBITA & *CUCUMIS*	5 108	21 371	138.2	61.0	61.5	12 632.6
ARACHIS	4 796	20 066	119.5	472.8	14.6	0.0
MALUS	4 728	19 780	10.0	28.8	10.6	316.0
ALLIUM	4 647	19 441	177.0	25.1	63.3	4 445.4
PHASEOLUS	4 383	18 336	281.0	23.5	90.5	320.0
FRUITS *nes*	4 191	17 533	33.7	28.0	24.5	1 732.0
PRUNUS	4 165	17 427	103.5	168.6	24.8	5 389.6
LENS	3 913	16 373	273.7	20.4	79.2	113.1
VICIA	3 908	16 351	271.9	22.5	81.8	135.9
VEGETABLES *nes*	3 549	14 850	198.5	30.1	153.0	24 323.6
SESAMUM	3 398	14 219	54.2	338.2	44.7	3.1
MILLETS [*PENNISETUM*, NOT *DIGITARIA*]	2 946	12 326	84.0	26.0	39.9	0.0
BRASSICA	2 553	10 681	33.6	228.6	14.9	263.5
PULSES *nes*	2 175	9 101	140.7	12.8	37.1	34.1
CAPSICUM	2 110	8 829	84.9	79.0	64.8	18 259.8
MUSA	1 461	6 112	17.0	7.3	4.9	125.8
JUGLANS	1 426	5 966	31.7	137.3	5.4	26.5
PISUM	1 309	5 479	85.6	7.0	17.8	179.2
CEREAL *nes*.	1 295	5 417	36.9	6.0	53.0	0.4
OILSEEDS	1 266	5 298	47.3	106.3	16.5	16.7
MANGO	958	4 007	8.5	4.3	2.3	5 696.4
CORYLUS	948	3 966	19.5	93.9	4.9	10.5
PISTACIA	864	3 616	30.8	72.4	10.2	34.4
SECALE	845	3 535	22.3	4.5	5.0	0.0
COCOS	838	3 508	3.7	89.0	2.0	0.0
FICUS	747	3 126	8.4	3.2	4.8	112.4
DAUCUS	732	3 061	17.3	3.9	7.7	31 185.6
PYRUS	673	2 817	5.0	5.0	2.5	22.9
SOLANUM [*MELONGENA*]	641	2 682	27.5	3.1	12.2	173.0
ROOTS & TUBERS *nes*	636	2 660	11.2	1.4	6.2	96.7
CACAO	582	2 436	11.1	51.6	5.5	2.1
SPICES *nes*	515	2 156	17.3	23.7	67.4	703.3
TEA	498	2 086	124.6	0.0	0.0	0.0
NUTS *nes*	432	1 807	11.1	40.0	2.1	0.9
ANISE, BADIAN, FENNEL	343	1 434	15.7	14.8	18.4	13.9
IPOMOEA	263	1 100	2.0	0.6	2.6	331.0
HIBISCUS	225	943	11.6	2.2	18.2	34 156.9
DIOSCOREA	210	877	2.7	0.4	1.0	0.0
COFFEA	181	757	23.6	0.0	7.4	0.0

Genus or food group	Mean energy for 1996-98		Protein	Lipids	Iron	Vitamin A equivalent
	kcal	kJ	g	g	mg	µg
COLOCASIA	178	744	3.1	0.4	2.1	0.0
BERRIES	161	673	3.4	2.3	4.9	11.4
CASTANEA	159	666	1.8	1.7	0.7	2.2
VIGNA	137	574	9.4	0.7	2.6	0.7
BERTHOLLETIA	126	526	2.5	2.4	2.1	1.8
FAGOPYRUM	125	524	3.9	0.7	1.1	0.0
ARECA	124	517	2.5	2.2	2.1	1.8
NUTMEG, MACE, CARDAMOM	111	463	1.2	7.7	0.6	2.1
MANIHOT	104	436	0.8	0.2	0.8	0.1
LACTUCA	100	419	9.2	1.7	5.8	978.9
CYDONIA	99	413	0.6	0.3	1.1	7.1
SPINACIA	90	378	11.9	1.7	11.9	2 730.4
AVENA	87	363	3.6	1.4	1.0	2.2
PIPER	81	337	3.1	0.8	6.3	2.8
CARTHAMUS	73	305	0.0	8.2	0.0	0.0
ZINGIBER	64	270	1.7	1.1	2.1	2.8
CYNARA	48	201	2.6	0.2	1.7	17.2
LUPINUS	42	175	4.3	1.4	0.7	0.0
ANANAS	33	139	0.2	0.1	0.2	0.5
CARICA	29	123	0.5	0.1	0.1	152.1
PERSEA	28	116	0.4	2.6	0.2	11.0
CINNAMON (CANELLA)	27	113	0.4	0.3	3.9	2.7
CLOVES, WHOLE+STEMS	24	98	0.4	1.5	0.6	3.9
VERMOUTHS AND SIMILAR	23	95	0.0	0.0	0.1	0.0
ANACARDIUM	15	65	0.4	1.3	0.2	0.2
LINUM	7	31	0.0	0.8	0.0	0.0
ASPARAGUS	6	24	0.8	0.0	1.7	22.7
MUSHROOMS	6	23	0.4	0.1	0.2	0.0
CERATONIA	5	19	0.1	0.0	0.3	0.0
ACTINIDIA	3	12	0.0	0.0	0.0	0.8
DIOSPYROS	1	6	0.0	0.0	0.0	2.9
VANILLA	1	2	0.0	0.0	0.0	0.0
TOTAL	2 370	9 917	56.1	42.4	14.2	719.8

Note: Other genera contributed <0.95% (*Cola, Butyrospermum, Cajanus, Cichorium, Digitaria, Papaver, Ricinus, Stillingia, Triticale, Voandzeia*)

Table 5C. Near East – Summary of plant vs animal products as sources of energy, protein and lipid. Based on data in Table 5B.

	Energy		Protein		Lipid	
	kcal	%	g	%	g	%
Plant sources	2 441	88.1	54.7	73.1	44.7	66.4

Animal sources	329	11.9	20.1	26.9	22.6	33.6
Total	2 770	100	74.8	100	67.3	100

Table 6A. Europe – Percent energy, protein, lipids, iron and Vitamin A supply from different crop groups relative to total supply from plants Average of three years (1996 -1998). (Source: FAOSTAT commodities database)

Food	Energy (%)	Food	Protein (%)	Food	Lipid (%)	Food	Iron (%)	Food	Vit. A[1] (%)
Wheat	36.8	Wheat	56.9	Sunflower	23.5	Wheat	34.4	Carrot	42.7
Sweeteners	14.9	Potato	7.4	Olive	16.3	Potato	10.9	Vegetables *nes*	13.7
Potato	6.1	Maize	3.7	Brassicas[2]	13.0	Vegetables *nes*	5.2	Tomato	11.7
Sunflower	4.2	Rye	2.7	Soybean	12.7	Tomato	4.1	Palm[3]	10.6
Barley	3.9	Barley	2.4	Wheat	6.0	Maize	3.7	Chili & other capsicum	4.7
Maize	3.7	Bean	2.2	Maize	4.2	Grapes & Raisin	3.1	Pumpkin & Melon	3.2
Olive	2.9	Rice	2.1	Peanut	4.1	Bean	2.9	Prunus	2.6
Grape & raisin	2.7	Pea	2.0	Cacao	3.5	Rye	2.3	Lettuce	2.1
Brassicas[2]	2.6	Vegetables *nes*	1.8	Palm[3]	2.9	Cereal *nes*	2.2	Citrus	1.8
Soybean	2.3	Tomato	1.6	Cotton	2.0	Barley	2.1	Spinach	1.8
Rye	2.0	Coffee	1.5	Chestnut	1.7	Brassicas[2]	1.9	Allium	1.1
Rice	1.9	Peanut	1.2	Prunus	1.4	Chili & other capsicum	1.7		
Fruits *nes*	1.8	Allium	1.2	Walnut	1.0	Allium	1.7		
Apple	1.3	Lentil	1.1			Coffea	1.6		
		Brassicas[2]	1.0			Pea	1.6		
		Prunus	1.0			Cacao	1.5		
						Lentils	1.3		
						Chickpea	1.2		
						Sweeteners	1.2		

Notes: *nes* = not elsewhere specified. (1) Vitamin A equivalent. (2) Includes cabbages, rapes and mustards. (3) Oil and kernel palm.

