**Fertilizer consumption (kilograms per hectare of arable land)**

Fertilizer consumption measures the quantity of plant nutrients used per unit of arable land. Fertilizer products cover nitrogenous, potash, and phosphate fertilizers (including ground rock phosphate). Traditional nutrients--animal and plant manures--are not included. For the purpose of data dissemination, FAO has adopted the concept of a calendar year (January to December). Some countries compile fertilizer data on a calendar year basis, while others are on a split-year basis. Arable land includes land defined by the FAO as land under temporary crops (double-cropped areas are counted once), temporary meadows for mowing or for pasture, land under market or kitchen gardens, and land temporarily fallow. Land abandoned as a result of shifting cultivation is excluded.

* **ID**: AG.CON.FERT.ZS
* **Source**: Food and Agriculture Organization, electronic files and web site.
* **License**:  CC BY-4.0
* **Aggregation Method:**Weighted average
* **Development Relevance:**Factors such as the green revolution, has led to impressive progress in increasing crop yields over the last few decades. This progress, however, is not equal across all regions. Continued progress depends on maintaining agricultural research and education. The cultivation of cereals varies widely in different countries and depends partly upon the development of the economy. Production depends on the nature of the soil, the amount of rainfall, irrigation, quality od seeds, and the techniques applied to promote growth. Agriculture is still a major sector in many economies, and agricultural activities provide developing countries with food and revenue. But agricultural activities also can degrade natural resources. Poor farming practices can cause soil erosion and loss of soil fertility. Efforts to increase productivity by using chemical fertilizers, pesticides, and intensive irrigation have environmental costs and health impacts. Salinization of irrigated land diminishes soil fertility. Thus, inappropriate use of inputs for agricultural production has far-reaching effects. In many developed countries, excessive nitrogen fertilizer applications have sometime lead to pest problems by increasing the birth rate, longevity and overall fitness of certain agricultural pests, such as aphids. Further, excessive use of fertilizers emits significant quantities of greenhouse gas into the atmosphere. Over-fertilization of a vital nutrient can be detrimental, as "fertilizer burn" can occur when too much fertilizer is applied, resulting in drying out of the leaves and damage or even death of the plant. In many industrialized countries, overuse of fertilizers has resulted in contamination of surface water and groundwater. There is no single correct mix of inputs to the agricultural land, as it is dependent on local climate, land quality, and economic development; appropriate levels and application rates vary by country and over time and depend on the type of crops, the climate and soils, and the production process used.
* **Limitations and Exceptions:**The FAO has revised the time series for fertilizer consumption and irrigation for 2002 onward. FAO collects fertilizer statistics for production, imports, exports, and consumption through the new FAO fertilizer resources questionnaire. In the previous release, the data were based on total consumption of fertilizers, but the data in the recent release are based on the nutrients in fertilizers. Some countries compile fertilizer data on a calendar year basis, while others compile on a crop year basis (July-June). Previous editions of this indicator, Fertilizer consumption (100 grams per hectare of arable land), reported data on a crop year basis, but this edition uses the calendar year, as adopted by the FAO. Caution should thus be used when comparing data over time. The data are collected by the Food and Agriculture Organization of the United Nations (FAO) through annual questionnaires. The FAO tries to impose standard definitions and reporting methods, but complete consistency across countries and over time is not possible. The secondary sources cover official country data from websites of national ministries, national publications and related country data reported by various international organizations.
* **Long Definition:**Fertilizer consumption measures the quantity of plant nutrients used per unit of arable land. Fertilizer products cover nitrogenous, potash, and phosphate fertilizers (including ground rock phosphate). Traditional nutrients--animal and plant manures--are not included. For the purpose of data dissemination, FAO has adopted the concept of a calendar year (January to December). Some countries compile fertilizer data on a calendar year basis, while others are on a split-year basis. Arable land includes land defined by the FAO as land under temporary crops (double-cropped areas are counted once), temporary meadows for mowing or for pasture, land under market or kitchen gardens, and land temporarily fallow. Land abandoned as a result of shifting cultivation is excluded.
* **Periodicity:**Annual
* **Statistical Concept and Methodology:**Fertilizer consumption measures the quantity of plant nutrients, and is calculated as production plus imports minus exports. Because some chemical compounds used for fertilizers have other industrial applications, the consumption data may overstate the quantity available for crops. Fertilizer consumption as a share of production shows the agriculture sector's vulnerability to import and energy price fluctuation. Most fertilizers that are commonly used in agriculture contain the three basic plant nutrients - nitrogen, phosphorus, and potassium. Some fertilizers also contain certain "micronutrients," such as zinc and other metals that are necessary for plant growth. Materials that are applied to the land primarily to enhance soil characteristics (rather than as plant food) are commonly referred to as soil amendments. Fertilizers and soil amendments are largely derived from raw material, composts and other organic matter, and wastes, such as sewage sludge and certain industrial wastes. FAO defines arable land as land under temporary crops (double-cropped areas are counted once), temporary meadows for mowing or for pasture, land under market or kitchen gardens, and land temporarily fallow; land abandoned as a result of shifting cultivation is excluded.
* **Topic:**Environment: Agricultural production