3. The bog-moss changed its colour by heating it in the thermostat at the temperature of 105°C.

4. The cellulose which was isolated by the usual chlorination method was partly carbonized in the same thermostat.

5. The amount of the cellulose separated by the usual chlorination method was far more than the residue of the alkali extract.

6. Therefore it is more advisable to apply the modified chlorination method, using 1% caustic soda solution in the determination of cellulose.

7. There was great difference in the amounts and the character of cellulosics which were isolated by the above two methods.

8. We pointed out some different properties which were exhibited by moss and wood cellulose.

9. Lignin was also differed from that of wood in some respect.

10. The amount of alpha-cellulose was remarkably small. It is only 9% against air dried sample.

Biochemistry of Filamentous Fungi. I.
Colouring Matters of Monascus Purpureus Went. Part I.

By

Hidejiro Nishikawa.

(Received March 28, 1932.)

Résumé.

1. From the mycelial felt of Monascus purpureus Went cultured in a synthetic medium a crystalline colouring matter, monascorubrin, C_{22}H_{24}O_{5}, melting at 136°C, was isolated in red prisms or needles. Its dihydrocompound is reddish yellow triangular platelets. These two substances have exceedingly high laevo-rotatory power. A crystalline bromo-derivative of monascorubrin was also prepared.

2. A smaller fraction of monascorubrin is converted into a crystalline yellow colouring matter, monascoflavin, C_{17}H_{22}O_{4}, melting at 145°C, when the former is treated in an alcoholic solution with hydrogen peroxide. Monascoflavin can also be obtained from aged mycelium of Monascus purpureus. It crystallises in rhombic platelets. Its dihydro- and dibromo-derivatives are crystalline, while its monoacetyl derivative can not so far be obtained in crystalline form. Contrary to monascorubrin and its dihydro-derivative, monascoflavin and its dihydro-compound are strongly dextro-rotatory. Di-
hydromonascoflavin has phenolic properties.

3. Neither monascorubrin nor monascoflavin contains methoxyl group.

4. Monascorubrin on potash fusion produces with very poor yield a mixture of lower fatty acids among which caproic acid is most abundant and identified through its anilide. From the non-volatile portion of acidified fused material ether extracts a small quantity of a substance giving purple FeCl$_3$ reaction.

5. Carbon skeleton of and structural relation between monascorubrin and monascoflavin are still obscure and their formulae are yet to be corroborated upon stronger experimental basis. So far the presence of a double bond, a C$_6$ straight chain, and presumably a benzene nucleus in the monascorubrin molecule may be inferred from above. Further investigations are going on.

---

**On Soil-acidity and Electro-dialyzable Aluminium, Iron and Etc.**

By

S. Osugi and M. Aoki.

(Received April 23, 1932.)

**Résumé.**

It is well known fact that potassium chloride extract of acid-soil contains aluminium and iron in the amount corresponding to the acidity and yet it is not determined whether these aluminium and iron are primary product of base-exchange or not.

In order to investigate this question, the present authors made some experiments and the results will be reported as follows.

At first, the authors experimented that soil-acidity is much increased after the treatment of soil with a dilute solution of FeCl$_3$, AlCl$_3$, CuCl$_2$ or NiCl$_2$ and that the increase is almost parallel to the concentration of hydrogen ion of the solution.

The above result shows that the hydrogen ion of the solution plays much important role upon the increase of acidity.

The result of the electro-dialysis of the treated soil shows that the speed of extraction of aluminium and iron in the soil differs much from that of absorbed base and that most part of aluminium and iron dialyzed, deposits in the membrane.

The behavior of aluminium hydroxide and ferric hydroxide added to soil