

Indian Tobacco

QUARTERLY



Vol. IV No. 4

OCT.-DEC. 1954

291
-55

92



INDIAN CENTRAL TOBACCO COMMITTEE

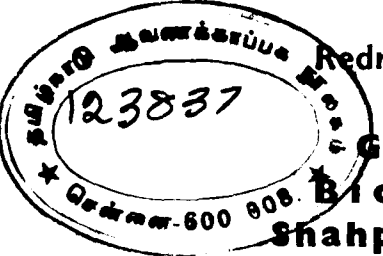
(MINISTRY OF FOOD AND AGRICULTURE GOVERNMENT OF INDIA)

MADRAS-8

**NATIONAL TOBACCO
Co. OF INDIA LTD.,**
GUNTUR (S. India)

PACKERS & EXPORTERS

All types of
Indian Leaf Tobaccos



Redrying Plants
at
Guntur
Biccavole
Shahpur Patory

23 BUYING CENTRES in Tobacco Districts

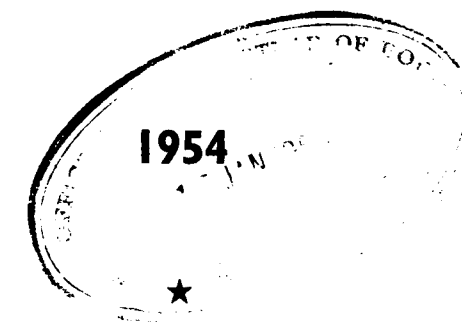
REFRIGERATED WAREHOUSES
at
Guntur
Biccavole
Calcutta

Head Office: Norton Buildings,
1 & 2 Old Court House Corner,
CALCUTTA



QUARTERLY JOURNAL

VOLUME IV



NUMBERS 1 to 4

**AUTHOR INDEX
SUBJECT INDEX
ADVERTISERS INDEX**



ISSUED BY

INDIAN CENTRAL TOBACCO COMMITTEE

(Ministry of Food & Agriculture, Government of India)

MADRAS-8.

Single copy As. 12
(foreign 2 sh.)

Annual Subscription Rs. 3/-
(foreign...8 sh.)

INDIAN TOBACCO

VOLUME IV—1954

AUTHOR INDEX

	Page
ANNAMMA PHILIP and Pal N. L.	The root knot nematode (Heterodera Marioni goodey) on tobacco ... 78
AWATRAMANI, N. A., Krishnamoorthy T. and Kadam B. S.	Nitrogenous manuring, spacing and top- ping of Bidi tobacco in Gujerat ... 124
BALAKRISHNA PILLAI, P. N. and Patel M. S.	Jaffna Tobacco ... 15
KADAM B. S. and Pal N. L.	Suppression of suckers by coconut oil and its effect on yield in tobacco ... 7
KADAM B. S. Krishnamoorthy T. and Awatramani N. A.	Nitrogenous manuring, spacing and topping of Bidi tobacco in Gujerat ... 124
KRISHNAMOORTHY T. Awatramani N. A. and Kadam, B. S.	" " ... 124
PAL, N. L. and Kadam, B. S.	Suppression of suckers by coconut oil and its effect on yield in tobacco ... 7
PAL, N. L. and Annamma Philip	The rootknot nematode (Heterodera Marioni goodey) on tobacco ... 78
PARIKH, N. M. and Shah, C. C.	Absorption of Minerals by the Bidi tobacco plant ... 86
PATEL, M. S. and Balakrishna Pillai P. N.	Jaffna tobacco ... 15
PATEL, M. S.	Bidi Tobacco Industry in India ... 64
PATEL, M. S.	Indian Tobacco Delegation to the Far East ... 121
PATEL, M. S. and Ramarathnam, D. S.	Tobacco in Andhra State ... 176
PRASAD, N.	Control of <i>Orobanch</i> in tobacco by "Crag Herbicide I" ... 139
RAMAN MOOSAD, C.	Jaffna method of curing tobacco ... 200
RAMARATHNAM, D. S. and Patel, M. S.	Tobacco in Andhra State ... 176
SHAH, C. C. and Parikh, N. M.	Absorption of Minerals by the Bidi tobacco plant ... 86
SHARMA, G. D.	Tobacco in Farrukhabad ... 192
SUBBANNA, M. L.	Development of Flue-cured Virginia in Mysore State. ... 96
TANDON, P. L., and Yesoda Devi, S.	Price and Production trends in Flue- cured Virginia Tobacco in India ... 144
YESODA DEVI S. and Tandon, P. L.	" " ... 144

q2

Indian Tobacco

Oct - Dec 1954

1

JL
J452 m 2, NSI
NS4-4-4
123837

INDIAN TOBACCO

VOLUME IV—1954

SUBJECT INDEX

	Page		Page
Acreage in Andhra State ...	178, 181	Dwivedy, S. N. ...	29
Acreage in Madras State ...	144	Editorial Board ...	5, 25, 56, 113, 164
Aka, A. ...	34	Edmondson, A. T. W. ...	34
Andhra State—tobacco in ...	176	Elworm ...	78
Andhra State—tobacco map ...	176	Ekbai Chand ...	30
Anti—arteriosclerotic ...	154	Electrically treated plant bed ...	106
Appajappa, M. K. ...	30	Exports of unmanufactured tobacco ...	188, 189
Atomic fertilisers ...	206	Far East—Tobacco Delegation to... ..	60, 122
Barua, H. K. ...	33	Farrukhabad—tobacco in ...	192
Bibliography on tobacco ...	44, 158	Fluecured tobacco—acreage & production ...	177
Bidi tobacco cleared for home consumption ...	208	Fluecured Virginia in Mysore State ...	96
Bidi tobacco—development and yield data ...	127, 131	Fluecured Virginia—Prices in Guntur Market ...	145, 185
Bidi tobacco—exports ...	76	Ghatge, Dr. M. B. ...	28
Bidi tobacco industry ...	64	Grading of tobacco ...	184
Bidi tobacco in Gujerat ...	124, 140	Gubbay, E. ...	62
Bidi tobacco—Markets ...	70	Gujarat—bidi tobacco in ...	124, 140
Bidi tobacco plant—absorption of minerals ...	86	Guntur Market—Prices ...	145, 185
Bidi tobacco—trade names ...	70	Insecticides affect leaf quality ...	40
Bordeaux mixture—preparation of ...	142	Jaffna method of curing ...	200
Calender for tobacco growing ...	179, 180	Jaffna tobacco ...	15
Chain smokers ...	155	Jailbreak ? ...	43
Chemical control of suckers ...	108, 154	Jain, A. P. ...	169
Chewing tobacco cleared for home consumption ...	15	Judge rebels ...	42
Coconut oil for suppression of suckers ...	7	Kadam, Dr. B. S. ...	37, 59
Contributor's guidance ...	5, 56, 113, 164	Kesava Rao, V. C. ...	35
Control of Orobanche ...	139	Kidwai, R. A. ...	167
Crag Herbicide I ...	139	Krishnamoorthy, E. S. ...	28
Cultivation of bidi tobacco ...	64	Low-nicotine leaf ...	106
Cultivation of tobacco in Mysore State ...	96	Madras State—Acreage, Production & acre yields ...	144
Curing tobacco by Jaffna method... ..	200	Manuring of bidi tobacco ...	124
Damle, K. R. ...	26	Map of Andhra ...	176
Delegation to Far East ...	60, 122	Maziruddin Ahmad ...	31
		Mechanical chain-smoker ...	42

	Page		Page
Mechanical harvester ...	155	Production in Andhra State ...	178, 181
MH-30 ...	154	Production in Madras State ...	144
Meetings of the Indian Central Tobacco Committee ...	116, 172	Raghuramaiah, K. ...	29, 60, 170
Members of the Committee—Nomination of ...	13, 83	Rangachari, T. M. ...	35
Mexican cure for fever ...	42	Rating of personality ...	150
Minerals—absorption by bidi tobacco plant ...	86	Rootknot Nematode ...	78
Mosaic disease ...	108	Row, M. V. S. ...	62
Murthy, B. S. ...	36	Sankaraiah, K. ...	32
Mysore State—development of F. C. V. ...	96	Saini, H. R. ...	29
Mysore Tobacco Company ...	96	Seasonal operations in N. Circars ...	102, 204
Narahari, G. ...	62	Shaha, D. C. ...	33
Nicotine factors ...	39, 106	Sinha, B. P. ...	31
Nitrogenous manuring of bidi tobacco ...	124	Sinha, R. E. ...	32
Northern Circars—tobacco growing in ...	102, 204	Sixteenth Meeting of the Indian Central Tobacco Committee ...	172
"No smoking" goes ...	42	Smokers' habits ...	150
Note to burglars ...	43	Smoking hut ...	201
Nursery management in Gujerat ...	140	Smoking machines ...	42
Officers under the Indian Central Tobacco Committee ...	3, 83, 161, 163	Smuggling cigarettes ...	106
Orobanche—control of ...	139	Spacing of bidi tobacco ...	73
Parikh, M. A. ...	27, 170	Statewise consumption of chewing tobacco ...	15
Patel, A. B. ...	30	Subbanna, M. L. ...	32
Patel, C. L. ...	35	Suppression of suckers ...	7, 108, 154
Patel, Dr. M. D. ...	36	Tandon, P. L. ...	37
Patel, Dr. M. S. ...	37, 61	Teeth of pipe smokers ...	154
Patil, R. B. ...	33	Tobacco bibliography ...	44, 158, 208
Patil, S. I. ...	31	Tobacco Delegation ...	60, 122
Perenox—preparation of ...	142	Tobacco in Andhra State ...	176
Personality test through smoking ...	150	Tobacco in Farrukhabad ...	192
Pipelore ...	107	Tobacco in Madras State ...	144
Pipesmokers' teeth ...	154	Tobacco in N. Circars ...	102, 204
Pipe smoking reduces tooth decay ...	106	Tobacco juice to cure fever ...	42
Prasad, R. ...	34	Tobacco map of Andhra ...	176
Prices in Gutur Market ...	145, 185	Tooth decay cut by pipe smoking ...	106
		Topping of bidi tobacco ...	124
		Trashy leaf tobacco ...	153
		Uppal, Dr. B. N. ...	28
		Yield data for bidi tobacco ...	127, 131
		Yield in tobacco—effect on ...	7