Table 6B. Europe – Annual per caput quantitative contribution from all genera and food groups. Average of three years (1996 -1998). (Source: FAOSTAT commodities database)

Genus or food group	Mean energy for 1996-98		Protein	Lipids	Iron	Vitamin A equivalent
	kcal	kJ	g	g	mg	µg
TRITICUM	311 207	1 302 089	9 315.3	1 018.4	1 445.3	0.0
SWEETENERS	126 228	528 137	0.3	0.0	48.9	0.0
SOLANUM [*TUBEROSUM*]	51 479	215 388	1 214.4	74.5	458.7	978.3
HELIANTHUS	35 516	148 599	11.0	4 010.4	3.3	2.2
HORDEUM	33 332	139 462	386.9	9.4	89.8	0.0
ZEA	31 483	131 723	604.1	710.2	157.3	668.1
OLEA	24 797	103 750	14.2	2 784.3	16.1	163.4
VITIS	23 141	96 821	63.1	31.0	132.0	434.2
BRASSICA	22 010	92 090	164.7	2 209.8	78.6	1 232.5
GLYCINE	19 404	81 186	41.0	2 171.9	11.6	1.7
SECALE	16 629	69 575	438.9	87.8	97.5	0.0
ORYZA	16 283	68 127	341.1	38.5	35.2	0.0

Genus or food group	Mean energy for 1996-98		Protein	Lipids	Iron	Vitamin A equivalent
	kcal	kJ	g	g	mg	µg
FRUITS *nes*	15 283	63 943	25.6	10.7	30.9	777.6
MALUS	10 737	44 922	22.9	58.4	35.4	629.5
PRUNUS	7 323	30 639	158.6	242.5	37.0	7 018.0
ARACHIS	7 223	30 222	195.2	702.5	22.7	0.0
CITRUS	6 495	27 175	125.9	23.0	31.0	4 995.9
CACAO	6 469	27 068	141.4	599.0	63.6	36.1
SOLANUM [*LYCOPERSICON*]	5 656	23 663	264.9	65.4	170.6	31 845.3
PHASEOLUS	5 646	23 623	359.8	31.2	120.9	693.3
VEGETABLES *nes*	5 612	23 479	301.4	48.0	220.4	37 229.1
ALLIUM	5 205	21 776	189.0	27.0	69.9	3 087.7
PISUM	4 977	20 825	325.6	26.8	68.1	714.9
ELAEIS	4 317	18 063	0.0	488.4	0.0	28 725.8
MUSA	4 308	18 023	50.2	21.5	14.4	387.7
CEREAL *nes*.	4 165	17 426	99.4	27.5	91.9	8.6
CUCURBITA & CUCUMIS	3 204	13 405	89.0	27.1	39.9	8 749.0
GOSSYPIUM	3 031	12 681	0.0	342.8	0.0	0.0
CORYLUS	2 967	12 416	61.0	293.9	15.5	32.9
DAUCUS	2 727	11 412	64.6	14.4	28.7	116 274.1
PYRUS	2 653	11 100	19.7	19.7	9.8	90.1
LENS	2 651	11 091	185.4	13.8	53.6	76.6
AVENA	2 644	11 064	109.7	43.6	29.0	68.2
CICER	2 431	10 171	136.5	30.6	49.6	67.9
CAPSICUM	2 119	8 867	88.4	58.0	72.9	12 752.4
COFFEA	1 861	7 786	238.6	0.0	68.4	0.0
JUGLANS	1 694	7 087	37.7	163.2	6.4	31.6
NUTS *nes*	1 128	4 720	28.7	103.8	5.2	3.1
VICIA	1 118	4 679	79.2	6.4	23.6	53.7
BERRIES	1 082	4 528	23.4	11.3	17.9	252.3
COCOS	1 004	4 199	9.5	99.1	4.8	0.0
SESAMUM	888	3 716	16.3	86.6	13.4	0.9
ANANAS	671	2 806	3.8	1.5	3.7	10.3
LACTUCA	596	2 492	54.6	9.9	34.7	5 824.4
FICUS	568	2 377	6.5	2.5	4.1	65.8
CASTANEA	484	2 024	5.5	5.2	2.1	6.6
SOLANUM [*MELONGENA*]	431	1 801	18.5	2.1	8.2	116.2
MUSHROOMS	401	1 677	31.5	5.9	17.2	0.0
ACTINIDIA	386	1 617	6.7	3.0	3.0	115.2
PERSEA	370	1 546	4.7	35.1	2.5	145.4
ANACARDIUM	354	1 482	9.5	28.7	3.8	0.6
VERMOUTHS AND SIMILAR	348	1 456	0.3	0.0	1.0	0.0
PISTACIA	335	1 403	11.9	28.1	3.9	13.3
TEA	283	1 182	70.6	0.0	0.4	0.0
CYNARA	257	1 073	14.1	1.3	9.0	91.9
PIPER	256	1 070	9.9	2.5	20.0	8.8

Genus or food group	Mean energy for 1996-98		Protein	Lipids	Iron	Vitamin A equivalent
	kcal	kJ	g	g	mg	µg
FAGOPYRUM	248	1 037	4.9	0.9	1.5	0.0
PULSES *nes*	245	1 023	15.8	1.4	4.2	3.8
ANISE, BADIAN, FENNEL	229	960	10.5	9.9	12.3	9.3
CICHORIUM	201	841	3.7	0.7	2.3	2.8
PHOENIX	189	793	1.8	0.5	2.1	10.3
SPICES NES	181	759	6.1	8.3	23.7	247.6
PAPAVER	164	684	5.5	13.7	2.9	0.0
SPINACIA	160	669	21.0	3.0	21.0	4 832.2
OILSEEDS	158	661	2.1	16.2	0.7	0.8
BERTHOLLETIA	111	463	2.4	10.9	0.6	0.0
DIOSPYROS	95	396	0.7	0.3	1.3	210.4
ZINGIBER	94	393	2.5	1.6	3.1	4.1
CYDONIA	75	315	0.4	0.2	0.9	5.4
NUTMEG, MACE, CARDAMOM	71	295	0.8	4.9	0.4	1.3
MILLETS (*PENNISETUM*, NOT *DIGITARIA*)	64	266	1.8	0.6	1.3	0.0
IPOMOEA	60	253	0.5	0.1	0.6	76.2
MANGO	58	243	0.5	0.3	0.1	346.7
BUTYROSPERMUM	52	218	0.0	6.2	0.0	0.0
CINNAMON (CANELLA)	46	193	0.7	0.6	6.7	4.6
ASPARAGUS	44	185	5.9	0.4	13.3	175.9
TRITICALE	41	170	1.4	0.2	0.3	0.0
CLOVES, WHOLE+STEMS	15	63	0.3	0.9	0.4	2.5
LINUM	15	62	0.0	1.7	0.0	0.0
HIBISCUS	12	49	0.6	0.1	0.9	1 765.9
CARTHAMUS	10	41	0.0	1.1	0.0	0.0
LUPINUS	7	29	0.7	0.2	0.1	0.0
VANILLA	6	26	0.2	0.2	0.0	0.0
ROOTS & TUBERS *nes*	6	25	0.1	0.0	0.0	0.1
CARICA	5	19	0.1	0.0	0.0	24.1
ARECA	3	14	0.1	0.1	0.1	0.0
COLOCASIA	3	12	0.0	0.0	0.0	0.0
DIOSCOREA	3	11	0.0	0.0	0.0	0.0
CERATONIA	2	7	0.0	0.0	0.1	0.0
VIGNA	1	2	0.0	0.0	0.0	0.0
TOTAL	2 319	9 704	44.9	46.7	11.5	745.8

Note: Other genera contributed <0.95% each (*Cola, Manihot, Cajanus, Digitaria, Ricinus, Sorghum, Stillingia, Voandzeia*)

Table 6C. Europe – Summary of plant vs animal products as sources of energy, protein and lipid. Based on data in Table 6B.

