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Topic - Bio102 Assignment

DEPT - AGRICULTURAL SCIENCE

1) classify plants according to Fichler's grouping of 1883

Classification of plant groups - Cryptogamae and phanerogamae  
In 1883, A.W. Fichler gave a system of classification for the whole plant kingdom. It is a traditional system as well as a phylogenetic system of classification of plants.

Fichler classified the plant kingdom into two sub-kingdoms. They are Cryptogamea and phanerogamea

1) Cryptogamea

The Cryptogams are flowerless and seedless plants. They are simple plants like algae, mosses, ferns and fungi which do not produce flowers, fruits and seeds. Cryptogams are considered as lower plants.

a) algae

Example: Chlamydomonas, Volvox, Polysiphonia, Spirogyra, Zygnema and Chlorella

b) Bryophytes

Are the simplest land plants with undifferentiated plant body. They are adapted to grow in water and on land. The more advanced forms only on land. vascular tissue are absent.

and several other important minerals. This makes the fundamental source of food for all marine animals and in this respect sea is the richest food producing area.

2) Direct use of algae as food for man

Since the pre-historic times, several sea weeds have been used as direct source of food for human beings. Several fresh water algae have also been utilised in the preparation of various kinds of vitaminized food. As we know well that the fundamental food of sea living stock are algae and they are used as food by human beings.

3) AS a source of vitamins

The marine algae are the richest source of vitamins. The vitamins A, B and E are found abundantly in sea weeds. The vitamin B essentially required for the development of human being body is found in great abundance in almost all phaeophyceae. The cod liver oil is the rich source of vitamin A, which is acquired from sea weeds. Vitamin E is equally important for human being which are found in many marine algae.

3) Describe a unicellular form of algae

A unicellular organism algae are plant-like autotrophs and contain chlorophyll. They include groups that have most multicellular and unicellular species. Euglenophyta (flagellated, mostly unicellular algae that occur often in fresh water).

4) How does this unicellular algae described in question

3 carry out its reproduction

Many of the small algae reproduce asexually by ordinary cell division or by fragmentation, whereas larger algae reproduce by spores. Some red algae produce monospores (walled, nonflagellate, spherical cells) that are carried by water currents and upon germination produce a new organism.

5) Differentiate between the two types of colonial form of algae  
In Colonial form of organism there are different forms of algae which are arranged very close to each other such as in blue green algae and they resemble the structure of a cannonball. ~~But~~ however the filamentous form of organism are arranged in such a way that they look like thread.  
Colonial and filamentous form of organisms are the morphological difference in which the different groups of organism arrange to each other.

In colonial form of algae there are different forms of algae which are different forms of algae which are arranged very close to each other such as in blue green algae and they resemble the structure of a cannonball. These are found in organisms such as Spirogyra.

6) Describe a named complex form of algae

The largest and most complex marine algae are called seaweeds, while the most complex freshwater forms are the Charophytes, a division of freshwater green algae which includes, for example, Spirogyra and Stauroneis. Diatoms and brown ~~algae~~ algae are examples of algae with secondary chloroplasts derived from an endosymbiotic red algae.