

AMERICAN SOCIETY OF AGRONOMY

OFFICERS

President	S. B. HASKELL
First Vice-President	M. F. MILLER
Second Vice-President	EMIL TRUOG
Secretary-Treasurer	P. E. BROWN
Editor	R. W. THATCHER



EFFECTIVE INOCULATION CULTURES



FARMOGERM is on nitrogen-free jelly medium, in bottles, patented ventilating stopper, guaranteed to remain fresh, active and vigorous for at least *five years*. HUMOGERM is on humus medium, in cans, guaranteed for one year. Both give thorough inoculation.

We appreciate opportunities to demonstrate their superiority.

EARP-THOMAS CULTURES CORPORATION

NELSON AVENUE AND HILL STREET LONG ISLAND CITY, N. Y.

INOCULATE

CONSTANTLY, the farmer of today looks to agricultural college experiment stations and county agents for advice. And he gets it. He is advised to inoculate when growing legumes so as to safe-guard his profits. But is this all? Isn't it vitally important to use the proper soil inoculator? Nitragin, the original soil inoculator, is one of the most universally and highly endorsed products on the world's market.



The Original Soil Inoculator

The Nitragin Company, Inc.
MILWAUKEE, WIS.

THE use of manure is as old as the practice of Agriculture. The use of Rock (Mineral Manures) and Commercial Fertilizers is comparatively new in the history of Agriculture, but Dr. Nathaniel Schaler of *Harvard University*, in his book *Man and the Earth*, says "*So rapidly has its use advanced that it may fairly be reckoned as the most significant of the great winnings of the last half century.*"

The caution of the scientist and the practice of the farmer is back of every sack of ARMOUR'S BIG CROP FERTILIZERS.

Armour Fertilizer Works

209 West Jackson Blvd.

CHICAGO

INDEX

PAGE	PAGE
<p>Advisory board to National Research Council, Actions of 252</p> <p>Agronomic affairs, 55, 96, 216, 252, 286, 326, 359</p> <p>Agronomic meetings....252, 286, 328</p> <p>Agronomic research, Increasing efficiency of 329</p> <p>Agronomic teaching, Symposium on 371</p> <p>Albrecht, Wm. A., paper on "Viable Legume bacteria in sun-dried soil"..... 49</p> <p>Alfalfa seed, longevity affected by scarification 298</p> <p>Annual meeting of the Society. 288 Minutes of 359</p> <p>Arny, A. C., paper on "Border effect and ways of avoiding it"..... 266</p> <p>Auditing Committee, Report of. 370</p> <p>Bailey, C. H., paper on "The character of the 1919 crop spring wheat dockage".. 88</p> <p>Bacteria, legume, in sun-dried soil 149</p> <p>Barker, H. D., see Hayes, H. K.</p> <p>Barton, John, see Emerson, Paul.</p> <p>Beaumont, A. B., paper on "The field problem in the soils course" 79</p> <p>Bear, F. E., paper on "Nitrogen economy in soils"..... 136 paper on "The teaching of soils" 307</p> <p>Barleys, smooth-awned, physiological value of..... 113</p> <p>Bizzell, J. A., paper on "Disappearance of nitrates from soil under timothy". 320</p> <p>Blair, A. W., paper on "Agricultural and commercial values of nitrogenous plant foods"..... 162</p>	<p>Book review53, 357</p> <p>Border effect 266</p> <p>Botanical abstracts 287</p> <p>Branstetter, B. B., paper on "Fungi internal to Missouri seed corn of 1921". 354</p> <p>Brown, B. A., paper on "Plot competition with potatoes" 257</p> <p>Brown, P. E., paper on "Soil types as a basis for soil investigations" 198 report as Secretary..... 364 report as Treasurer..... 367</p> <p>Call, L. E., paper on "Increasing the efficiency of agronomic research" (presidential address) 329</p> <p>Cardon, P. V., paper on "Sunflower studies" 69</p> <p>Change in editorship of the Journal 55</p> <p>Colloid content of soils..... 293</p> <p>Committee, Auditing 370 Intercollegiate grain judging contest 363 Nominating 370 Resolutions 370 Standard course in field crops 128 Standardization of field experiments 359 Terminology 360 Varietal standardization ... 360</p> <p>Corn breeding, Experimental basis for present status of 1</p> <p>Corn, An application of close breeding in 51 Dent, ear type selection and yield of 27 ear, treatment to preserve samples of 93 effect of fertilizers on yield and market condition of.. 153</p>

