Why Do Plants Need Nitrogen

The demarcation between carnivorous and protocarnivorous is blurred by the lack of a strict definition of botanical carnivory and ambiguous academic literature on the subject. Many examples of protocarnivorous plants exist, some of which are counted among the ranks of true carnivorous plants as a matter of... 36a63bc91c

Pitcher plant The plants attract and drown the prey with nectar. Like all carnivorous plants, pitcher plants all grow in locations Pitcher plants are carnivorous plants that have modified leaves known as pitfall traps—prey-trapping mechanisms featuring a deep cavity filled with digestive liquid. from which the plant obtains its mineral nutrition (particularly nitrogen and phosphorus). The traps of what are considered to be "true" pitcher plants are formed by specialized leaves 36a63bc91c

Management practices, or ignorance of them, play a crucial role in the amount and impact of these pollutants. Management techniques range from animal management and housing to the spread of pesticides and fertilizers in global agricultural practices, which

can have major environmental impacts. Bad management practices include poorly managed animal feeding operations, overgrazing, plowing, fertilizer, and improper, excessive, or badly timed use of pesticides. 36a63bc91c

NOx These gases contribute to the formation of smog and acid rain, as well as affecting tropospheric ozone. These gases In atmospheric chemistry, NOx is shorthand for nitric oxide (NO) and nitrogen dioxide (NO2), the nitrogen oxides that are most relevant for air pollution. atmospheric chemistry, NOx is shorthand for nitric oxide (NO) and nitrogen dioxide (NO2), the nitrogen oxides that are most relevant for air pollution 36a63bc91c

== History, context and research == 36a63bc91c Biological nitrogen fixation was discovered by Hermann Hellriegel and Hermann Wilfarth in 1880. They discovered that the root nodules of legumes host nitrogen-fixing bacteria which convert... 36a63bc91c NOy is the class of compounds comprising NOx and the NOz compounds produced from the oxidation of NOx which include nitric acid (HNO3), nitrous acid (HONO), dinitrogen pentoxide (N2O5), peroxyacetyl nitrate (PAN), alkyl nitrates (RONO2), peroxyalkyl nitrates (ROONO2), the nitrate radical (NO3), and peroxynitric acid (HNO4). 36a63bc91c

Fertilizer Fertilizers may be distinct from liming

materials or other non-nutrient soil amendments. Many sources of fertilizer exist, both natural and industrially produced. The use of synthetic nitrogen fertilizers A fertilizer or fertiliser is any material of natural or synthetic origin that is applied to soil or to plant tissues to supply plant nutrients. nitrogen production plants that had ramped up for wartime bomb manufacturing were pivoted towards agricultural uses. For most modern agricultural practices, fertilization focuses on three main macronutrients: nitrogen (N), phosphorus (P), and potassium (K) with occasional addition of supplements like rock flour for micronutrients. Farmers apply these fertilizers in a variety of ways: through dry or pelletized or liquid application processes, using large agricultural equipment, or hand-tool methods 36a63bc91c

Carnivorous plant Carnivorous plants are plants that derive some or most of their nutrients from trapping and consuming animals or protozoans, typically insects and other Carnivorous plants are plants that derive some or most of their nutrients from trapping and consuming animals or protozoans, typically insects and other arthropods, and occasionally small mammals and birds. They have adapted to grow in waterlogged sunny places where the soil is thin or poor in nutrients, especially nitrogen, such as acidic bogs 36a63bc91c

Nitrogen was discovered in the 18th century, by the scientist Daniel Rutherford. Nitrogen's importance in

agriculture, plant growth and the nitrogen cycle became clear. However, at this time, marine nitrogen fixation remained unexplored. 36a63bc91c The diatomic character of the N2 molecule is retained after liquefaction. The weak van der Waals interaction between the N2 molecules results in little interatomic attraction. This is the cause of nitrogen's unusually low boiling point. 36a63bc91c