	Energy		Protein		Lipid	
	kcal	%	g	%	g	%

Plant sources	2 419	72.5	46.3	46.3	59.5	46.1
Animal sources	916	27.5	53.6	53.7	69.6	53.9
Total	3335	100	99.9	100	129.1	100

Table 7A. Latin America and the Caribbean – Percent energy, protein, lipids, iron and Vitamin A supply from different crop groups relative to total supply from plants
Average of three years (1996 -1998). (Source: FAOSTAT commodities database)

Food	Energy (%)	Food	Protein (%)	Food	Lipid (%)	Food	Iron (%)	Food	Vit. A[1] (%)
Sweeteners	21.1	Wheat	27.4	Soybean	41.9	Maize	22.6	Palm[3]	41.6
Maize	17.7	Maize	23.3	Sunflower	14.7	Bean	16.8	Carrot	15.1
Wheat	15.8	Bean	15.0	Palm[3]	12.4	Wheat	16.2	Tomato	5.9
Rice	11.3	Rice	12.1	Maize	6.3	Sweeteners	5.6	Vegetables *nes*	5.6
Soybean	6.2	Potato	2.7	Coconut	3.4	Cassava	4.2	Mango	5.3
Bean	4.0	Banana & plantain	1.6	Wheat	3.2	Rice	4.1	Allium	3.8
Cassava	2.8	Barley	1.5	Cotton	2.5	Potato	3.8	Fruits nes	3.2
Banana & plantain	2.4	Citrus	1.4	Peanut	2.4	Banana & plantain	2.1	Banana & plantain	2.9
Barley	2.3	Cassava	1.1	Avocados	2.0	Vegetables *nes*	2.1	Chili & other capsicum	2.9
Sunflower	2.2			Rice	1.6	Tomato	1.9	Papaya	2.5
Potato	2.0			Bean	1.2	Allium	1.5	Citrus	2.3
Palm[3]	1.8			Brassica[2]	1.1	Barley	1.4	Pumpkin & melon	1.5
Fruits *nes*	1.6					Citrus	1.1	Maize	1.5
Citrus	1.2					Cereal *nes*.	1.1	Sweet potato	1.3
								Hibiscus	1.2
								Cashew	1.0

Notes: *nes* = not elsewhere specified. (1) vitamin a equivalent. (2) includes cabbages, rapes and mustards. (3) oil and kernel palm.

Table 7B. Latin America and the Caribbean – Annual per caput quantitative contribution from all genera and food groups. Average of three years (1996 -1998). (Source: FAOSTAT commodities database)

Genus or food group	Mean energy for 1996-98		Protein	Lipids	Iron	Vitamin A equivalent
	kcal	kJ	g	g	mg	µg
SWEETENERS	173 741	726 932	30.0	0.0	216.8	0.0
ZEA	145 782	609 953	3 328.1	866.1	867.8	3 434.1
TRITICUM	129 906	543 527	3 911.8	431.4	620.7	0.0
ORYZA	92 971	388 992	1 726.9	214.1	157.8	0.0
GLYCINE	50 826	212 657	52.8	5 721.7	12.8	2.3
PHASEOLUS	33 158	138 734	2 148.1	165.5	643.6	624.3
MANIHOT	23 112	96 699	161.0	41.8	161.0	23.4
MUSA	19 767	82 706	222.7	90.9	81.7	6 808.4
HORDEUM	19 044	79 681	219.8	6.0	54.7	0.0
HELIANTHUS	17 803	74 488	7.9	2 008.8	2.4	1.6
SOLANUM [*TUBEROSUM*]	16 363	68 464	389.3	24.1	146.4	320.6
ELAEIS	15 006	62 784	0.0	1 697.5	0.0	97 213.8
FRUITS *nes*	12 959	54 220	42.1	34.3	20.0	7 581.8
CITRUS	9 501	39 751	204.5	36.8	41.9	5 400.9
COCOS	4 853	20 306	39.6	470.6	29.7	0.0

Genus or food group	Mean energy for 1996-98		Protein	Lipids	Iron	Vitamin A equivalent
	kcal	kJ	g	g	mg	µg
VITIS	3 797	15 887	11.4	6.2	20.8	90.6
ARACHIS	3 506	14 668	128.3	321.8	15.9	0.0
GOSSYPIUM	2 965	12 408	0.0	335.5	0.0	0.0
PERSEA	2 928	12 250	36.9	278.0	19.7	1 152.3
ALLIUM	2 679	11 210	116.5	13.4	56.1	8 940.3
SOLANUM [*LYCOPERSICON*]	2 449	10 249	114.6	28.4	74.2	13 740.4
IPOMOEA	2 324	9 726	17.7	5.1	22.7	2 926.7
MALUS	2 187	9 149	4.6	13.5	4.8	150.0
MANGO	2 074	8 677	18.4	9.2	4.6	12 374.2
CEREAL *nes*.	1 929	8 071	47.8	14.6	41.0	6.0
SORGHUM	1 786	7 472	52.6	17.2	18.7	8.7
VEGETABLES *nes*	1 716	7 178	102.8	15.0	80.4	13 002.0
BRASSICA	1 680	7 029	22.9	152.6	11.4	166.6
PISUM	1 644	6 879	107.2	8.7	21.5	127.1
AVENA	1 507	6 305	62.8	24.7	16.5	39.9
DIOSCOREA	1 467	6 137	18.9	2.9	7.3	0.0
ANANAS	1 428	5 973	10.8	10.5	10.8	52.8
LENS	1 262	5 280	88.3	6.6	25.5	36.5
CUCURBITA & *CUCUMIS*	1 237	5 177	35.1	10.6	15.6	3 568.4
CACAO	1 159	4 849	58.1	90.6	23.4	19.1
CARICA	1 138	4 760	17.5	4.4	4.4	5 892.8
OILSEEDS	1 113	4 655	92.2	54.3	30.0	34.7
OLEA	1 097	4 591	2.4	121.0	2.8	27.6
CAPSICUM	1 061	4 439	44.1	30.2	36.1	6 686.4
ANACARDIUM	1 041	4 355	19.9	18.5	25.8	2 371.8
PRUNUS	929	3 886	15.5	11.7	4.0	1 074.6
PULSES *nes*	922	3 856	59.6	5.4	15.7	14.5
ROOTS & TUBERS *nes*	896	3 748	15.7	2.0	8.9	137.7
DAUCUS	826	3 454	19.6	4.3	8.7	35 193.3
COFFEA	777	3 250	109.2	0.0	31.8	0.0
VICIA	770	3 220	54.6	4.4	16.3	38.4
SESAMUM	716	2 998	15.8	67.6	13.0	0.9
CICER	593	2 480	33.3	7.5	12.1	16.6
PYRUS	556	2 326	4.1	4.1	2.1	18.9
TEA	456	1 909	114.0	0.0	0.1	0.0
NUTS *nes*	416	1 741	11.1	39.5	2.6	0.1
COLOCASIA	385	1 611	6.0	1.1	1.9	0.0
ANISE, BADIAN, FENNEL	359	1 501	16.4	15.5	19.2	14.6
FAGOPYRUM	307	1 286	10.2	1.9	2.8	0.0
DIGITARIA	278	1 165	9.8	4.1	6.1	0.0
CARTHAMUS	263	1 099	0.0	29.7	0.0	0.0
VIGNA	226	944	15.4	1.2	4.3	1.1
CAJANUS	161	672	9.8	0.8	2.3	12.5
JUGLANS	157	655	3.5	15.1	0.6	2.9