INDIAN TOBACCO

VOLUME IV, 1934

ADVERTISERS INDEX

Page	Page
Agri-orient Industries Ltd., Bombay ... 2, 53, 111, 163	"Indian Tobacco" & "Tobacco Bulletin" adver- tisement tariff } (Inner cover page of issue No. 1), 84, 217
Amritlal & Company Ltd., Bombay ... 38, 85, 143, 207	Jonas Elliott & Co. Ltd., London ... 4, 55, 148, 199
British India Tobacco Corpo- ration Ltd., Guntur (inner back cover of all issues)	Krishna A. S. & Co. Ltd., Guntur. ... 2, 53
Brooks & Bohm Ltd., London 1, 52, 110, 162	Kyoei Shoji Co. Ltd., Tokyo... 4, 55, 120
Chegu Krishnamoorthy, Guntur ... 1, 52, 110, 162	National Tobacco Co. of India Ltd, Calcutta } 23, and inner front cover of Nos. 2, 3, & 4
Doshi Brothers, Bombay ... 1, 52, 110, 162	Polisetty Somasundaram, Guntur ... 43, 105, 138, 207
Gregory Salzman (London) Ltd., London ... 24, 101, 156, 203	Proctor & Schwartz, Inc. Philadelphia ... 41, 57, 149, 165
Hang Tai & Fungs (Tobacco) Co. Ltd., Bangkok ... 43, 54, 112, 216	Sri Ambal & Co, Madras ... 3, 54
Imperial Tobacco Co. of India Ltd., } (Outer back cover of all issues)	Swamy & Co., G. V, Guntur... 2, 53, 111
India Fruits Ltd., Kadium ... 14, 63, 157, 191	The Mysore Tobacco Co. Ltd, Bangalore ... 38, 85, 152, 199

BROOKS & BOHM LTD.

90, VICTORIA STREET, LONDON, S. W. 1.

LEAF TOBACCO MERCHANTS, IMPORTERS & EXPORTERS

We have Agents and Representatives throughout the World

MAY WE HELP YOU WITH YOUR TOBACCO
IMPORT AND EXPORT PROBLEMS

Cable Address:

BROOKSBOHM,
WESTMINSTER, LONDON.

Cable: "DOSH BOM"

DOSHI BROTHERS

(BOMBAY)

204, Hornby Road, Fort,

BOMBAY - 1

Telephone: 20607

Exporters of all grades of Indian
leaf tobacco, cheroot tobacco, flue-
cured and suncured, Virginia leaves
and strips, suncured country tobaccos.

We guarantee the quality of
our supplies.

TELEPHONE:
GUNTUR 182

Telegrams & Cables:
"CHEKRI"

CHEGU KRISHNAMURTHY

DEALERS AND EXPORTERS

*All Types of Indian Tobaccos in Leaf and Strips
(for Cigarettes, Cigars, Pipe & Hookah)*

POST BOX No. 32

GUNTUR (S. INDIA)

INSECTICIDES FOR CROPS

"BENEXIDE"

Dusts and 50% Water Dispersible powder
formulated from Benzene Hexachloride

and

AOI Brand D. D. T.

Dusts and 50% Wettable Powders

Please write to

AGRI ORIENT INDUSTRIES LTD.

98, MEDOWS STREET
FORT, BOMBAY-1

Gram: DHAVALANGA Phone: 32906-7

Sprayers & Dusters for all Crops

MARUTI Pedal Pump Sprayers

GATOR Rocking Piston Sprayers

ASPEE Bucket Sprayers

MARUT Hand Compression Sprayers

VARUN & SIKAR Sprayers

ORIENT & SHANENE Dusters

Manufactured in Bombay by

Messrs. American Spring & Pressing Works

For details please contact:

AGRI ORIENT INDUSTRIES LTD.

98, MEDOWS STREET
BOMBAY-1

Gram: DHAVALANGA Phone: 32906-7

INDIAN CENTRAL TOBACCO COMMITTEE

14, Victoria Crescent Road, Egmore,
MADRAS - 8.

Telegrams: TABAC, MADRAS

Telephone: 86370

President: Sri K. R. DAMLE, I.C.S., Vice-President, Indian Council of Agricultural Research and Additional Secretary to the Government of India, Ministry of Food and Agriculture.

Vice-President: Sri MOHANLAL A. PARIKH, B.A.

EDITORIAL BOARD

Dr. M. S. PATEL M.Sc., Ph.D., (N. Carolina), Secretary.

Dr. N. L. PAL, D.Sc., F.N.A.Sc., F.B.S., Director, Tobacco Research. (Offg).

Sri. P. L. TANDON, B.Sc. (Wales), Chief Inspector, Tobacco Grading.

Sri. T. S. RAJAGOPALAN, B.A., Senior Assistant.

FOR CONTRIBUTORS' GUIDANCE

Articles should be as concise as possible and generally with appeal to the lay public. Titles of the articles should be short. Articles on scientific research need not contain the details of experiments conducted, and should avoid, as far as possible, scientific formulae and technical terms. Where technical terms are unavoidable, they should be explained in the text in simple language. Statistical tables should be restricted to the absolute minimum and should be typed on separate sheets with their positions marked in the text. Appropriate mention in the article, of the economic value of the results of research and methodological studies will enhance its usefulness. Original articles should conclude with a short summary of the main facts and conclusions.

2. References to literature which must be restricted to the very few of importance, should be given in the text wherever possible in chronological order—only the names of authors and years of publication in brackets being given. They should be stated in full after the summary, authors' names following in alphabetical order, as under:—

(i) Name or name(s) of author(s).

(ii) Name of journal (abbreviation), with a single underline, year of publication, number of volume, page number.

3. Information of a miscellaneous nature and of interest to the general public, facts, observations,

etc. relating to TOBACCO are also received for publication.

4. Manuscript should be neatly typed with double spacing on one side of the paper only and with wide margin. Drawings, diagrams, etc. should be done in Indian ink. Coloured illustrations are not required.

5. All papers should be carefully revised by the authors and should be absolutely in final form for printing.

6. In addition to one copy of the Journal, in which their articles appear, 25 complimentary copies of the reprints of only the original articles will be supplied to their respective authors free of cost on request. If there are more than one author, these 25 copies will be distributed among them. Authors should intimate, while sending their articles for publication, whether they require their reprints. Additional copies of reprints can be supplied on payment at printer's cost price if intimation is given while sending the articles for publication.

7. The Editorial Board reserves the right to suitably change, rewrite or reject the whole or any portion of the matter received for publication.

8. All articles and other materials for publication in "INDIAN TOBACCO" should be addressed to the Secretary, Indian Central Tobacco Committee, 14, Victoria Crescent Road, Egmore, Madras-8.

The Indian Central Tobacco Committee takes no responsibility for opinions or statements contained in contributed articles in this Journal. Articles appearing in this Journal can be reproduced only on permission from the Secretary.

OFFICERS UNDER THE INDIAN CENTRAL TOBACCO COMMITTEE

(a) Secretariat, Madras.

Dr. M. S. Patel, M.Sc., Ph.D. (N. Carolina)—Secretary.

(b) Central Tobacco Research Institute, Rajahmundry (S. India).

Dr. N. L. Pal, D.Sc., F.N.A.Sc., F.B.S.—Director, Tobacco Research (Officiating)

Sri T. Krishnamoorthi, B.Sc., (Agri.)—Agronomist.

Dr. (Miss) Annamma Philip, M.Sc., Ph.D.—Entomologist.

Dr. K. G. Tejwani, M.Sc., Assoc. I.A.R.I., Ph.D. (Adelaide)—Pedologist.

Sri D. I. Mathrani, M.Sc., (Agri.)—Plant Pathologist.

Sri V. N. Murty, M.A.—Statistician.

(c) Cigar and Cheroot Tobacco Research Station, Vedsandur (S. India).

Sri H. T. Khemchandani, B.Sc., (Agri.) (Hons.)—Agronomist.

(On study tour in the U.S.A.)

Dr. D. M. Gopinath, M.Sc., Ph.D. (Minnesota)—Botanist.

(d) Hookah and Chewing Tobacco Research Station, Pusa (Bihar).

Sri B. T. Sajnani, B.Ag.—Agronomist.

(e) Wrapper Tobacco Research Station, Dinhata, (W. Bengal).

Sri G. C. Patel, M.Sc., (N. Carolina)—Agronomist.

(f) Cigarette Tobacco Research Sub-station, Guntur (S. India).

Sri S. Viswanadham, M.Sc.—Plant Breeder

TOBACCO PROCESSING MACHINERY

Designed to your needs by the

**WORLD'S FIRST BUILDERS OF
TOBACCO DRYING MACHINERY**

PROCTOR & SCHWARTZ, INC.

Philadelphia 20, Pa. U. S. A.

Machinery Manufacturers for more than 100 years

Proctor engineers combine their long years of experience in building tobacco drying machinery with current engineering techniques to bring you the following equipment:

LEAF & STRIP DRYERS

for the drying, cooling and ordering of tobacco in leaf or strip form. Proper application of air circulation results in fluffy, uniformly dried tobacco.

STICK & APRON DRYERS

for drying, cooling and ordering tobacco in bundle form, in preparation for storing over a long period of time.