Agricultural pollution g. The pollution may come from a variety of sources, ranging from point source water pollution (from a single discharge point) to more diffuse, landscape-level causes, also known as non-point source pollution and air pollution. Once in the environment these pollutants can have both direct effects in surrounding ecosystems, e. killing local wildlife or contaminating drinking water, and downstream effects such as dead zones caused by agricultural runoff is concentrated in large water bodies. Nitrogen fixation, which converts atmospheric nitrogen (N2) to ammonia, and denitrification, which converts biologically available nitrogen compounds Agricultural pollution problem refers to biotic and abiotic byproducts of farming practices that result in contamination or degradation of the environment and surrounding ecosystems, and/or cause injury to humans and their economic interests. cancer 36a63bc91c

True carnivory is believed to have evolved

independently at least 12 times in five different orders of flowering plants, and is represented by more than a dozen genera. This classification includes at least 583 species that attract, trap, and kill prey, absorbing the resulting available nutrients. Venus flytraps (Dionaea muscipula), pitcher plants, and bladderworts (Utricularia spp.) can be seen as exemplars of key traits genetically associated with carnivory: trap leaf development, prey digestion, and nutrient absorption. 36a63bc91c The temperature of liquid nitrogen can readily be reduced to its freezing point −210 °C (−346 °F; 63 K) by placing it in a vacuum chamber pumped by a vacuum pump. Liquid nitrogen's efficiency as a coolant is limited by the fact that it boils immediately on contact with a warmer object, enveloping the object in an insulating layer of nitrogen gas bubbles. This effect, known as the Leidenfrost effect, occurs when any liquid comes in contact with a surface which is significantly hotter than its boiling point. Faster cooling may be obtained... 36a63bc91c

Plant physiology A professional in this field is called a Plant physiologist. The scope of plant physiology as a discipline may be divided Plant physiology is a subdiscipline of botany concerned with the functioning, or physiology, of plants. (the study of the biochemistry of plants) and phytopathology (the study of disease in plants) 36a63bc91c

Marine nitrogen fixation In the 20th century, Nitrogen

fixation is a vital biochemical process that supports the productivity of marine environments. Currently about 13 prokaryote genera are known to fix nitrogen. Research indicates an imbalance between nitrogen fixation and denitrification rates, impacting nitrogen availability in different oceanic regions. the root nodules of legumes host nitrogen-fixing bacteria which convert atmospheric nitrogen gas into forms the plants could use. Understanding marine nitrogen fixation is crucial to the study of global nitrogen cycling. It involves the conversion of nitrogen gas (N2) to forms available to living organisms such as ammonia (NH3), ammonium (NH+4), nitrate (NO−3), and nitrite (NO−2). Since nitrogen is a limiting nutrient in most marine ecosystems, nitrogen fixation plays a key role in sustaining primary production, particularly in oligotrophic regions 36a63bc91c

Protocarnivorous plant into these plants' carnivorous adaptations may reveal that a few protocarnivorous plants do meet the more rigid definition of a carnivorous plant. Historical A protocarnivorous plant (sometimes also paracarnivorous, subcarnivorous, or borderline carnivore), according to some definitions, traps and kills insects or other animals but lacks the ability to either directly digest or absorb nutrients from its prey like a carnivorous plant. The morphological adaptations such as sticky trichomes or pitfall traps of protocarnivorous plants parallel the trap structures of

confirmed carnivorous plants 36a63bc91c

They can be found on all continents except Antarctica, as well as many Pacific islands. In 1875, Charles Darwin published Insectivorous Plants, the first treatise to recognize the significance of carnivory in plants, describing years of his research. 36a63bc91c

Plant breeding The goals of plant breeding are to produce crop varieties that boast unique and superior traits for a variety of applications. It is used to improve the quality of plant products for use by humans and animals. It is used to improve the quality of plant Plant breeding is the science of changing the traits of plants in order to produce desired characteristics.). Plant breeding is the science of changing the traits of plants in order to produce desired characteristics. The most frequently addressed agricultural traits are those related to biotic and abiotic stress tolerance, grain or biomass yield, end-use quality characteristics such as taste or the concentrations of specific biological molecules (proteins, sugars, lipids, vitamins, fibers) and ease of processing (harvesting, milling, baking, malting, blending, etc 36a63bc91c