Genus or food group	Mean energy for 1996-98		Protein	Lipids	Iron	Vitamin A equivalent
	kcal	kJ	g	g	mg	µg
CASTANEA	137	573	1.6	1.5	0.6	1.9
BERTHOLLETIA	129	539	2.8	13.0	0.7	0.0
BERRIES	96	403	2.0	1.4	1.7	9.2
DIOSPYROS	72	303	0.5	0.3	1.0	161.0
PIPER	72	299	2.8	0.7	5.6	2.5
LACTUCA	70	291	6.4	1.2	4.1	680.0
ACTINIDIA	66	277	1.1	0.5	0.5	19.8
SECALE	63	262	1.7	0.3	0.4	0.0
SPICES *nes*	62	261	2.1	2.9	8.1	85.0
LUPINUS	54	224	5.5	1.8	0.9	0.0
CINNAMON (CANELLA)	51	213	0.8	0.6	7.4	5.1
FICUS	39	162	0.4	0.2	0.2	6.0
CYNARA	36	152	2.0	0.2	1.3	13.0
CYDONIA	33	137	0.2	0.1	0.4	2.3
PISTACIA	21	90	0.8	1.8	0.3	0.9
CORYLUS	20	82	0.4	1.9	0.1	0.2
HIBISCUS	19	80	1.0	0.2	1.5	2 911.9
ZINGIBER	16	67	0.4	0.3	0.5	0.7
NUTMEG, MACE, CARDAMOM	15	64	0.2	1.1	0.1	0.3
VERMOUTHS AND SIMILAR	15	62	0.0	0.0	0.0	0.0
CLOVES, WHOLE+STEMS	9	37	0.2	0.5	0.2	1.4
ASPARAGUS	8	33	1.0	0.1	2.3	31.0
PHOENIX	8	32	0.1	0.0	0.1	0.4
SPINACIA	7	29	0.9	0.1	0.9	210.4
SOLANUM [*MELONGENA*]	7	29	0.3	0.0	0.1	1.9
COLA	7	29	0.2	0.0	0.1	0.0
MUSHROOMS	6	25	0.4	0.1	0.1	0.0
VANILLA	2	7	0.1	0.1	0.0	0.0
RICINUS	1	5	0.0	0.1	0.0	0.0
PAPAVER	0	1	0.0	0.0	0.0	0.0
TOTAL	2 255	9 435	39.1	37.4	10.5	639.7

Note: Other genera or groups contributed <0.95% each (*Ceratonia,* Millet *[Pennisetum,* not *Digitaria], Areca, Butyrospermum, Cichorium, Linum, Stillingia, Triticale, Voandzeia*)

Table 7C. Latin America and the Caribbean – Summary of plant vs animal products as sources of energy, protein and lipid. Based on data in Table 7B.

	Energy		Protein		Lipid	
	kcal	%	g	%	g	%
Plant sources	2 271	81.0	38.7	52.7	42.6	53.5
Animal sources	534	19.0	34.7	47.3	37.1	46.5
Total	2 805	100	73.4	100	79.7	100

Table 8A. North America – Percent energy, protein, lipids, iron and Vitamin A supply from different crop groups relative to total supply from plants Average of three years (1996 -1998). (Source: FAOSTAT commodities database)

Food	Energy (%)	Food	Protein (%)	Food	Lipid (%)	Food	Iron (%)	Food	Vit. A[1] (%)
Wheat	27.0	Wheat	48.2	Soybean	53.1	Wheat	27.2	Carrot	52.2
Sweeteners	26.0	Potato	6.7	Brassica[2]	8.8	Sweeteners	10.5	Tomato	15.9
Soybean	8.9	Maize	5.5	Peanut	8.6	Potato	9.2	Chili & other capsicum	6.2
Maize	5.1	Bean	5.1	Maize	4.9	Bean	5.9	Lettuce	6.1
Barley	5.0	Peanut	4.5	Wheat	4.7	Maize	5.4	Vegetables *nes*	4.2
Potato	4.7	Rice	4.0	Olive	3.5	Tomato	4.7	Pumpkin & melon	3.0
Rice	3.6	Barley	3.3	Sunflower	2.1	Barley	2.9	Citrus	1.9
Peanut	1.8	Oats	2.4	Cotton	2.0	Oats	2.3	Prunus	1.7
Brassica[2]	1.7	Tomato	2.0	Cacao	1.7	Lettuce	2.2	Spinach	1.5
Citrus	1.5	Coffea	1.6	Coconut	1.4	Brassica[2]	2.1	Hibiscus	1.5
Fruits *nes*	1.5	Citrus	1.6	Prunus	1.0	Peanut	2.0		
Bean	1.3	Peanut	1.6			Cacao	1.7		
Grapes & raisin	1.1	Brassica[2]	1.3			Coffea	1.6		
Oats	1.0	Cacao	1.2			Chili& other capsicum	1.4		
		Allium	1.1			Grapes & raisin	1.3		
						Rice	1.3		
						Vegetables *nes*	1.3		
						Pea	1.3		
						Citrus	1.1		

Notes: *nes* = not elsewhere specified. (1) Vitamin A equivalent. (2) Includes cabbages, rapes and mustards.

Table 8B. North America – Annual per caput quantitative contribution from all genera and food groups. Average of three years (1996 -1998). (Source: FAOSTAT commodities database)

Genus or food group	Mean energy for 1996-98		Protein	Lipids	Iron	Vitamin A equivalent
	kcal	kJ	g	g	mg	µg
TRITICUM	242 330	1 013 907	7 240.9	801.1	1 121.8	0.0
SWEETENERS	233 781	978 140	74.9	0.0	433.4	0.0
GLYCINE	80 122	335 230	25.1	9 046.5	10.6	0.8
ZEA	45 859	191 873	823.6	841.9	221.0	1 769.2
HORDEUM	44 507	186 218	492.7	9.1	117.4	0.0
SOLANUM [*TUBEROSUM*]	42 381	177 322	1 012.1	63.3	379.5	843.4
ORYZA	31 957	133 706	595.5	63.5	54.8	0.0
ARACHIS	16 497	69 025	678.8	1 471.1	84.3	0.0
BRASSICA	15 573	65 158	198.6	1 493.7	86.3	755.9
CITRUS	13 534	56 626	238.3	34.3	46.9	4 662.0
FRUITS *nes*	13 078	54 719	7.7	3.5	9.1	508.6
PHASEOLUS	11 907	49 821	766.1	59.4	243.5	1 842.6
VITIS	9 897	41 411	47.6	17.7	55.6	226.7

Genus or food group	Mean energy for 1996-98		Protein	Lipids	Iron	Vitamin A equivalent
	kcal	kJ	g	g	mg	µg
AVENA	8 626	36 091	359.4	141.5	94.3	228.4
MALUS	8 235	34 454	18.2	47.2	21.0	495.1
MUSA	7 624	31 897	88.5	37.7	26.3	958.8
SOLANUM [*LYCOPERSICON*]	6 554	27 421	307.9	76.5	194.7	38 552.8
OLEA	5 416	22 661	7.5	601.5	8.4	85.6
PRUNUS	4 810	20 127	106.4	172.6	27.3	4 112.9
ALLIUM	4 317	18 062	161.1	23.9	43.2	27.9
HELIANTHUS	3 769	15 768	110.6	354.0	33.3	22.5
CACAO	3 665	15 335	177.2	288.1	71.6	57.1
PISUM	3 615	15 124	238.0	20.2	53.3	946.3
SORGHUM	3 229	13 511	95.1	31.1	35.8	15.7
GOSSYPIUM	3 048	12 754	0.0	344.8	0.0	0.0
DAUCUS	2 971	12 431	70.4	15.6	31.3	126 665.1
ANANAS	2 832	11 851	18.9	5.2	15.4	68.8
CUCURBITA & *CUCUMIS*	2 542	10 635	66.8	21.7	28.6	7 383.7
COCOS	2 240	9 373	9.6	238.5	5.0	0.0
CAPSICUM	1 830	7 656	74.1	65.7	57.2	15 086.8
COFFEA	1 824	7 632	246.8	0.0	66.1	0.0
VEGETABLES *nes*	1 626	6 805	82.1	16.0	54.5	10 279.1
IPOMOEA	1 599	6 689	12.2	3.5	15.6	2 012.9
LACTUCA	1 524	6 377	139.7	25.4	88.9	14 901.6
BERRIES	1 394	5 831	22.7	14.1	14.4	167.6
LENS	1 329	5 561	93.0	6.9	26.9	38.4
ANACARDIUM	1 261	5 277	33.7	102.0	13.3	1.1
PYRUS	1 244	5 206	9.2	9.2	4.6	42.2
JUGLANS	1 044	4 369	23.3	100.7	3.9	19.5
SECALE	890	3 722	23.5	4.7	5.2	0.0
SESAMUM	870	3 641	26.9	75.5	22.2	1.5
PERSEA	701	2 934	8.8	66.6	4.7	276.0
NUTS *nes*	569	2 381	15.0	53.9	3.5	0.3
ELAEIS	546	2 286	0.0	61.8	0.0	0.0
PIPER	447	1 870	17.3	4.4	35.0	15.4
MUSHROOMS	412	1 723	32.8	6.3	18.6	0.0
MANGO	266	1 112	2.4	1.2	0.6	1 586.3
ZINGIBER	260	1 087	6.8	4.5	8.6	11.2
CEREAL *nes*	254	1 065	6.8	1.0	13.5	0.0
PISTACIA	245	1 024	8.7	20.5	2.9	9.7
ANISE, BADIAN, FENNEL	199	831	9.1	8.6	10.7	8.1
CORYLUS	165	692	3.4	16.4	0.9	1.8
CINNAMON (CANELLA)	156	654	2.3	1.9	22.8	15.6
SPICES *nes*	155	647	5.2	7.1	20.2	211.1
FICUS	150	628	1.8	0.7	1.3	8.3
TEA	149	624	37.3	0.0	3.6	0.0
BERTHOLLETIA	145	607	3.2	14.6	0.8	0.0