DIPPED FILLER DRYERS

for drying, cooling and ordering tobacco that has been dipped in flavouring agents

SOFTENERS

for equalizing the moisture in green tobacco or in tobacco that has been in storage and is to be threshed or stemmed.

AUTOMATIC FEEDS

including special types for blending, feeding to threshers, dipping tanks, redressers and all types of drying equipment.

For more complete information on Proctor equipment communicate with

Mr. Ramamurty Kalluri
c/o Sri Kasiviswesa Tobacco Co.

P. O. Box 26
Guntur, S. India.

C. J. Fox & Sons
117, Victoria Street,
London S. W. I, England

OR

PROCTOR & SCHWARTZ, INC.

Philadelphia 20, Pennsylvania, U. S. A.



**ISSUED QUARTERLY
BY THE
INDIAN CENTRAL TOBACCO COMMITTEE**

Vol. IV

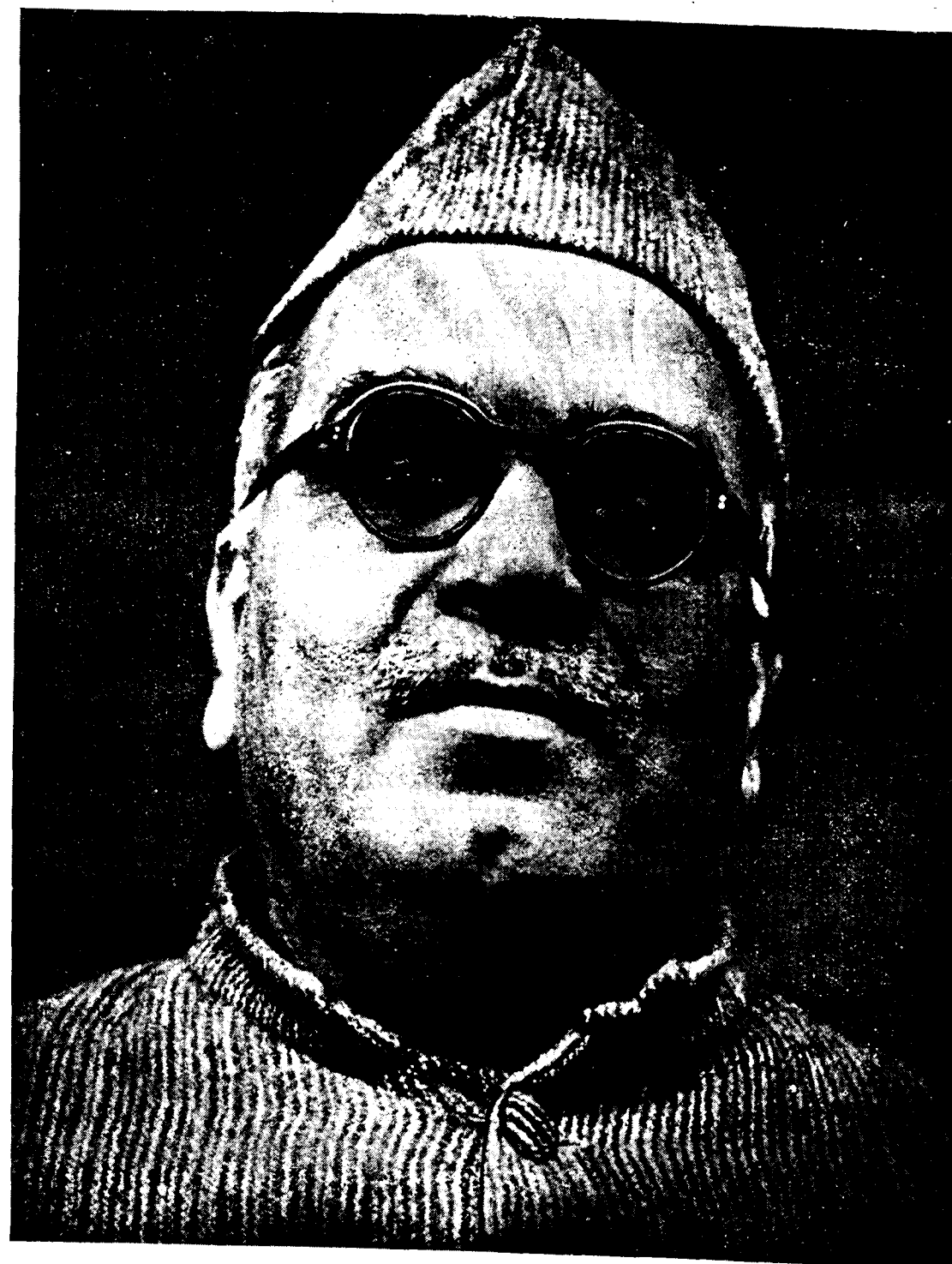
OCTOBER — DECEMBER, 1954

No. 4

CONTENTS

	Page.
In Memoriam — <i>Shri Rafi Ahmed Kidwai</i>	.. 167
Shri Ajit Prasad Jain	.. 169
Vice-Presidents	.. 170
President delivering the speech at 16th Meeting of the Committee	.. 171
Sixteenth Meeting of the Indian Central Tobacco Committee	.. 172
Tobacco in Andhra State — <i>Dr. M. S. Patel and D. S. Ramaratnam</i>	.. 176
Tobacco in Farrukhabad — <i>G. D. Sharma</i>	.. 192
Jaffna method of curing tobacco — <i>C. Raman Moosad</i>	.. 200
Growing tobacco in Northern Circars	.. 204
Tobacco Bibliography	.. 208





SHRI. RAFI AHMED KIDWAI
Minister for Food and Agriculture, Government of India

BORN: FEBRUARY 1894

DIED: 24TH OCTOBER 1954

INDIAN TOBACCO

IN MEMORIAM

To mourn the sad demise of Shri Rafi Ahmad Kidwai, the staff of the Committee's Secretariat met in the Library Hall on 27th October 1954 at 10-30 a. m. and passed the following resolution, all standing in silence for two minutes:

, 'We, the staff of the Indian Central Tobacco Committee deeply mourn the sudden demise of Shri Rafi Ahmad Kidwai, a great patriot who did his duty selflessly before and after independence, and who, as Communications Minister and later as Minister for Food and Agriculture achieved outstanding successes in solving the most difficult problems of the Nation. We offer our heart-felt condolences to the members of the bereaved family.'

In response to the Prime Minister's appeal the officers and staff under the Committee have also contributed to the Rafi Ahmad Kidwai Memorial Fund.

OCTOBER — DECEMBER 1954

168



SHRI AJIT PRASAD JAIN, M.A., LL.B.

who has succeeded late Shri. R. A. Kidwai as the Minister for Food and Agriculture, Government of India, from 25th November 1954. Prior to this, he was Minister of State for Rehabilitation in the Union Government from 26th June 1950.



SRI. MOHANLAL A. PARIKH, B.A.
Vice-President of the Indian Central Tobacco Committee from November 1945—March 1951 and from April 1952—March 1955



SRI. K. RAGHURAMAIAH,
M.A., LL.B., BAR-AT-LAW,
MEMBER, LOK SABHA.

Elected Vice-President of the Indian Central Tobacco Committee for the year 1955-56.



Tenth Annual Meeting and Sixteenth Ordinary Meeting of the Indian Central Tobacco Committee held at Bombay on 4th December 1954. Picture shows Shri K. R. Damle I.C.S. delivering the presidential speech.



(Seated from left) Sri K. R. Damle, I.C.S., the President, Sri M. A. Parikh, the Vice-President and Sri Dayabhai V. Patel, the Mayor of Bombay, after the 16th Meeting of the Indian Central Tobacco Committee at Bombay.

Sixteenth Meeting of the Indian Central Tobacco Committee

THE Tenth Annual Meeting and Sixteenth Ordinary Meeting of the Indian Central Tobacco Committee was held at Bombay on 4th December, 1954 under the chairmanship of Sri K. R. Damle, I.C.S., President of the Committee and Additional Secretary to the Central Ministry of Food and Agriculture. Among those present were Sri E. S. Krishnamoorthy, Member of the Central Board of Revenue, Sri K. S. Krishnaswami of the Ministry of Finance, Sri K. Rangaswami, Dy. Chief Controller of Imports & Exports, Madras, Dr. B. V. N. Naidu, Chairman of the Forward Markets Commission, the Directors of Agriculture of Bihar, Hyderabad & Mysore, Sri Rameshwar Sahu, and N. Prasad Rao, Members of the Parliament and several prominent tobacco traders and growers, including Dr. M. S. Patel, the Secretary of the Committee. The various sub-committees met on the previous two days and made their recommendations on the subjects referred to them.

Following is the text of the President's opening speech delivered on the occasion:-

"I welcome you all to this Tenth Annual and Sixteenth Ordinary meeting of the Indian Central Tobacco Committee. Before we commence the business of the day, I have to make a reference to the sudden death of our Minister for Food & Agriculture, Sri Rafi Ahmad Kidwai. Though he never had occasion to meet us at any of our meetings, he evinced keen interest in the affairs of our Committee and he assured

me that sometime in the month of January, he would lay the foundation stone for the Central Tobacco Research Institute Laboratory at Rajahmundry. But that was not to be. As a mark of our respect to that great leader, I request you to observe a minute's silence, all standing.

"I welcome our new members Sri N. Prasad Rao, M.P., who represents consumers and Sri G. Narahari, representing the Gun-tur Market Committee. You will find from one of the papers on the Agenda that numbers of members are to retire on 31st March 1955. I tender my grateful thanks to them for the assistance given to me during their membership. I am sure quite a number of them will be re-nominated.

"We are meeting for the first time in Bombay since the Headquarters was shifted to Madras. It is in pursuance of the policy to hold at least one meeting every year outside the Committee's headquarters.

