ISMA* Technical Meetings

Landskrona, Sweden
2-4 September 1947

**In 1982, the name of the International Superphosphate Manufacturers' Associations (ISMA) was changed to International Fertilizer Industry Association (IFA).*

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THE INTERNATIONAL SUPERPHOSPHATE MANUFACTURERS' ASSOCIATION

AGRICULTURAL COMMITTEE.
139. BOULEVARD HAUSSMANN.
PARIS. (8E)

GENERAL OFFICE
14A. GT. MARLBOROUGH STREET.
LONDON, W.1

LE.43.

MINUTES of a SERIES of MEETINGS, held at LANDSKRONA, SWEDEN, and KALUNDBORG, DENMARK, from September 2nd - 4th, 1947.

PRESENT: MR. R. STANDAERT, Chairman of the Technical Committee.

Messrs. A. DEBAISIEUX	Belgium	Dr. P. CERA	Italy
A. DELRUELLE	"	A.M. DOLSTAD	Norway
A.R. STANDAERT	"	P.ETTARSSON	"
F. HUNEK	Czecho-Slovakia	S. LEITH	S.Africa
H.STEVENIUS-NIELSEN	Denmark	F.IGLESIAS LAENZ	Spain
B. CARLSEN	"	S.NORDENGREN	Sweden
H.K.HEMMINGSEN	"	H.FRANCKE	"
A.HORNHOJ-MOLLER	"	B.COLBJORNSEN	"
O.L.E. JENSEN	"	A.AKERMAN	"
K.J. LARSEN	"	K.BORJESSON	"
H. MILO	"	O.FRANCK	"
K. NYEGAARD	"	B.FOGELMAN	"
E. ROSEN	"	E.HULTBOM	"
S.R. MERRIN	Eire	T.JANZEN	"
A.W. HEINO	Finland	T.KREUTZ	"
Y. MATTILA	"	A.NILSSON	"
M. SOPANEN	"	R.NORDENGREN	"
M.A. BOULAINE	France	E.NORSTROM	"
P. CAMBAU	"	G.WALLIN	"
E. CHAIGNON	"	D.VENDIL	"
-. DEHOUSSE	"	A.WENTZEL	"
-. DELAPORTE	"	G.GOTTERSTROM	"
J. DIOR	"	DR.P.SCHNORF	Switzerland
-. HUREL	"	E.P.HUDSON	United Kingdom
-. MEUDIER	"	J.ANGUS	" "
-. MORAILLON	"	E.H.I.BROWN	" "
C. SERRIER	"	A.E.BROWN	" "
C.H.BUSCH JAEN	Holland	D.MACPHERSON	" "
H.J.TEN NOEVER BAKKER	"	J.MANNING	" "
D. LEYDENS	"	J.PORTER	" "
P.F.J. KOK	"	W.E.SHARPLES	" "
		K.A.SWERVIN	" "

and the SECRETARY, R.M. COLLINS.

The series of Meetings opened at the Stadshotellet at Landskrona at 10 a.m., on Tuesday, September 2nd, when the CHAIRMAN thanked the delegates for coming in such good numbers to this first post-war technical meeting. He reminded those present that, before the war, it had been found that technical meetings were of great importance for the industry. This meeting had been organized by the Swedish and Danish members in such an excellent way that he had no doubt whatever that the meetings would be very successful.

Mr. P. CAMBAU of France read a paper a copy of which is attached hereto (LE.49.), entitled "Contribution to the Research on optimum Acidulation in the Manufacture of Superphosphate". The CHAIRMAN thanked Mr. CAMBAU for his interesting paper and called upon Mr. R. NORDENGREN to read a paper by Messrs. SVEN and ROLF NORDENGREN, entitled "On the acid forming Reactions of the Lead Chamber Process", copy of which is attached (LE.50).

Mr. STEVENIUS-NIELSEN (Denmark) questioned if the mist contributes to any considerable extent to the formation of sulphuric acid, and he explained that a few years ago his firm carried out some experiments in a small chamber plant where the mist was artificially increased by adding SO_3 from oleum to the chamber gases. However, no acceleration in the formation of sulphuric acid could be detected.

Furthermore, according to the experience of Dr. Gerd Peterson, it is possible to run a tower plant without mist at all. Therefore, in the view of the speaker, most of the acid under practical conditions is formed through the macro-surfaces (i.e., the surfaces of the walls and the packing material) and, though undoubtedly some of the acid is formed in the mist, he believed this to be a relatively small amount.

Mr. SVEN NORDENGREN (Sweden) agreed that the proportion of acid formed primarily in the mist was small but he maintained his theory that the mist has a role in the chamber process and that the role of the mist is replaced in tower plants by the circulation of acid.