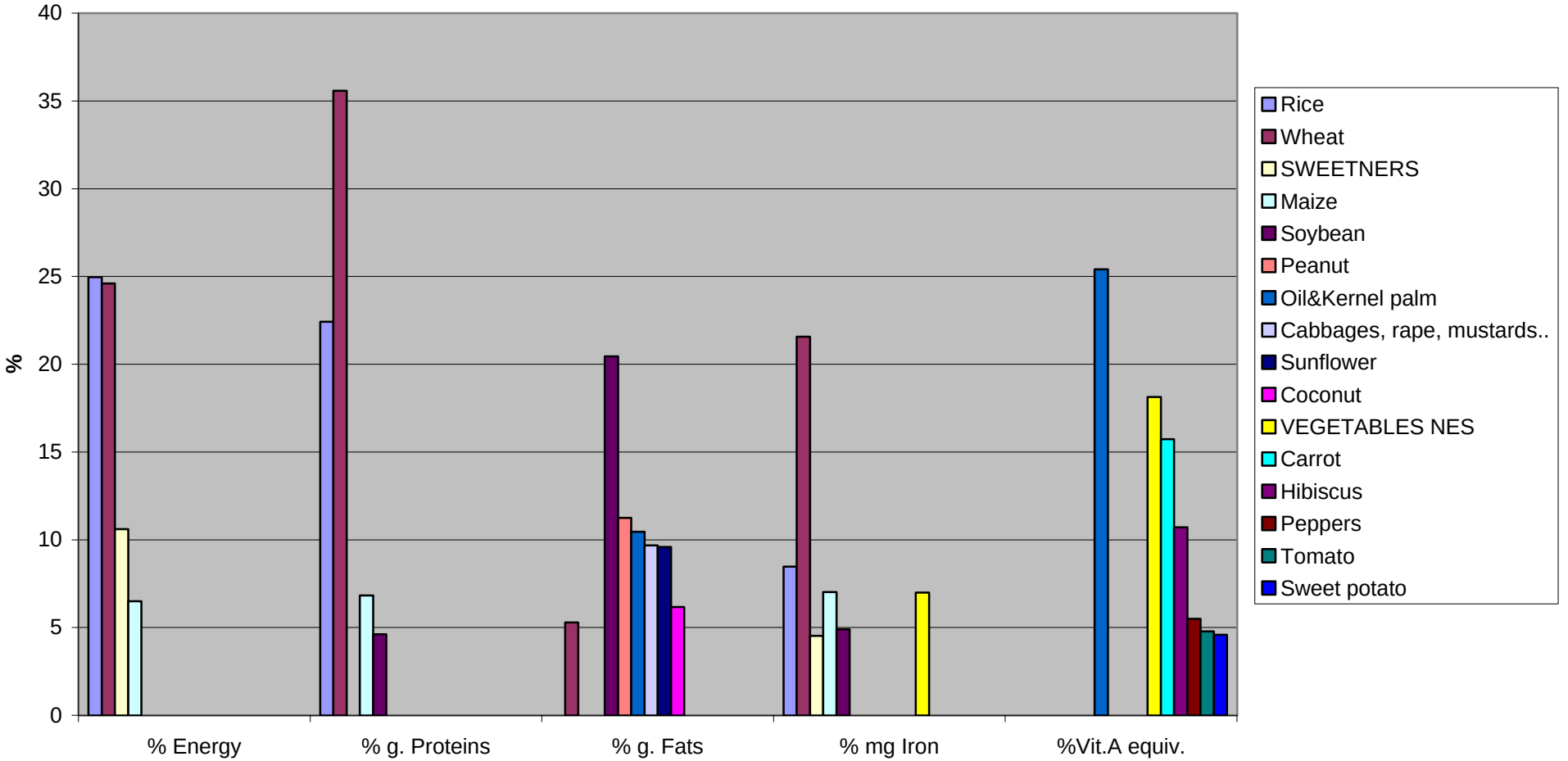
Genus or food group	Mean energy for 1996-98		Protein	Lipids	Iron	Vitamin A equivalent
	kcal	kJ	g	g	mg	µg
ACTINIDIA	132	554	2.3	1.0	1.0	39.5
SPINACIA	122	512	16.1	2.3	16.1	3 700.8
PHOENIX	119	497	1.1	0.3	1.3	6.5
PAPAVER	112	469	3.8	9.4	2.0	0.0
MANIHOT	102	427	0.3	0.1	0.1	0.0
DIOSCOREA	81	339	1.0	0.2	0.4	0.0
COLOCASIA	75	315	1.3	0.2	0.9	0.0
VICIA	74	308	5.0	0.4	1.5	1.5
CARICA	54	225	0.8	0.2	0.2	278.3
ASPARAGUS	46	193	6.2	0.4	13.9	183.7
SOLANUM [*MELONGENA*]	45	187	1.9	0.2	0.9	12.1
VERMOUTHS AND SIMILAR	40	167	0.0	0.0	0.1	0.0
NUTMEG, MACE, CARDAMOM	38	161	0.4	2.7	0.2	0.7
FAGOPYRUM	37	153	1.0	0.2	0.3	0.0
ROOTS & TUBERS *nes*	36	153	0.6	0.1	0.4	4.8
CICER	27	113	1.5	0.3	0.5	0.8
CASTANEA	27	112	0.3	0.3	0.1	0.4
CYNARA	27	111	1.5	0.1	0.9	9.5
HIBISCUS	24	98	1.2	0.2	1.9	3 563.3
VANILLA	19	81	0.7	0.7	0.0	0.0
CLOVES, WHOLE+STEMS	13	55	0.2	0.8	0.4	2.1
PULSES *nes*	6	24	0.4	0.0	0.1	0.1
CERATONIA	5	22	0.1	0.0	0.4	0.0
OILSEEDS	4	19	0.4	0.2	0.1	0.2
BUTYROSPERMUM	0	1	0.0	0.0	0.0	0.0
TOTAL	2 459	10 287	41.2	46.7	11.3	665.0

Note: Other genera and groups contributed <0.95% each (*Areca, Cajanus, Carthamus, Cichorium, Cola, Cydonia, Digitaria, Diospyros, Linum, Lupinus,* Millets [*Pennisetum*], *Ricinus, Stillingia, Triticale, Vigna, Voandzeia*)

Table 8C. North America – Summary of plant vs animal products as sources of energy, protein and lipid. Based on data in Table 8B.