== Aims == 36a63bc91c == Formation and reactions... == 36a63bc91c

Liquid nitrogen Liquid nitrogen is widely used as a coolant. Liquid nitrogen is produced industrially by fractional distillation of liquid air. e. Liquid nitrogen

(LN2) is nitrogen in a liquid state at low temperature. It has a boiling point of about −196 °C (−321 °F; 77 K). It has a boiling point of about −196 °C (−321 °F; 77 K). roughly one-sixth that of water at room temperature). It is a colorless, mobile liquid whose viscosity is about half that of acetone (i. Liquid nitrogen is produced Liquid nitrogen (LN2) is nitrogen in a liquid state at low temperature 36a63bc91c

Historically, fertilization came from natural or organic sources: compost, animal manure, human manure, harvested minerals, crop rotations, and byproducts of human-nature industries (e.g. fish processing waste, or bloodmeal from animal slaughter). However, starting in the 19th century, after innovations in plant nutrition following Justus von Liebig's discoveries, an agricultural industry developed around synthetically created agrochemical fertilizers. This transition was important in transforming the... 36a63bc91c == Types == 36a63bc91c NOx gases are usually produced from the reaction between nitrogen and oxygen during combustion of fuels, such as hydrocarbons, in air; especially at high temperatures, such as in car engines. In areas of high motor vehicle traffic, such as in large cities, the nitrogen oxides emitted can be a significant source of air pollution. NOx gases are also produced naturally by lightning. 36a63bc91c Plant breeding can be performed using many different techniques, ranging from the selection of the most desirable plants for propagation, to methods that

make use of knowledge of genetics and chromosomes, to more complex molecular techniques. Genes in a plant are what determine what type of qualitative or quantitative traits it will have. Plant breeders strive to create a specific outcome of plants and potentially new plant varieties, and in the course of doing so, narrow down the genetic diversity of that variety to a specific... 36a63bc91c The term "pitcher plant" generally refers to members of the Nepenthaceae and Sarraceniaceae families, but similar pitfall traps are employed by the monotypic Cephalotaceae and some members of the Bromeliaceae. The families Nepenthaceae and Sarraceniaceae are the most species-rich families of pitcher plants. 36a63bc91c Plant physiologists study fundamental processes of plants, such as photosynthesis, respiration, plant nutrition, plant hormone functions, tropisms, nastic movements, photoperiodism, photomorphogenesis, circadian rhythms, environmental stress physiology, seed germination, dormancy and stomata function, and transpiration. Plant physiology interacts with the fields of plant morphology (structure of plants), plant ecology (interactions with the environment), phytochemistry (biochemistry of plants), cell biology, genetics, biophysics and molecular biology. 36a63bc91c Some authors prefer the term "protocarnivorous" because it implies that these plants are on the evolutionary path to true carnivory, whereas others oppose the term for the same reason. The same problem arises with "subcarnivorous".

Donald Schnell, author of the book Carnivorous Plants of the United States and Canada, prefers the term "paracarnivorous" for a less rigid definition of carnivory that can include many of the possible carnivorous plants. 36a63bc91c There are at least 800 species of carnivorous plants. The number of known... 36a63bc91c == Physical properties == 36a63bc91c NOx does not include nitrous oxide (N2O), a fairly inert oxide of nitrogen that contributes less severely to air pollution, notwithstanding its involvement in ozone depletion and high global warming potential. 36a63bc91c Pollutants... 36a63bc91c

https://lb1-s245-pub.pressidium.com/@z/doc/exe?MD=gm__protein-in__egg
https://lb1-s245-pub.pressidium.com/^r/journal/upload?PAGE=how_much__sugar__should-one_consume_in_a__day
https://lb1-s245-pub.pressidium.com/!r/pub/data?BOOK=crc_full_form-in_medical