PAGE	PAGE
Corn, first generation varietal crosses of	18
Heritable variations in....	73
hybrids, single and double..	241
seed, fungi in.....	354
Cotton wilt, control by potash fertilizers	222
Crops, Intertillage of and formation of nitrates in soil... 97	
introductory course in.....	128
production, nitrogen in relation to	179
teaching, experimental work in	123
Davidson, J., paper on "The effect of nitrates applied at different stages of growth on yield, composition, and quality of wheat".....	118
paper on "Reduction of nitrates caused by seed as a possible factor in the economy of nitrogen in crop production"	338
Davis, R. O. E., paper on "The interpretation of mechanical analysis of soils as affected by soil colloids"...	293
Dockage, character of in wheat.	88
Dorchester, C. S., paper on "A treatment to preserve valuable representative samples of ear corn"....	93
Hunham, A., see Sherwin, M. E.	
Editor, Report of	367
Editorship of the Journal.....	55
Ellett, W. B., and Wolfe, T. K., paper on "The effect of fertilizers on the yield and market condition of corn"	153
Emerson, Paul, and Barton, John, paper on "The K-N ratio of red clover as influenced by potassium fertilizers"	182
Emerson, Paul, and Fletcher, R. D., paper on "The effect of Sudan grass on the biological processes of the soil"	235
Etheridge, R. B., see Sherwin, M. E.	
Evans, M. W., paper on "Some methods of recording data in timothy breeding"....	82
Fertilizer nitrogen, supplies of..	167
Fertilizers, effect of, on germination, etc., of soy bean seed	284
on sugar beets.....	228
on yield and market condition of corn.....	153
on yield and maturity of soy beans	193
see also Nitrogen, Potash, etc.	
Fletcher, R. D., see Emerson, Paul.	
Fungi internal to seed corn....	354
Gericke, W. F., paper on "Studies on the effect of nitrogen applied to oats at different periods of growth"	311
Graber, L. F., paper on "Scarification as it affects longevity of alfalfa seed"...	298
Grains grown in combination..	225
Grantham, A. E., paper on "Some observations of the behavior of bearded and smooth wheat".....	57
Greaves, J. E., paper on "The influence of irrigation water on the composition of the soil".....	207
Grey's Reminiscences, Review of	357
Griffee, Fred. paper on "First generation corn varietal crosses	18
Harmer, P. M., see McCool, M. M.	

PAGE	PAGE		
Haskell, S. B., paper on "A plea for experimental work in crops teaching"	123	performance of wheat varieties and strains"	258
paper on "A study of present and future supplies of fertilizer nitrogen"	167	Kiesselbach, T. A., paper on "Ear type selection and yield of dent corn"	27
Hayes and Garber's Breeding Crop Plants, Review of	53	Legume bacteria, Viable, in sun-dried soil	149
Hayes, H. K., and Barker, H. D., paper on "The effects of self-fertilization in timothy"	289	Livestock vs. grain farming	159
Hayes, H. K., and Wilcox, A. N., paper on "The physiological value of smooth-awned barleys"	113	Lyon, T. L., papering on "Intertillage of crops and formation of nitrates in soil"	97
Hume, A. N., paper on "An application of close breeding in corn which produced numerous albinos"	51	McCool, M. M., and Harmer, P. M., paper on "Effects of fertilization on the growth of sugar beets on some Michigan muck soils"	228
Hutcheson, T. B., and Wolfe, T. K., paper on "The effect of fertilizers on germination and bacterial development of inoculated soybean seed"	284	Maize, see Corn.	
Hutchinson, C. B., paper on "Heritable variations in maize"	73	Membership changes	96, 364
Index for measuring the performance of wheat	258	Miller, M. F., paper on "Progress in standardizing the introductory course in soils"	217
Intercollegiate grain judging contest	363	Muck soil problem	212
Irrigation water, influence on the composition of soil	207	fertilization of sugar beets on	228
Jenson, O. F., and Olson, M. E., paper on "A small-grain nursery thresher"	110	New England agronomists, conference of	286
Jones, D. F., paper on "The productiveness of single and double first generation corn hybrids"	241	Nitrates, disappearance from soil under timothy	320
Journal, change in editorship of	55	effect of on yield composition and quality of wheat	118
publication of	96	in soil, formation	97
Kemp, W. B., paper on "An index for measuring the		reduction of by seed	338
		Nitrogen applied to oats, effect of	311
		Nitrogen economy in soils	135
		Nitrogen, fertilizer, supplies of	167
		Nitrogen in relation to crop production in Middle West	179
		Nitrogen inventory as affected by live-stock vs. grain farming	159
		Nitrogenous plant foods	162
		Nominating committee, Report of	370
		Notes and News	55, 96, 216, 252, 326