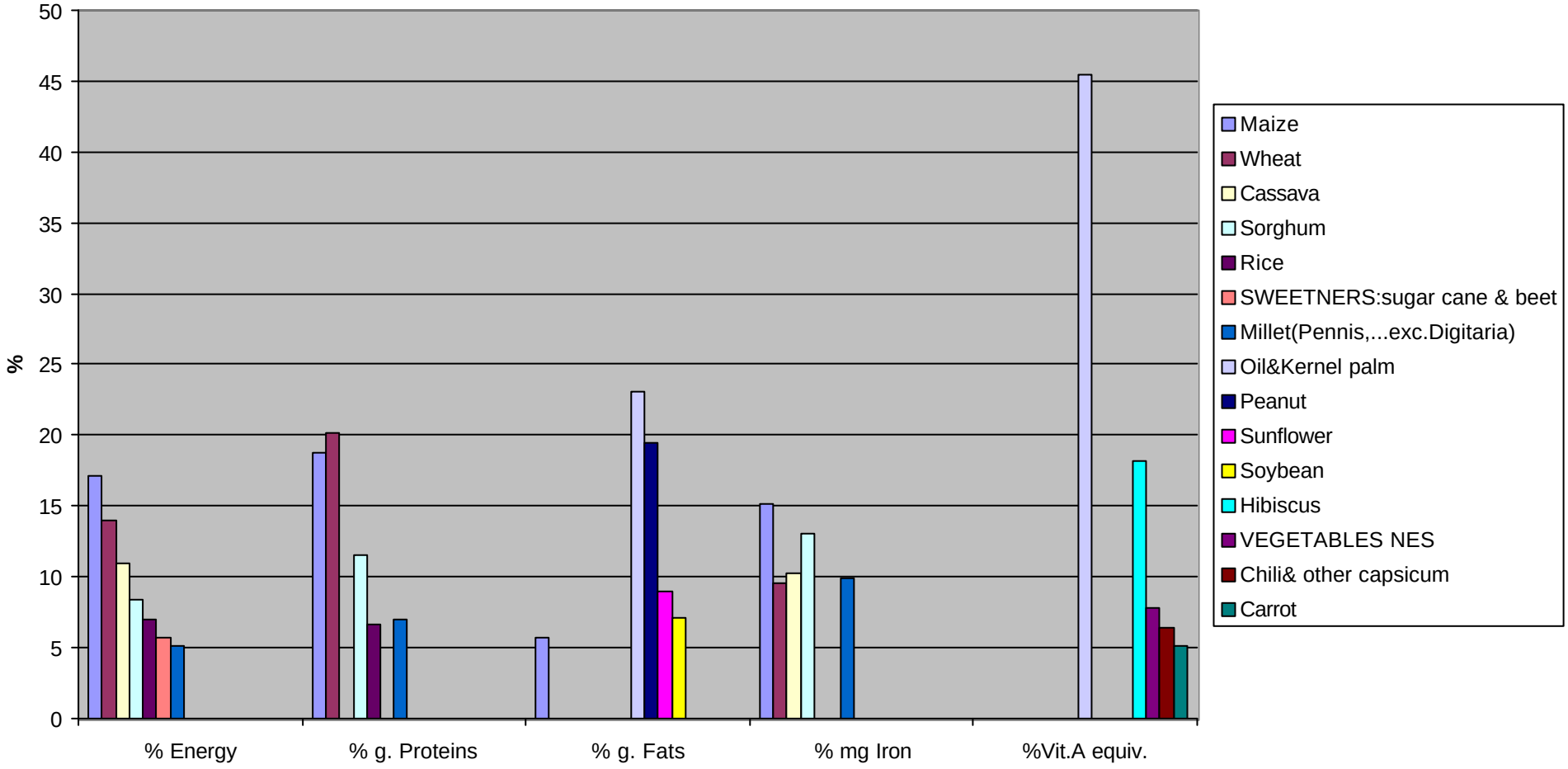
	Energy		Protein		Lipid	
	kcal	%	g	%	g	%
Plant sources	2 655	72.7	42.1	37.5	73.8	52.0
Animal sources	998	27.3	70.2	62.5	68.0	48.0
Total	3 653	100	112.3	100	141.8	100

GRAPH No 1: Energetic and Nutrients Contribution of the Most Important Crops in Dietary Energy Supply at the Global Level



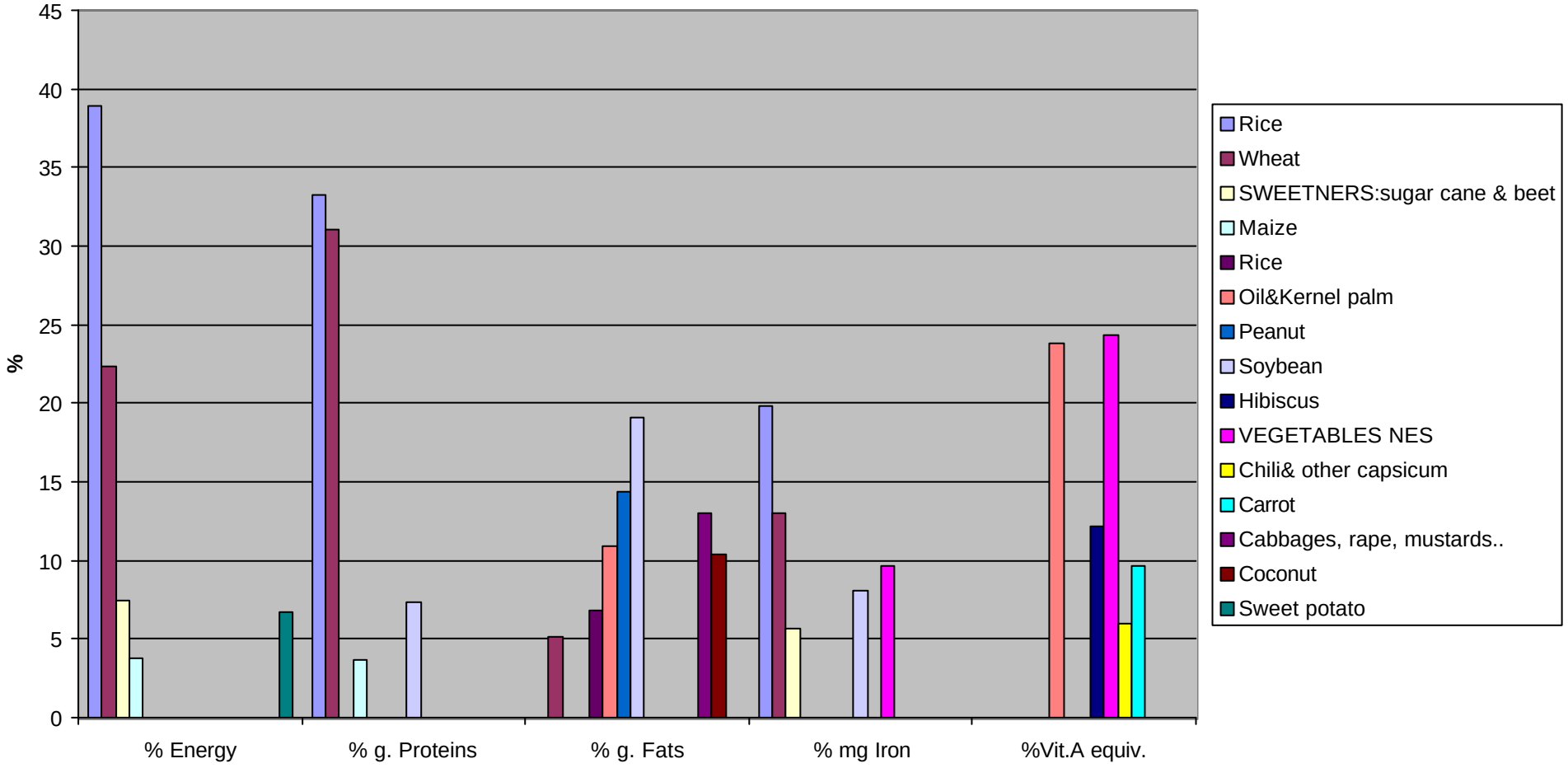
Source: FAOSTAT-SCA-ESNA

GRAPH No 2: Energetic and Nutrients Contribution of the Most Important Crops in Dietary Energy Supply in Africa