"There is a slight fall in the area under tobacco during 1953-54, which is estimated at 890 thousand acres as against 895 thousand in 1952-53, but, the production has increased to 573 million lbs. in 1953-54 from 540 million lbs. in 1952-53. Raw tobacco cleared for home consumption is also on the increase.

"You are aware, our exports of tobacco by sea and air had a fall to 72.2 million lbs. in 1953-54 from 80.9 million lbs. in

1952-53. The Committee and the Government of India have been very much alive to this trend in our export situation, and as immediate remedial measures, excise duty was reduced for all tobaccos of pre-1954 crop, and a five-man delegation was sent under the leadership of Sri K. Raghuramaiah, our member, in June last to the far eastern countries, which was able to conclude an agreement on the spot with the People's Republic of China, for an immediate export of 4.5 million lbs. of F. C. V. tobacco of 1953 crop. Subsequently, there was a delegation from China which visited India, and as a result of its visit, a further quantity of 9 million lbs. of Indian tobacco was agreed to be exported. This has smoothened our problem and has reduced our accumulation of 1953 and 1954 crop considerably. Negotiations for sale of 1952 crop are on way with some other countries and I hope that the 1952 crop will also be cleared.

"The Export Advisory Sub-Committee had met thrice since it was constituted at our last annual meeting and had been studying the situation and maintaining close liaison with the export markets through the trade officials in our embassies abroad. Its recommendations were promptly forwarded to the appropriate authorities for necessary action and these are now placed before you in the form of a report. The Ministry of Commerce & Industry is now proposing to form a separate Export Promotion Council for tobacco.

"In our last meeting, the problem of sudden shrinkage of our export market came to prominence and an expert sub-committee was appointed to consider why

we were losing our markets, and why Rhodesian tobacco was increasingly preferred abroad. The report of that Sub-committee is also before you.

"The Committee's Secretariat is having regular contacts with the Higher Executive Officer in charge of tobacco export promotion work in the High Commission of India in the U.K. and the Indian Government Trade Commissioners in other countries, and is doing its best within the resources available to create interest in Indian tobacco by supply of samples and propaganda literature.

"As regards our research activity, 'chatham' an improved strain of cigarette tobacco given out by our Central Institute in the districts for field trials, promised well in the East & West Godavari districts of Andhra State. In order to explore the superiority of *Chatham* over *Harrison Special*, the Committee intends to conduct district trials on Chatham in collaboration with the Government of Andhra State in the next tobacco season.

"A selection No. 27 of *Lanka* tobacco used for manufacturing cheroots was given out for trials in farmers' fields. Research in Bidi tobacco is also progressing satisfactorily.

"The construction of laboratory building at the Central Institute at Rajahmundry has commenced in the sense that the farmstead and farm buildings have already been constructed, and plans and estimates for the main building have already been sanctioned. We hope that the Central Public Works Department will be able to

start construction of the laboratory building early.

"Similarly, the Research Stations at Pusa and Dinahata will also be provided with the main buildings and their essential requirements will come up before you for consideration. As far as Dinahata building is concerned, the Government of West Bengal have generously agreed to contribute a sum of Rs. one lakh.

"One of the important items in the agenda to-day is the consideration of the Tobacco Development Plan for inclusion in the Second Five Year Plan. It is our aim to improve and develop the quality of the indigenous and exportable types of tobacco which not only earn valuable foreign exchange for the country but are required for home consumption and possess vast potentialities to compete successfully with tobaccos of other origins in the world markets. An outline of the Tobacco Plan drawn up by the Ministry of Food & Agriculture had been circulated to you. The Agricultural Research and Development Sub-Committee has recommended the appointment of a Planning Sub-Committee to go into the details of the Plan. As far as possible we should try to plan within the total figure of Rs. 114.5 lakhs indicated by the Ministry of Food and Agriculture so that there may be a greater chance of our proposals being accepted. I hope the Sub-Committee will be able to send its final report to the Government of India before the end of January, 1955.

"Amongst the notable foreign visitors to the Committee's Secretariat, mention may be made of Mr. Feng Tieh-Cheng, the

Tobacco Expert-member of the Trade Delegation of the People's Republic of China, M/s-Nadarajah, Chairman, Commission on Tobacco Products and Attygalle, Tobacco Officer, Government of Ceylon, and U Ba Khin of the Department of Agriculture, Government of the Union of Burma. They all have expressed their appreciation of the valuable work done on tobacco by the Committee.

"There is another important matter to which I might make a reference. The Central Government have now finally proposed the changes in our constitution after due consideration of our recommendations made at our last meeting. These are now placed before you as the first item in the agenda.

"Before I conclude, I wish to bring to your notice, the request of the Director, Institute of Agriculture, Anand, to all the members to visit the Institute and the Tobacco Station at Anand, as this is the proper time to visit. You will find from one of the subjects here that this is one of the few Stations, which pay themselves. It is therefore a place well worth visiting.

"Most of the items in the Agenda have already been considered in detail by the various Sub-Committees and our task has been considerably lightened by their labours. I offer my thanks to them for the work they have put in during the last two days.

"We may now take up the items on the Agenda one by one."

The decisions of the Committee made at this meeting are given in outline on the next page:—

" Besides approving the annual administration and progress reports of the Committee, its Research Stations and Schemes and the Budget Estimates for the next year and disposing of routine administrative matters, the Committee sanctioned 3 extension schemes in Hyderabad State, a scheme for the improvement of meenampalayam tobacco in Madras State and a scheme for experimental cultivation of chewing and bidi tobacco in Orissa. The State Governments were requested to carry out practical demonstrations of improved methods of cultivation in the cultivators' holdings to popularise them. Work on hookah tobacco also will be conducted at the Committee's Wrapper Tobacco Research Station at Dinhata (W. Bengal) as that area grows considerable quantity of that type.

The Committee had set up a Planning Sub Committee including representatives

from some of the State Agriculture Departments to formulate the details of a Tobacco Development Programme at a cost not exceeding Rs. 114. 5 lakhs for inclusion in the Second Five Year Plan. The Committee had also decided to issue early next year a comprehensive tobacco directory containing useful information to the tobacco traders in India and abroad.

Sri K. Raghuramaiah, M.P. was elected unanimously as its Vice-President for the next year. The various Sub-Committees were also elected to take office from 1st April 1955.

The Committee had at its special meeting held on the same day accepted the suggestion of the Government of India to increase the growers' representatives on it with certain other changes in its membership.

TOBACCO DIRECTORY

(Under Compilation)

to be published shortly by the Indian Central Tobacco Committee

An invaluable medium for Indian and Overseas exporters, traders and manufacturers to advertise their firms and goods.

Advertisement rates on request. Reserve spaces early.

WRITE TO :

**The Secretary, INDIAN CENTRAL TOBACCO COMMITTEE
14, VICTORIA CRESCENT ROAD, MADRAS-8**

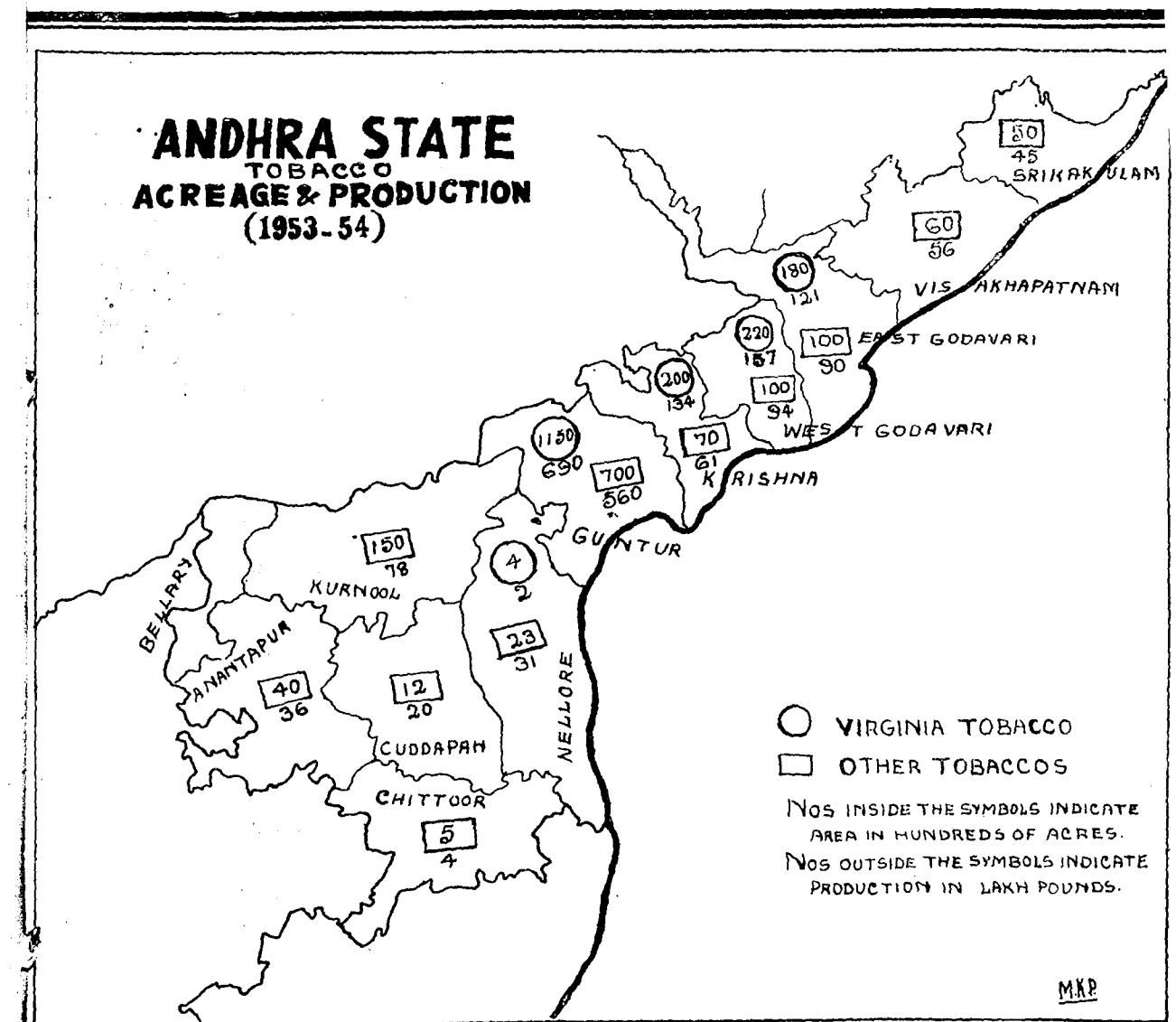
Tobacco in Andhra State

By

M. S. PATEL* and D. S. RAMARATNAM**

Tobacco was introduced into India in the beginning of 17th century. Subsequently its cultivation spread gradually to various parts of the country.

