e) Presence of ferric chloride caused the sedimentation volume of ferric oxide in water to decrease remarkably.

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20. Purification of Rice Oil. (Supplementary Report)

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In the previous reports on the purification of rice oil (this Bulletin, Vol. **20**, 64, (1950); ibid., Vol. **24**, 24 (1951)), it was mentioned that the surface active impurity in crude rice oil could be easily separated as the deposit which was coagulated at oil-water interface, if an emulsion was formed by mixing the oil with dilute aqueous solution of some acids or salts, and it was de-emulsified at room temperature. In order to know the more detailed mechanism of the separation of the impurity from crude rice oil, some experiments were carried out. The results, thus obtained, may be summarized as follows:

1. The emulsion, which is formed from rice oil and dilute aqueous solution of some acids or salts, belongs to water-in-oil type.
2. The time required to complete the de-emulsification at room temperature varies with the purification degree of rice oil from which the emulsion is formed, and the samples, which show longer de-emulsification time, produce more deposit at oil-water interface after the completion of the de-emulsification.
3. The interfacial tension between rice oil and water varies with the content of the impurity and free fatty acids in the oil; for example the interfacial tension is considerably reduced in the case of a oil with higher acid value by a small amount of the impurity, such as rice wax, partially decomposed tri-glycerides and iron soaps which are the principal components of the deposit.
4. From the experimental facts (1~3) mentioned above and the microscopic observations regarding the emulsion and the deposit, it may be deduced that the separation of the impurity from crude rice oil is caused by the orientation of surface active substances at tho oil-water interfaces of the emulsion formed from the oil.