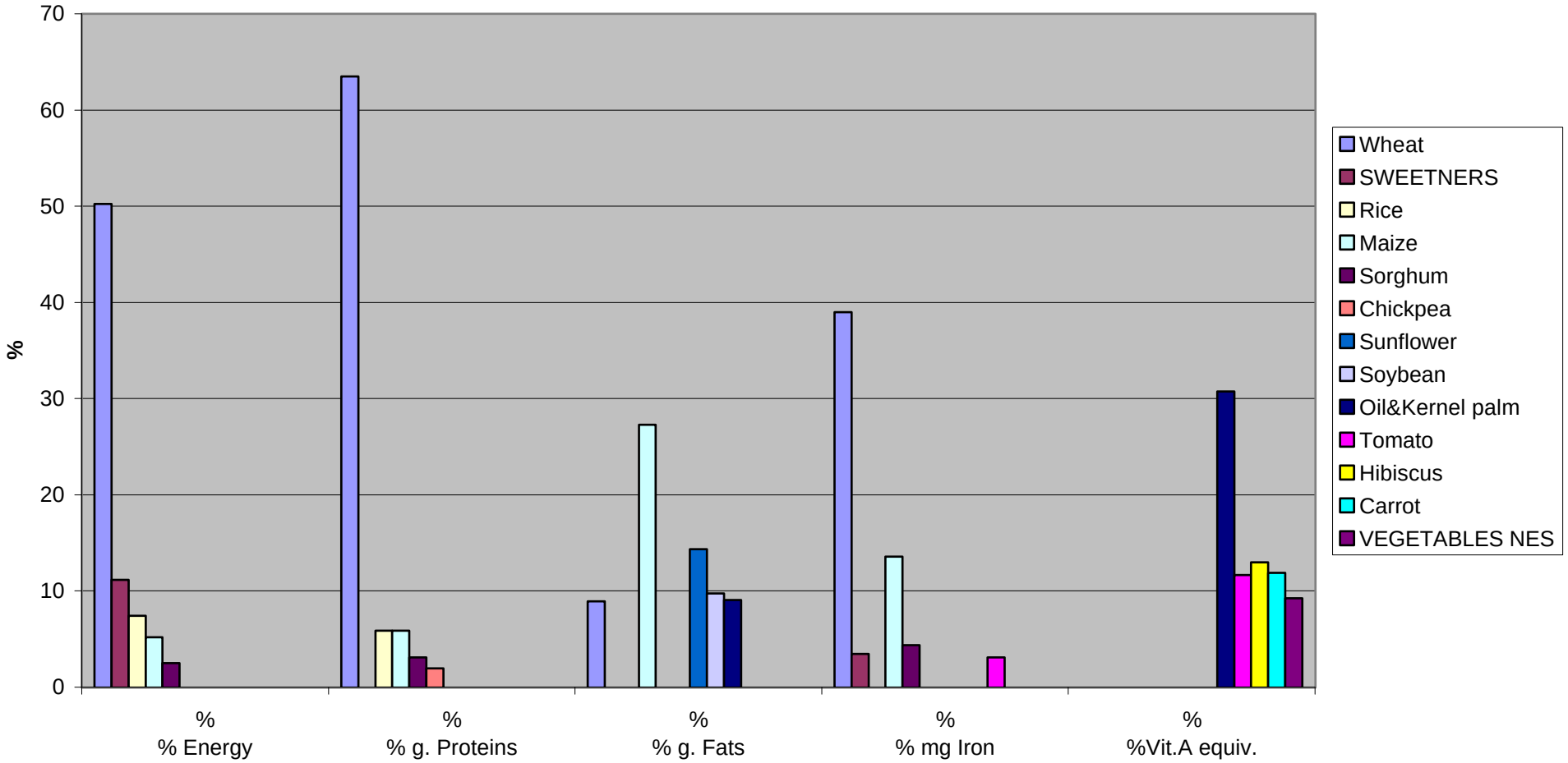
Source: FAOSTAT-SCA-ESNA

GRAPH No 3: Energetic and Nutrients Contribution of the Most Important Crops in Dietary Energy Supply in Asia and the Pacific



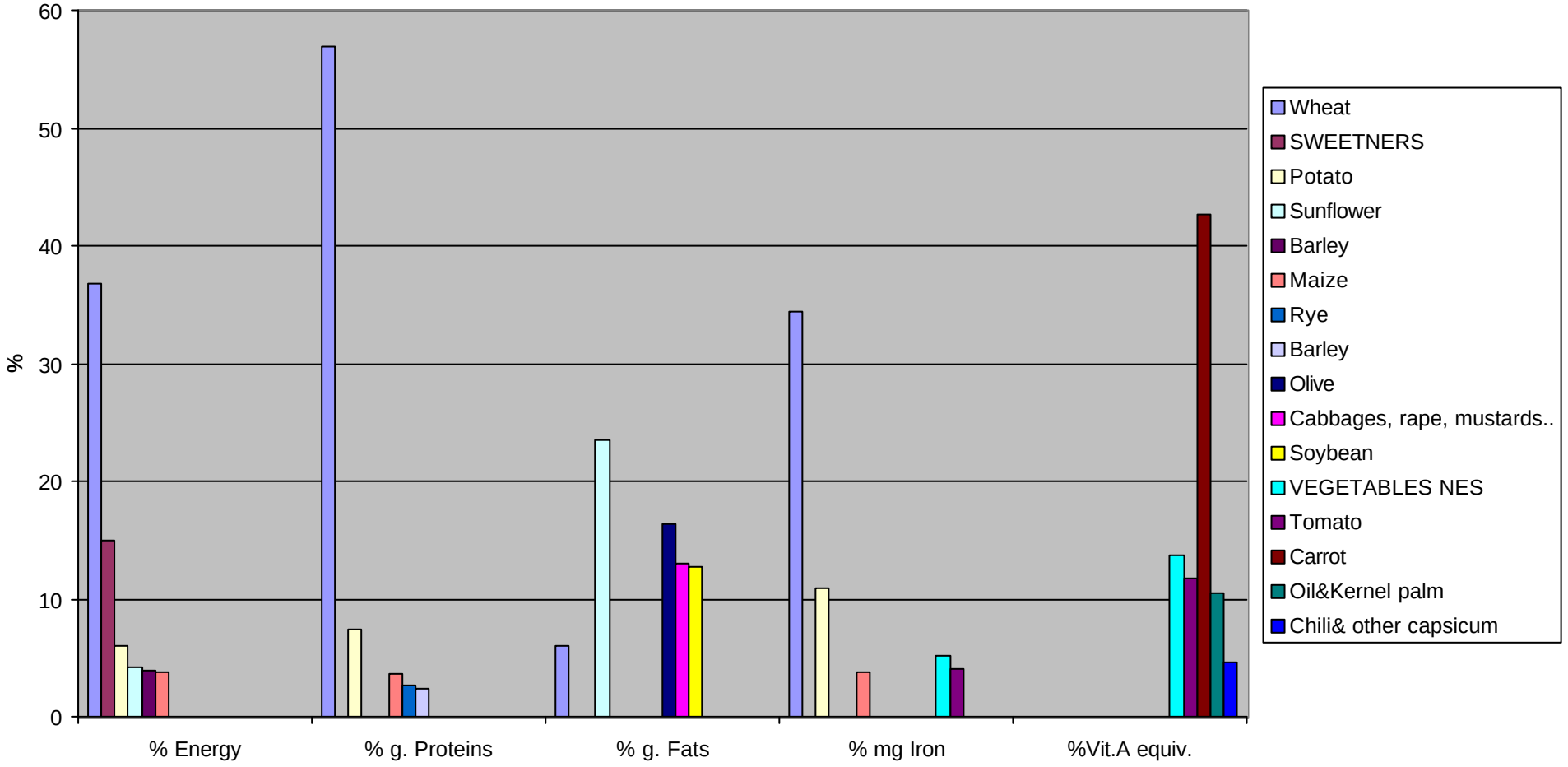
Source: FAOSTAT-SCA-ESNA

GRAPH No 4: Energetic and Nutrients Contribution of the Most Important Crops in Dietary Energy Supply in the Near East