The introduction of a new American variety of cigarette tobacco during the thirties gave impetus to increased cultivation and laid foundation of export



* Secretary, Indian Central Tobacco Committee.

** Junior Statistical Assistant.

trade in Indian tobacco. The I.L.T.D. Company Ltd. was mainly responsible for the development of cigarette tobacco cultivation in the districts now forming the Andhra State.

Tobacco plays a very prominent role in the economy of Andhra State. It has been roughly estimated that the tobacco production in the State earns about Rs. 11 crores per annum by way of exports as against the average all-India earnings of Rs. 18 crores per annum in this regard. Andhra State holds a crucial position as the grower of Virginia type of tobacco which is valued in foreign markets. It also grows considerable quantity of sun-cured country (*Natu*).

Acreage and Production :

Tobacco production in the composite Madras State in 1953-54 was estimated

at 280 million pounds from 3.5 lakh acres of which the whole of the area now comprising the present Andhra State produced about 218 million lbs. from 3.1 lakh acres. Virginia cigarette tobacco alone accounted for 112 million lbs. from 1.79 lakh acres. The State of Andhra alone accounted for over 77% of the total tobacco production in the composite Madras State and 38% of the total tobacco production in the Indian Union.

The production of Flue-cured tobacco in India is chiefly concentrated in Andhra State, although small quantities are being produced in Bombay, Mysore and Hyderabad States. A statement showing the estimated acreage and production of Virginia tobacco in Andhra State from 1940-41 to 1953-54 is given below :

TABLE 1
Flue-Cured Tobacco Acreage and production

Year	Acreage (in 1000)	Production (in Mill. lbs)
1940-41	99	69.4
1941-42	130	82.2
1942-43	79	56.2
1943-44	92	65.6
1944-45	100	72.4
1945-46	121	79.1
1946-47	127	81.1
1947-48	137	86.5
1948-49	134	80.4
1949-50	133	83.1
1950-51	151	94.8
1951-52	138	84.9
1952-53	202	116.7
1953-54	175	109.8

From the above table, it will be seen that the acreage and production of Virginia tobacco in the areas now forming the Andhra State have registered a remarkable increase since 1940-41.

A summary table given below indicates the comparative figures of acreage, production and yield per acre in Andhra State as percentages of the total acreage and production in the country.

TABLE 2
Acreage and Production of Tobacco in Andhra
(1950-51 to 1953-54)

YEAR.	Acreage (in 1000).		Production (Million lbs)		Yield per acre (lbs)
	Andhra.	% to India's total.	Andhra	% to India's total.	
1950-51.	334.4	37.1	246.8	41.9	737
1951-52.	244.0	34.2	170.0	37.2	696
1952-53.	345.0	35.0	220.0	38.0	653
1953-54.	305.0	35.2	217.9	38.9	710

Cultivation :

The main tobacco producing districts in Andhra are Guntur, East and West Godavari and Krishna.

Table 4 shows the acreage and production in various districts of Andhra State during the years 1952-53 and 1953-54.

Guntur district alone accounts for more than 60% of the total production of all types of tobacco in Andhra State. The main types of tobacco grown in the State are Flue-cured Virginia, Country, Lanka and Burley. Most of the Virginia tobacco produced in the State is exported to foreign countries and the rest is used locally. A small quantity of Virginia scrap-Gulla is also used in the bidi and chewing industries. Country tobacco is used for blending in cheap cigarettes, for chewing and in the manufacture of cigar and cheroots.



Fig. 2: Well-grown nursery

A statement showing the calendar of Agricultural Operations for tobacco in the above districts is given on the next page.

The Indian Central Tobacco Committee through its research stations, is endeavouring to improve the quality of Virginia tobacco which is most important in the in-

TABLE 3

Calendar of Agricultural Operations for Tobacco in Important Districts of Andhra State
(in percentage)

DISTRICTS.	SOWINGS.												HARVESTINGS.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
E. Godavari	-	-	-	-	-	-	-	-	-	30.8	53.8	15.4	25.0	50.0	18.8	6.2	-	-	-	-	-	-	-	-
W. Godavari	5.0	-	-	-	-	-	-	-	-	15.0	50.0	30.0	1.0	38.0	47.0	14.0	-	-	-	-	-	-	-	-
Krishna	-	-	-	-	-	-	-	-	-	-	-	100.0	-	100.0	-	-	-	-	-	-	-	-	-	-
Guntur	-	-	-	-	-	-	-	-	-	-	21.7	45.0	5.0	35.0	60.0	-	-	-	-	-	-	-	-	-
Kurnool	-	-	-	-	-	-	-	15.9	48.9	35.2	-	-	15.5	84.3	0.2	-	-	-	-	-	-	-	-	-
Nellore	12.8	18.0	3.1	-	-	-	-	2.0	1.9	6.5	11.2	44.5	12.7	29.0	0.7	25.0	-	16.3	16.3	-	-	-	-	-

INDIAN TOBACCO

Source: "Season and Crop Report of the Madras State" '51-52

M. S. Patel and D. S. Ramaratnam

CALENDAR FOR TOBACCO GROWING IN NORTHERN CIRCARS. (ANDHRA STATE).

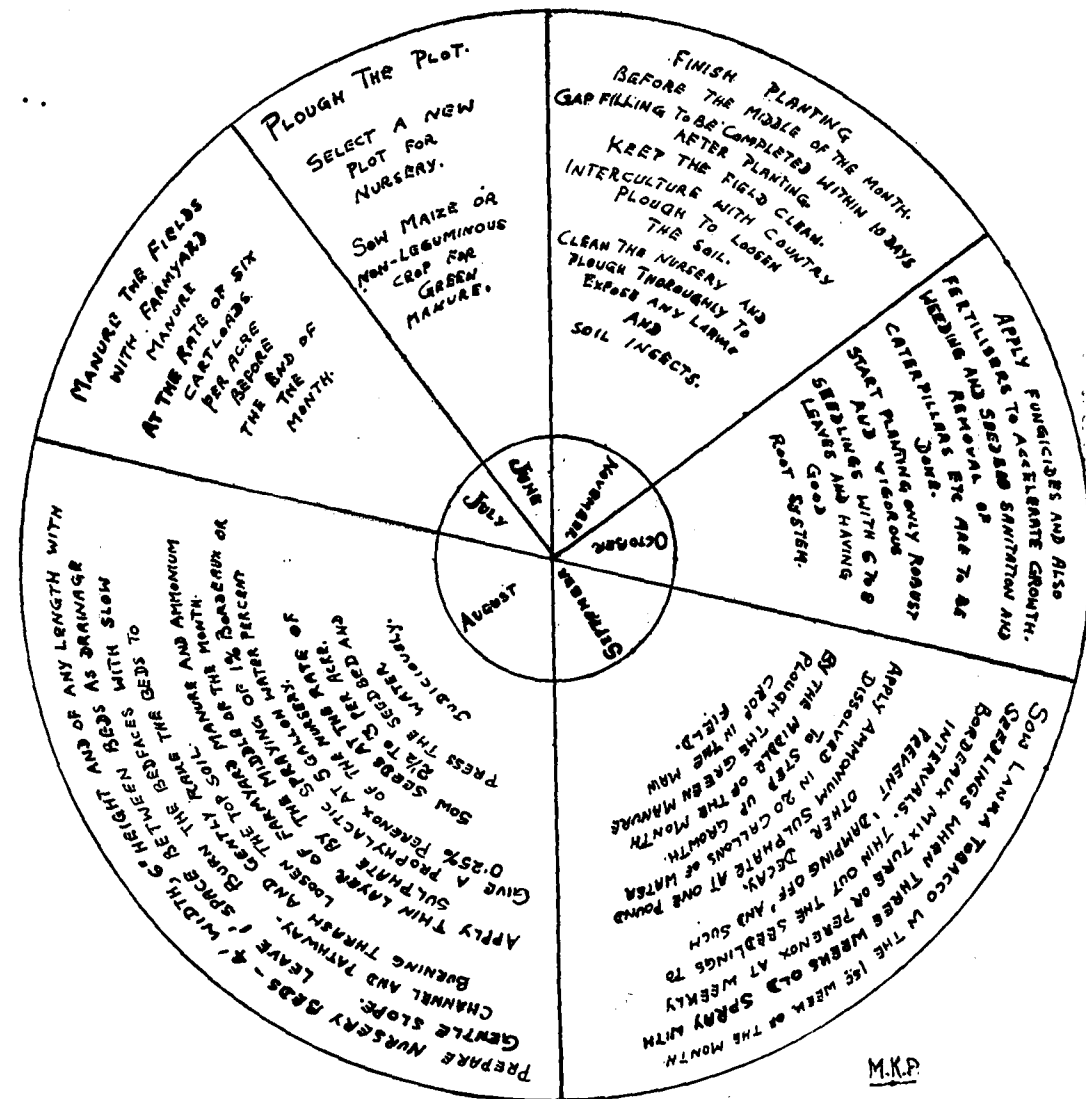


Fig. 3. Tobacco growing in N. Circars

OCTOBER — DECEMBER 1954

TABLE 4

Area and Production of Tobacco by Variety in Each District of Andhra State
(1952-53 and 1953-54*)