Mr. E.P. HUDSON (United Kingdom) wished to ask some questions regarding the experiment which was made to demonstrate the theory but stated that it seemed to him that, when water was added to the dry gases, several things were happening at once, viz.:

a. Water was being introduced
b. Water occurred in two forms, liquid and gas
c. The composition of the gases may be affected by this introduction of water.

He wondered whether, if the water was introduced in the form of gas and not in liquid form, the mist would also be formed.

Mr. ROLF NORDENGREN (Sweden) stated that, although the quantity of primarily formed sulphuric acid dispersed in the gas phase was very small, it nevertheless started the reaction which was carried on, partly in the dispersed drops, partly on the moistened chamber walls through a secondary process.

Mr. SVEN NORDENGREN (Sweden) stated that, from experiments he himself had made, NO_2 + SO_2 + water vapour will form a mist, at least if the temperature is lowered to less than 100°C. It was possible, but not yet proved, that the mist would appear to some extent even over that temperature. He was sure that some 90 to 95% or more of the acid produced was formed in a secondary way, i.e., on the moistened chamber walls and in the primarily formed drops of the mist, but he believed that a primary formation of sulphuric acid, dispersed in the gas phase, was necessary to the process in the lead chambers. If the reaction did not start with the mist, it remained to be explained why the chamber walls became wet.

Mr. STEVENIUS-NIELSEN (Denmark) felt that the surface of the mist is so immense that, in comparison, there is but a very small difference between the surfaces of a tower plant and a corresponding chamber plant. It is thus difficult to understand why the mist should be necessary for starting the process in a chamber plant and not in a tower plant.

Mr. SVEN NORDENGREN (Sweden) repeated his contention and stated that, when starting chamber acid plants, he never put acid on the walls but, after a time, the walls became wet with acid, and he felt this must arise from the mist.

Mr. STEVENIUS-NIELSEN (Denmark) declared once more that he would not deny that a certain but small part of the acid might be formed in the mist. Nevertheless, he could see no evidence for the statement that the presence of the mist should be necessary for starting the process.

The CHAIRMAN thanked Mr. Needon,ren for his very interesting contribution and the Meeting then adjourned until 10 o'clock on Wednesday, September 3rd. During the afternoon the delegates visited the Landskrona Superphosphate Works; a description of this Works is attached hereto.(LE.51)

The Meeting was resumed at 10 o'clock on Wednesday, September, 3rd, when Mr. OLLE FRANCK (Sweden) read a paper entitled "Reactions of Superphosphates in the Soil".(LE.52).Copy will be sent to members.

The CHAIRMAN thanked Mr. Franck for his interesting and valuable contribution and called upon Mr.E.P. HUDSON (United Kingdom) to read the attached paper, entitled "Some Plant Problems in the Granulation of Compound Fertilisers", a copy of which is attached. (LE.53)

The CHAIRMAN thanked Mr. Hudson and felt that the paper should be of great interest to members of the Association.

Reports from MONTECATINI on the following subjects:-

a. A general Survey of Plant Construction for the Manufacture of Sulphuric Acid from Pyrites for the Production of Superphosphate.
b. The Recovery of Fluorine in the Superphosphate Industry.
c. Continuous Superphosphate Manufacture- "Bellizoni-Montecatini" process,

had been received just before the Meetings without sufficient time to prepare copies for distribution to the delegates. Copies are now attached hereto. (LE.54.)

NEXT MEETING.

The CHAIRMAN stated that the question of the date and venue of the next meeting was not one to be decided by the technical Meeting, but was a question for the next Meeting of the Technical Committee itself. If any of the delegates had ideas he suggested that they should get into touch with the members of the Technical Committee for their respective countries.

The Meeting then terminated, and in the afternoon a visit was paid to the Plant Breeding Institute at Svalöf, where delegates were received by the Director, Prof. A. AKERMAN, who explained the history and the workings of the Swedish Seed Association, following which a visit was also paid to the Tree Breeding Institute at Ekebo.

In the evening delegates were entertained to dinner by the A/B Förenade Superfosfatfabriker. The delegates were welcomed by Mr.H.FRANCKE and the CHAIRMAN expressed the very sincere thanks of the Association to the Swedish members for their hospitality and for the great trouble to which they had gone in providing such excellent arrangements for the Meeting.

Thursday, September 4th. The day was spent at the invitation of the Danish members in a visit to Fredericsborg and to the Superphosphate Works at Kalundborg. A short description of this works is attached hereto. (LE.55)

While at Frederiksborg the delegates were welcomed by Mr. [illegible] , and the CHAIRMAN took the opportunity of expressing very sincere thanks to the Danish members for their hospitality and assistance in the organization of these Meetings.

Read and signed as correct:

R. STANDAERT
Chairman.

R. M. COLLINS.
Secretary.