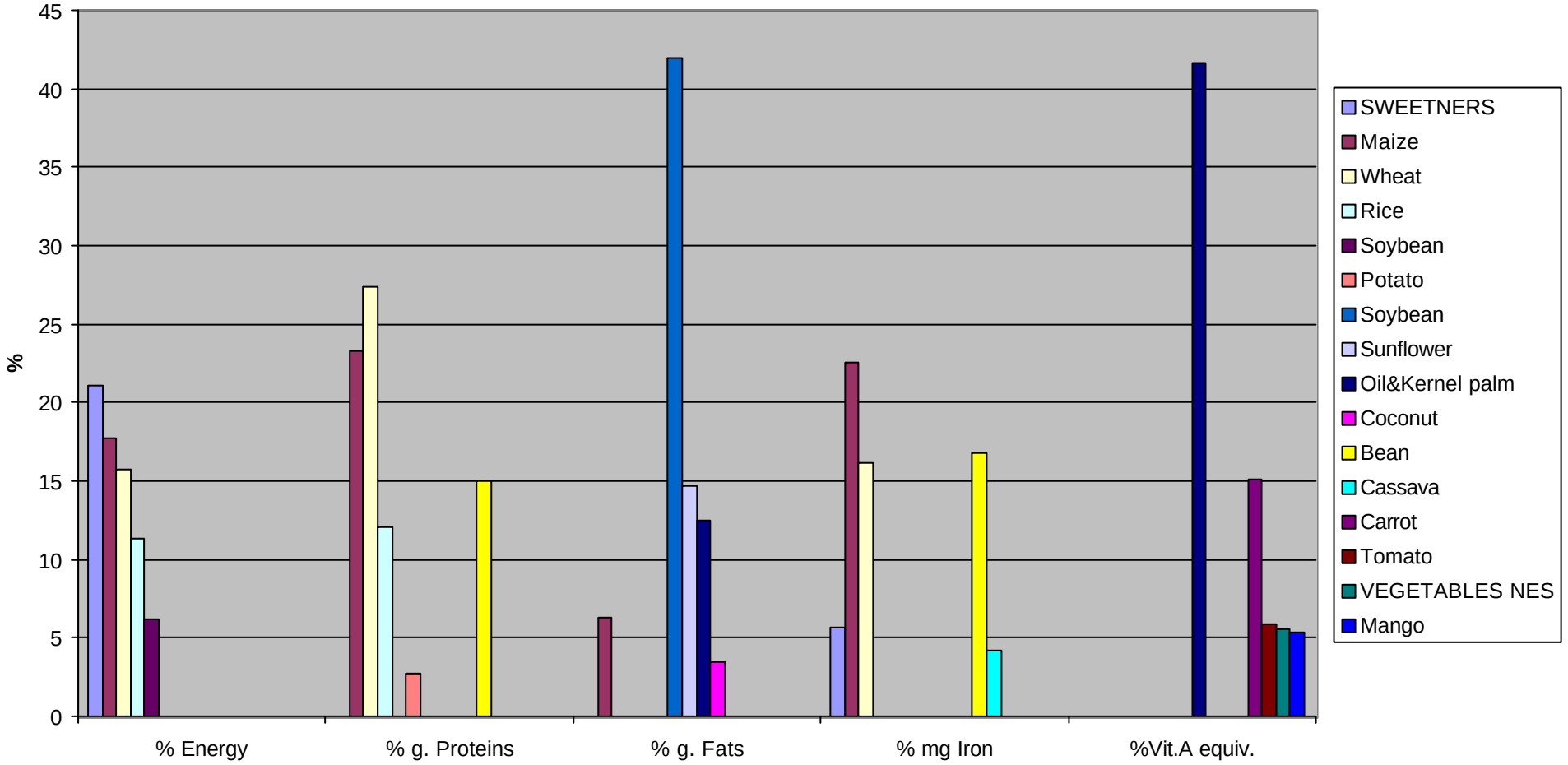
Source: FAOSTAT-SCA-ESNA

GRAPH No 5: Energetic and Nutrients Contribution of the Most Important Crops in Dietary Energy Supply in Europe



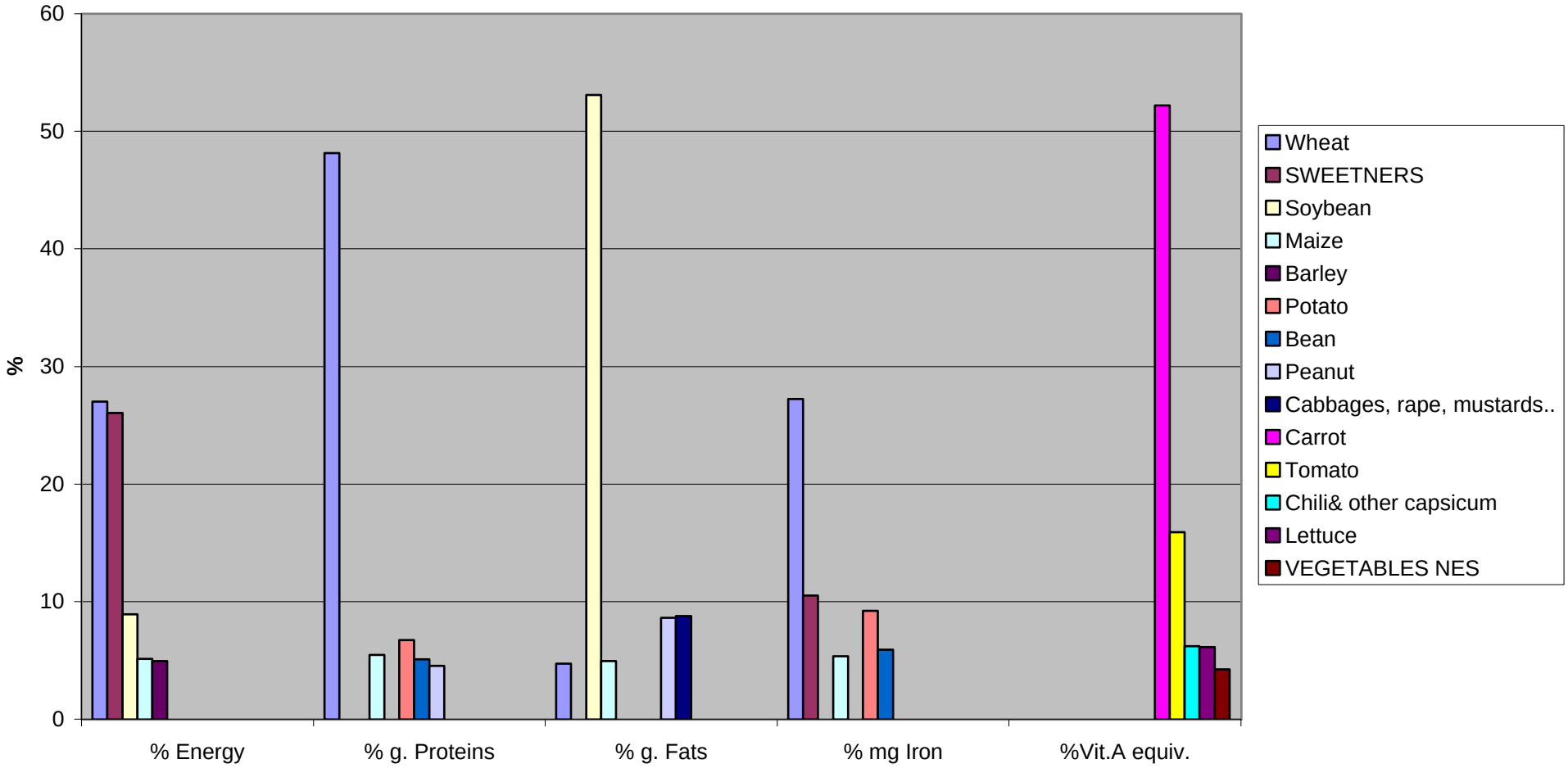
Source: FAOSTAT-SCA-ESNA

GRAPH No 6: Energetic and Nutrients Contribution of the Most Important Crops in Dietary Energy Supply in Latin America and the Caribbean



Source: FAOSTAT-SCA-ESNA

GRAPH No 7: Energetic and Nutrients Contribution of the Most Important Crops in Dietary Energy Supply in North America



Source: FAOSTAT-SCA-ESNA