DISTRICT.	AREA IN 1000 ACRES.					YIELD IN MILLION LBS. OF CURED LEAF.				
	Virginia type of Nicotiana Tabacum.	All other type of Nicotiana tabacum.	Nicotiana Rustica.	Total.	Virginia type of Nicotiana Tabacum.	All other type of Nicotiana Tabacum.	Nicotiana Rustica.	Total.		
	'53-54 '52-53	'53-54 '52-53	'53-54 '52-53	'53-54 '52-53	'53-54 '52-53	'53-54 '52-53	'53-54 '52-53	'53-54 '52-53	'53-54 '52-53	'53-54 '52-53
Srikakulam.	-	5	-	5	-	4.5	-	4.5	3.4	3.4
Visakhapatnam.	-	6	-	6	-	5.6	-	5.6	4.5	4.5
East Godavari.	18	10	-	28	12.1	9.0	-	21.1	23.1	23.1
West Godavari.	22	10	(a)	32	15.7	9.4	(b)	25.1	23.3	23.3
Krishna.	20	7	-	27	13.4	6.1	-	19.5	17.7	17.7
Guntur.	115	70	-	185	69.0	56.0	-	125.0	128.8	128.8
Nellore.	(a)	-	2	2	0.2	-	3.1	2.9	3.4	3.1
Kurnool @	-	15	-	15	-	7.8	-	7.8	9.9	9.9
Anantapur ‡	-	4	-	4	-	3.6	-	3.6	4.3	4.3
Cuddapah.	-	-	1	1	-	-	2.0	1.8	2.0	1.8
Chittoor.	-	(a)	-	(a)	-	0.4	-	0.4	(b)	(b)
Total	175	127	3	305	110.4	102.4	5.2	218.0	219.9	219.9

INDIAN TOBACCO

Courtesy: Board of Revenue, Andhra.

@ Includes data for Alur and Adoni taluks of former Bellary District.

‡ Includes data for Rayadrug taluk of former Bellary District.

(a) Less than 1000 acres.

(b) Less than 1 million lbs.

M. S. Patel and D. S. Ramaratnam



Fig. 4. Chatham and Harrison Special

ternational tobacco trade. The Committee's Central Tobacco Research Institute in Rajahmundry and the Cigarette Tobacco Research Sub-Station, Guntur are the two Centres situated in Andhra State and they are engaged in the task of cultural, quality and yield improvement in all types of tobacco grown there.

A promising new variety of Virginia Cigarette tobacco namely *Chatham has been experimented upon by the Research Institute and is reported to be much better in performance, yield, quality, etc., than the standard Harrison variety, as the following table would show :

Variety	Yield per acre	Yellow	Percentage of bright grades		
			LBV & LMG	Brown	Dark Green
Chatham	1352 lbs.	39.6	31.6	26.9	2.0
Harrison*					
Special	1026 „	20.6	38.8	35.0	5.3

Marketing Procedures

The present method of marketing of tobacco by the producer is briefly given below :

(a) About three-fourth of the tobacco growers cure the leaf and sell the entire harvest that comes out of the barn including perished leaf and dark green grades

and even the string tied to the leaves, in the village itself. This system is locally known as "Dhollimpu".

(b) A slightly modified system known as "Katcha" is also in vogue. In this system, leaves of the lowest grade are removed.

The buyers preserve the produce in their godown, regrade the bulk purchased

* Field trials are under way to find out as to how it will fare under various conditions before it can be released as a commercial variety.

OCTOBER — DECEMBER 1954

182

according to 5 to 7 grades fixed by the exporting firms and sell it subsequently.

The cultivators adopt the bulk sale for the following reasons:

- (i) availability of market in the village itself.
- (ii) necessity for liquid cash.
- (iii) lack of storage facilities.
- (iv) fear of taking risk in grading and selling to the exporting firms directly, who usually prefer the top grades, thereby finding difficulty to dispose of the low grades.

About one-fourth of the growers do not have facilities to cure the produce for want of barns and therefore sell the standing crop to other cultivators who have provision for it. Some cultivators, estimated to be about 15 per cent, take the trouble of grading and offering for sale to the exporting firms. These producers are the victims of the accumulation of low grade tobacco.

The Government of India have already taken the following measures towards improvement of the tobacco trade:

- (i) Agreements with foreign countries:—Tobacco is included as one of the items in various trade agreements concluded between the Government of India and other foreign countries.
- (ii) Appointment of Tobacco Sales Officers:—

With a view to promote trade relationship and to study the market situation and do propaganda work for Indian tobacco, the Government of India have appointed a Higher Executive Officer, in London for tobacco export promotion work in the U. K. Appointment of two more officers, one for South East Asia and the other for Western Europe for exploring and promoting markets for Indian tobaccos in those regions is under active consideration of the Government of India. One officer meant for Antwerp is already on his way to Europe.

- (iii) Trade Delegation:—With view to promote export trade for Indian tobacco in the Far Eastern countries, the Government of India sent a five-men Delegation. This Delegation visited Thailand, Japan, Hongkong, China, Singapore and the Federation of Malaya. The Delegation which left India on the 27th June, 1954 returned on 6th August, 1954. The Delegation brightened the prospects of trade in Indian tobacco with foreign countries and also released the tension caused by the accumulation of stocks of Virginia tobacco in the Andhra State. China agreed to take up 4.5 million lbs. of Virginia tobacco, in the first instance. The Chinese Government have further agreed to import 9 million lbs. of Indian Virginia tobacco on barter basis. The Delegation has thus achieved the twin objectives of creating a healthy sales atmosphere in the internal trade and evoking interest for external trade in other countries.

- (iv) Reduction of Excise Duty:—The excise duty on lower grades of F.C.V. tobacco of the pre-1954 crops used for the cigarette manufacture was reduced from Re. 1/- to As. 9/- per lb. for all stocks that had accumulated with the farmers and merchants. On all other types of tobacco of pre-1954 crops used for all purposes other than cigarettes, the duty was reduced by 25%.

sea of certain varieties of tobacco such as F.C.V., S.C.V., S.C.C., Motihari, sun-cured Jutty and Jati Bispath etc., unless they were graded and marked in accordance with the Tobacco Grading & Marking Rules, 1937. A Tobacco Grading Inspectorate with headquarters at Guntur was set up by the Government of India and it has been functioning since May, 1945.

- (v) Tobacco Grading:—In order to stimulate the demand for Indian tobacco in foreign countries, the Government of India prohibited the exports by

The following table gives the total quantity and approximate value of tobacco graded and marked for exports during 1945-46 to 1953-54.

TABLE 5
Grading Statistics

Year	Estimated Quantity (Million lbs.)	Approximate Value (Rupees Crores)
1945-46	16.9	1.3
1946-47	66.1	4.7
1947-48	47.9	4.4
1948-49	55.6	5.4
1949-50	85.2	8.7
1950-51	88.9	12.0
1951-52	116.7	14.3
1952-53	97.0	12.0
1953-54	73.7	10.6

Of the total tobacco graded in 1953-54 about 79% was flue-cured Virginia, 14% S.C.C. (Sun-cured Country-Natu), and over 4% sun-cured Virginia. The other varieties included Jutty, Motihari, White Burley and Jati Bispath.

The average price per pound of different grades of flue-cured Virginia tobacco reported from Guntur, during 1950 to 1954 (upto March only) is given in the following table.

TABLE 6

Prices—Flue-Cured Virginia—Guntur Average Price Per Lb.

Nature.	Grades.	1950.			1951.			1952.			1953.			1954. Only upto March.		
		Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Redried Strips.	1	3	3	6	3	2	0	3	1	6	3	3	3	3	3	6
	2	3	0	0	2	14	3	2	14	0	3	1	9	3	0	0
	3	2	12	6	2	10	0	2	10	0	3	0	9	2	13	0
	4	2	9	0	2	4	0	2	5	6	2	11	3	2	6	0
	LG.	2	4	3	1	11	3	1	9	6	—	—	—	—	—	—
	LBY.	2	4	5	1	12	6	1	13	6	1	2	0	1	8	0
	LBY2.	1	7	9	1	6	0	1	4	0	—	—	—	—	—	—
	LMG.	1	1	0	0	14	3	—	—	—	—	—	—	0	12	0
	B.	0	13	6	—	—	—	—	—	—	—	—	—	—	—	—
Non-Redried Leaf.	B	0	7	3	0	8	0	0	7	3	0	4	3	—	—	—
	DB	0	3	9	0	4	9	0	3	9	0	3	0	...	...	...
	DG	0	2	3	0	2	9	0	2	3	0	1	6	...	...	...
	PL	0	2	9	0	3	6	0	2	3	0	1	6	0	1	6
	LBY	...	...	...	1	3	6	1	2	4	0	14	3	0	10	0
	LBY2	...	...	...	0	13	9	0	12	0	0	9	0	...	...	...
	LMG	0	6	6	0	9	3	0	8	0	0	5	0	0	3	6
	BB2	...	...	...	...	...	...	0	4	0	...	...	...	0	3	3
	LG	...	...	...	...	...	...	...	...	...	0	15	6	0	10	0
	VBR	...	...	...	...	...	...	...	...	...	...	...	...	0	3	6
Redried Leaf.	VDR	...	...	...	...	...	...	...	...	...	...	...	...	0	1	6
	LBY	...	...	...	1	4	0	1	5	0	1	1	0	1	3	0
	LBY2	...	...	...	1	1	0	0	15	6	0	12	0	...	...	...
	3	...	...	...	...	...	...	1	14	3	1	14	3	1	14	0
	4	...	...	...	...	...	...	1	12	3	1	8	0	1	11	0
	2	...	...	...	...	...	...	2	2	0	...	...	...	2	1	0
	1	...	...	...	...	...	...	...	...	...	...	...	...	2	4	6
Non-Redried bits.	P4	...	...	...	...	...	...	...	...	...	0	4	6	...	...	...
	BB2	...	...	...	0	4	9	0	4	6	0	4	9	...	...	...
	DG	...	...	...	...	...	...	0	2	0	...	...	...	...	...	...
	PL	...	...	...	...	...	...	0	2	0	...	...	...	...	...	...