	PAGE		PAGE
Oats, effects of nitrogen on....	311	introductory, standardiza- tion of	217
Olson, M. E., see Jenson, O. F.		Soil types as basis for soil in- vestigations	198
Plot competition with potatoes.	257	Soy beans, effect of fertilizers on yield and maturity.....	193
Potash fertilizers, influence of, on red clover.....	182	on germination of.....	284
control of cotton wilt by....	222	natural cross-pollination, ex- tent of	278
Potassium-nitrogen ratio of red clover	182	Standard course in field crops..	128
Potatoes, plot competition in....	251	in soils	217
President's annual address.....	329	Sudan grass, effect on biological processes of soil.....	235
Rast, L. E., paper on "Control of cotton wilt by potash fertilizers"	222	Sunflower studies	69
Resolutions committee, Report of	370	Sugar beets, fertilization of....	228
Richey, F. D., paper on "The experimental basis for the present status of corn breeding"	I	Swelling coefficient of dry soils.	302
Scarification of alfalfa seed, ef- fect on longevity of....	298	Teaching crops, experimental work in, plea for.....	123
Schuster, G. L., paper on "In- fluence of fertilizers on yield and maturity of soy beans"	193	standard course in, Report of committee on.....	128
Secretary, Report of.....	364	Teaching soils	307
Self-fertilization in timothy....	289	introductory course in....	217
Sherwin, M. E., Etheridge, R. B., and Dunham, A., paper on "A muck soil problem and its solution".....	212	Terminology, Report of commit- tee	360
Soils, biological processes of, in- fluence of Sudan grass on.	235	Texas branch of the Society...	252
muck	212, 228	Timothy, disappearance of ni- trates from soil under....	320
disappearance of nitrates from, under timothy....	320	effects of self-fertilization in	289
formation of nitrates in....	97	Timothy breeding, recording data	62
Soil composition, influence of ir- rigation water on.....	207	Thresher, A small-grain nursery	110
Soil colloids, effect on mechan- ical analysis	293	Treasurer, Report of.....	367
Soils, nitrogen economy in....	136	Vinson, A. E., and Catlin, C. H., paper on "Determination of the swelling coefficient of dry soils when wetted"	302
dry, swelling coefficient of, when wetted	302	Water, irrigation, influence on soil composition	207
the teaching of.....	307	Western agronomic conference.	252
Soils course, The field problem in	79	Western Canadian Society of Agronomy, proceedings of	326
		Wheat, effect of nitrates on yield, composition and quality of	118
		index for measuring per- formance of	258
		spring character of dockage in 1919 crop of.....	88

INDEX

377

	PAGE		PAGE
Wheats, bearded and smooth, behavior of	57	Woodworth, C. M., paper on "The extent of natural cross-pollination in soy beans"	278
Wilcox, A. N., see Hayes, H. K.			
Williams, C. G., paper on "The nitrogen inventory as influenced by live-stock vs. grain farming"	159	Zavitz, C. A., paper on "Grains grown in combination for grain production"	225
Wolfe, T. K., see Ellett, W. B. and Hutcheson, T. B.			