SUMMARY

Seaweeds are marine benthic algae; they are macroscopic. varying in length from few millimeters to what is known as gaint algae.

Seaweed represents an important part of the human food in Japan,China and other countries, providing proteins, vitamins and minerals.

Seaweeds are widely used in microbiology, in industrial products and pharmaceutical products ranging from toothpastes to anticancer medicines.

Seaweeds are also used as animal fodder and fertilizer.

So the aim of this work:

1-Physico-chemical analysis of water samples and evaluate the relation between the dominancy of algal species with the changeable limits in water properties.

2- Isolation and characterization of its chemical constituents.

3- Study the effect of algal extracts of *Caulerpa prolifera* and *Ulva lactuca* on t (bacteria and fungi).

4-- Study the effect of algal powder on the chicks.

I- Physico chemical analysis of water samples:

The water samples from 6 sites (EL-ballah, Elferdan, No.6, Deversoir, Faied. Kabrit) were collected and temprature, turbidity, salinity, PH, oxygen, nitrate and phosphorus through three monthes (Feb. — Mar. — Apr.) were determined.

II - Phytochemical investigation.

As a result of chromatographic screening and prepartive the algae found to contain:

1-Caulerpa prolifera :

A- Sterols: eg

Cholesterol & P-sitosterol

B- Fatty acid analysis: GC investigation of fatty acid metyl esters with reference samples indicated the presence of several fatty acid as capric acid. lauric acid, palmitic acid, stearic acid oleic acid.

C- The isolated compounds from *Caulerpa prolifera are:*

2-ethenyl- 15-(2,6,6-Trimethyl — 2 Cyclohexen -1-y1) —1,3- di acetyl-pentene-1,3 diol. And

(2,6,6-Trirnethyl — 2 Cyclohexen -1-y1) —1- acetyl —3-ethenyl-hepten-1,3 diol.

2- *Ulva lactuca.*

A- Sterols: cholestane.

B- Fatty acid analysis:

GC investigation of fatty acid metyl ester with reference to authentic samples indicated the presence of several fatty acid as capric acid. caprylic acid. stearic acid oleic acid paslmitic acid, lauric acid

C- The compounds in *Ulva lactuca* which is prepartive:

Decortinol and 3-o-p-D-gluco pyranosyl-stigmasta-5, 25-dien.

III - Biological activity:

The antimicrobial screening of different plant extracts reveales their ability to inhibit the growth of different G + ve bacteria, G — ve bacteria and fungi.

In case of *Caulerpa prolifera* extracts, it was found that *Bacillus subnlus* and *Aspergillus niger* highly sensetive to the algal extract.

While In case of *Ulva lactuca* extracts found that *Bacillus subtilus* and *Chyresoporium sp.* are highly sensitive to the algal extract.

The effect of the algae on the chicks:

The chicks are grouped into three groups:

Group 1: Control (fed on the rachis only).

Group 2: The chicks (fed on a mixture of the powder of *Ulva factual* and rachis (100g / kg).

Group 3: The chicks (fed on a mixture of the powder of Caulerpa *proliferct* and rachis (100 g/kg).

We are found that , The weight of chicks which fed the *Caulerpa proliferce*> the weight of chicks which fed on *Ulva lactuca* > control .