Courtesy: Agricultural Marketing Adviser to the Government of India

The period of transaction of redried leaf (flue-cured Virginia) grades 1, 2, 3, 4, LG, LBY is normally during March to May while that of non-redried leaf grades LBY2, LMG, B, DB, DG and PL is June to September. Sun-cured Virginia (non-redried leaf) is sold during June to September.

Since 1951-52, owing to adverse seasonal conditions and many other reasons, stocks particularly of low grades are lying with the growers, curers and traders in the districts of Guntur,

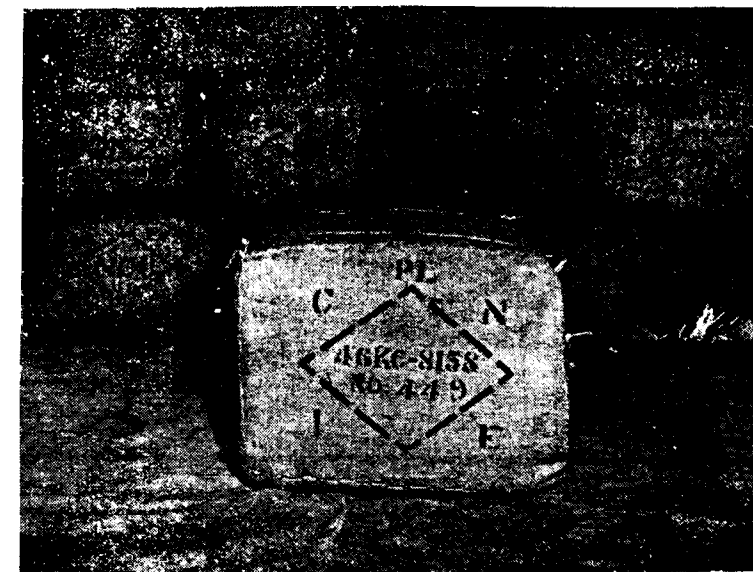


Fig. 6. A tobacco bale ready for export.

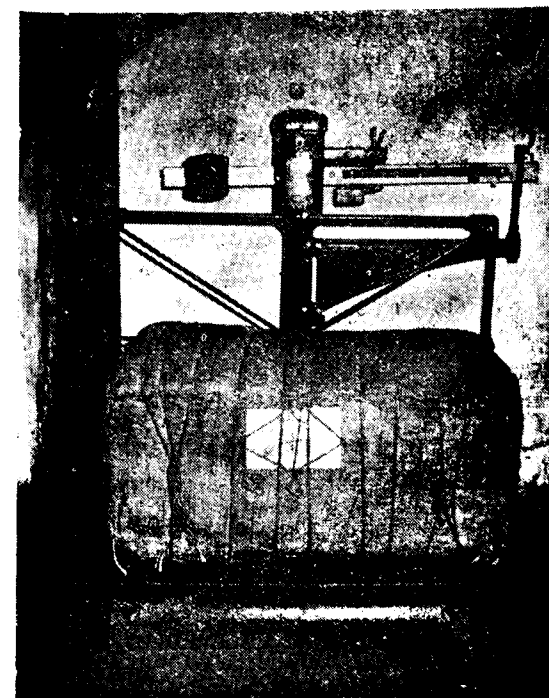


Fig. 5. Weighing of Tobacco

East Godavari, West Godavari and Krishna.

Exports.

Mostly the flue-cured Virginia tobacco produced in Andhra is exported through the ports of Madras, Kakinada and Vishakhapatnam. The composite Madras State accounts for more than 90% of the total Indian tobacco exports and Andhra State has a major share in the exports of unmanufactured tobacco.

A summary table showing the quantity and value of unmanufactured tobacco exported during the financial years 1950-51 1953-54 through the Madras Ports (including Visakhapatnam and Kakinada) compared with all-India tobacco exports is given below:

TABLE 7

Unmanufactured Tobacco Exports

YEAR	Through Madras Ports.		Grand Total (All-India)	
	Quantity (Mill: lbs.)	Value (Rs. Crores)	Quantity (Mill: lbs.)	Value (Rs. Crores)
1950-51	83.0	12.3	93.0	13.0
1951-52	93.1	13.5	100.3	14.1
1952-53	72.3	11.9	76.9	12.4
1953-54	60.8	10.4	69.2	11.0

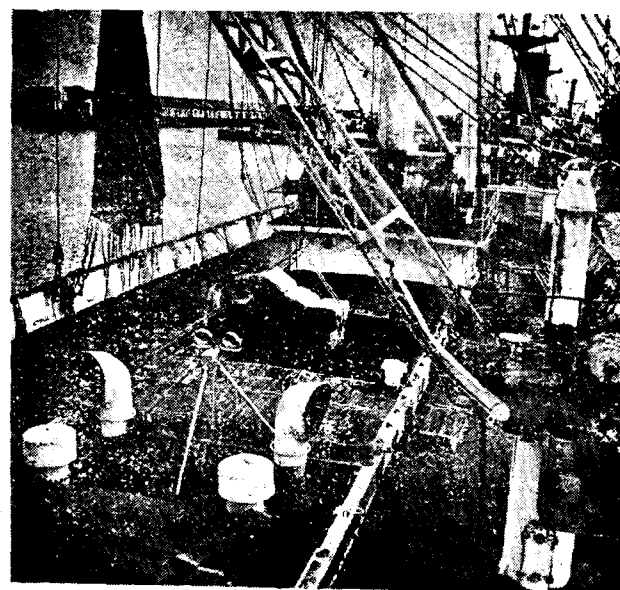


Fig. 7. Loading of the ship with tobacco bales

From the table 7, it can be seen that most of the unmanufactured tobacco exported from India is through the Madras to Ports. The chart given below shows the quantity of unmanufactured tobacco exported through the ports of Madras, Kakinada and Visakhapatnam during 1950-51 to 1953-54 to some of the

foreign countries interested in Indian tobacco.

A detailed statement showing country wise exports of unmanufactured tobacco through the ports of Madras, Kakinada and Visakhapatnam during the fiscal year 1953-54 is given below:

From the above table it may be seen that United Kingdom, Japan, Republic of Indonesia, Ceylon, Hongkong, Netherlands, Belgium, China, Irish Republic and Egypt account for more than 95% of the total tobacco exported. The United Kingdom is the largest buyer of Indian flue-cured tobacco purchasing about 30 million lbs. The other important continental countries which buy Indian F.C. V. tobacco are France, Switzerland, Italy, Germany, Austria, Belgium, Netherlands, Portugal and Denmark. Eastern countries such as Japan, China, Hongkong, Indonesia, Indo-China and Malaya are also buying Indian flue cured Virginia tobacco.

INDIAN TOBACCO

TABLE 8

Exports of Unmanufactured Tobacco Through Visakhapatnam
Kakinada and Madras Ports. (1953-54)

Countries	Quantity (Mill. Pounds)	Value (Rupees Lakhs)
Aden & Dependencies	0.04	0.09
Australia	0.21	6.31
Austria	0.45	5.06
Belgium	2.62	19.87
Burma	0.26	4.68
Ceylon	0.64	14.52
China	1.56	8.20
Denmark	0.02	0.49
Egypt	1.82	28.22
Federation of Malaya	0.07	1.27
Finland	0.05	0.84
France	0.12	4.31
Hongkong	2.80	33.73
Indonesia	2.17	15.99
Irish Republic	2.32	39.68
Italy	0.42	2.59
Japan	10.06	159.26
Kenya Colony	0.47	12.65
Malta & Gozo	0.04	0.78
Netherlands	2.65	18.40
Nigeria	0.08	0.87
Pakistan	0.57	4.28
Singapore	0.16	2.27
Sweden	0.96	11.06
Switzerland	0.10	0.48
Tripoli	0.13	2.21
United Kingdom	29.95	643.38
	60.74	1041.49

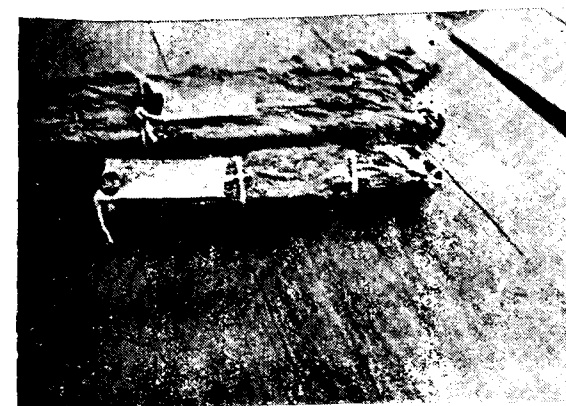
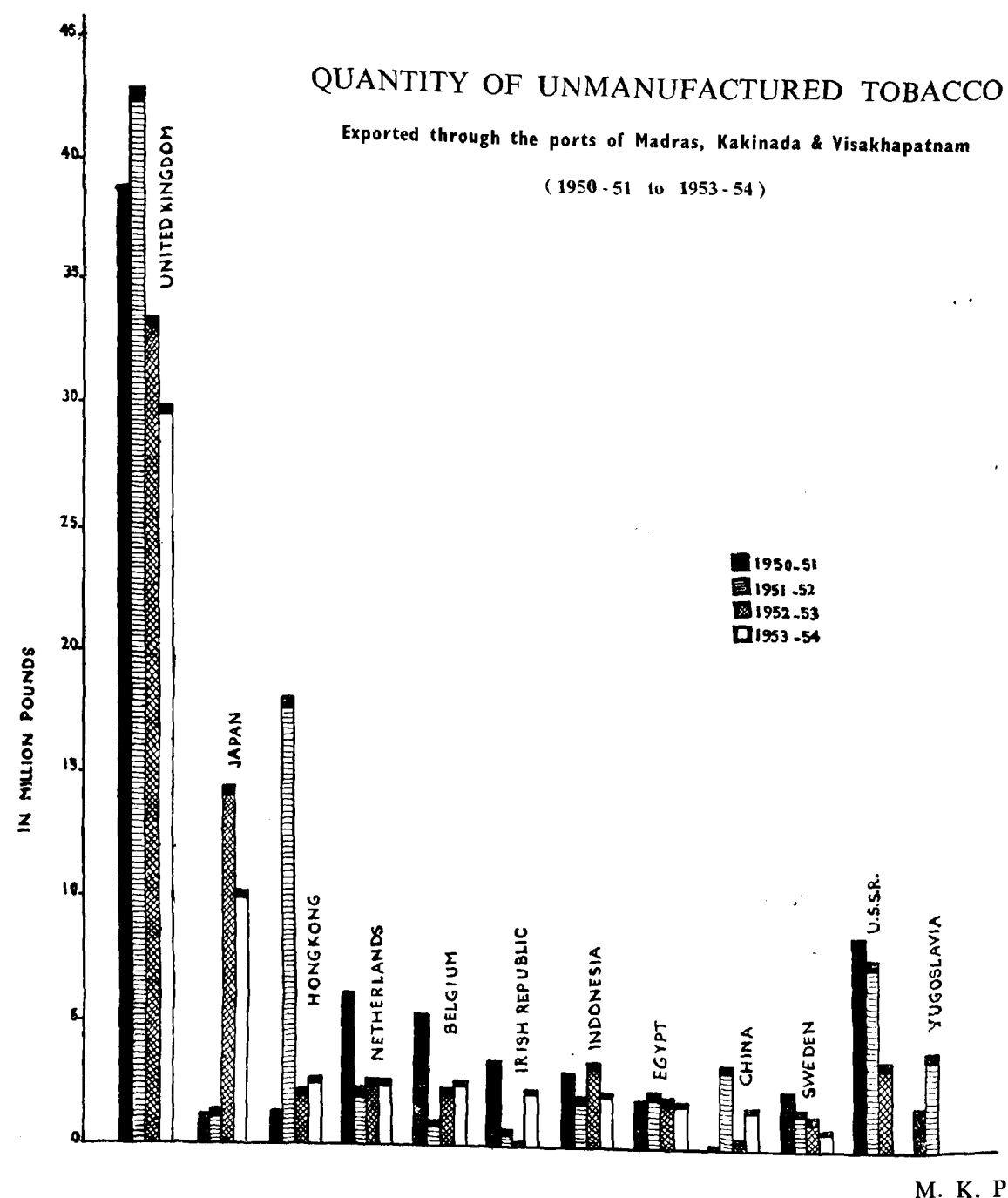


Fig. 9. Trade Samples.

Investments and Earnings :

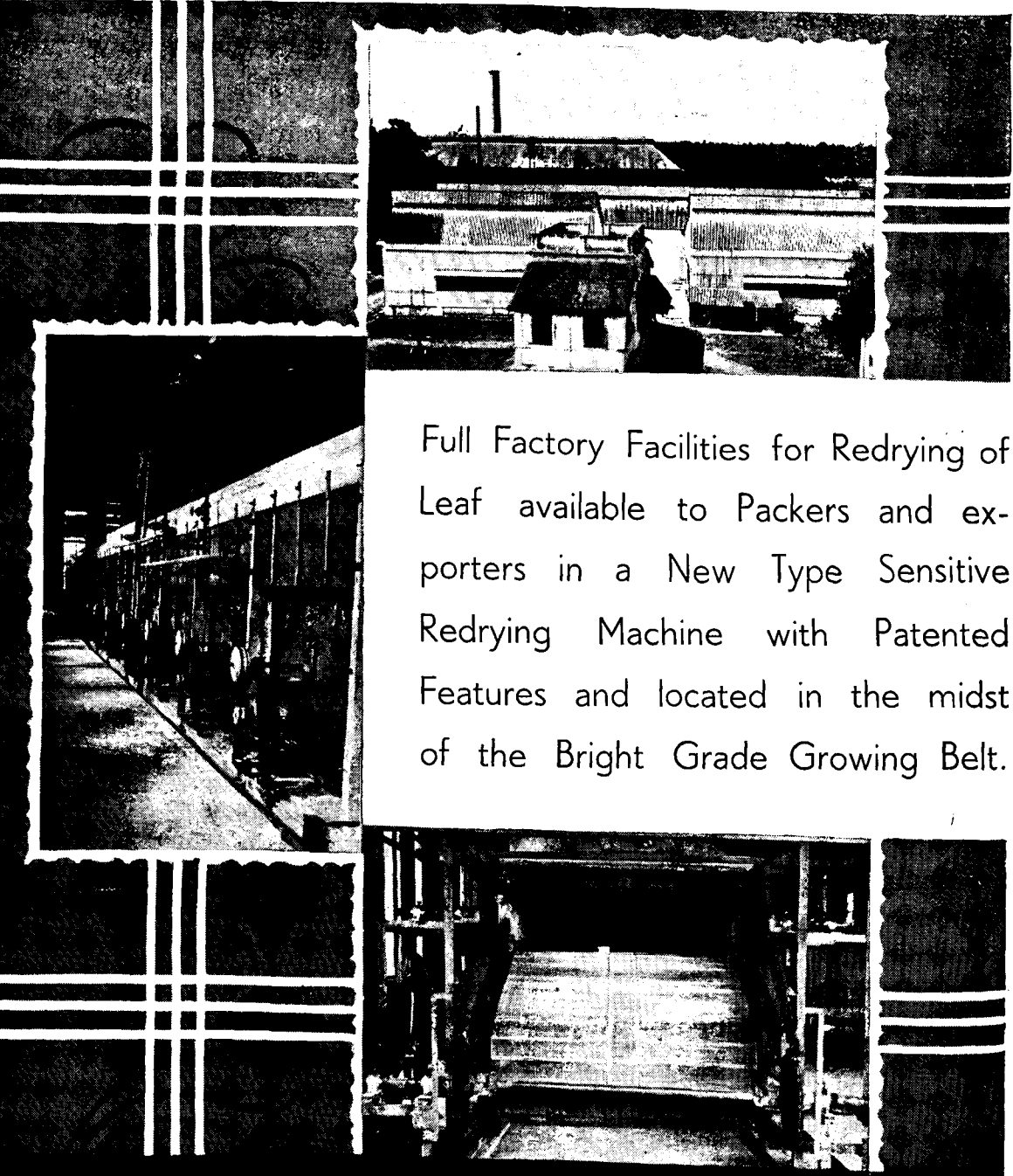
There were about 18,820 tobacco barns for flue-curing in 1951. There are also 14 redrying factories with a total redrying capacity of 53,150 lbs. per hour. The most important F.C.V. tobacco centre in India is Guntur where the Major activities are concentrated. It has been recognised as an important international centre for tobacco trade.

Land revenue is one of the major sources of income to Andhra State. This forms roughly 20% of the estimated total revenue. It is estimated that out of the 430 lakh acres in the State, a total of 264 lakh acres are classified as cultivable land. Out of this, 196 lakh acres are under cultivation. The total value of the agricultural produce is estimated at Rs. 250/- crores, of which tobacco crop accounts for

about Rs. 21 crores. Earnings for the State by way of foreign exchange from exported tobacco are estimated at Rs. 11 crores per annum on an average.

To sum up, Andhra State plays an important role in the Indian economy in so far as it helps the country to earn an appreciable part of the foreign currency, being a major producer and exporter of Virginia tobacco. The production of better quality leaf through improved methods of cultivation and use of pure quality seeds will not only enrich the tobacco growers and traders in Andhra State but also make Indian tobacco compete effectively and favourably with the tobaccos grown in other countries such as the United States, Southern Rhodesia and Canada.

In recent years, some of the Western and Eastern countries are tending to be self-sufficient in tobacco. Further, Indian tobacco is facing tough competition in foreign markets, because U.S. tobacco is being purchased by many importing countries consequent on the dollar facilities available to them and the aid they receive. To keep pace with the developments brought about by some of the leading exporting countries such as the U.S.A., Southern Rhodesia, Canada etc., India may have to be vigilant. Besides improvement in quality and yield, the cost of production requires to be adjusted, to make the Indian tobacco competitive in prices in the World Market.



Full Factory Facilities for Redrying of Leaf available to Packers and exporters in a New Type Sensitive Redrying Machine with Patented Features and located in the midst of the Bright Grade Growing Belt.

THE INDIA FRUITS LTD.
(ESTD. 1937)
KADIAM EAST GODAVARI DT. ANDHRA

Tobacco in Farrukhabad

By

G. D. SHARMA, M. A., B. Sc.

Lecturer, N. R. E. C. College, Khurja

FARRUKHABAD, a district of seven rivers in U. P. lies along the Ganges. Towards its North are the districts of Badaun and Shahjahanpur. The Eastern side is flanked by the districts of Kanpur and Hardoi. In the south the districts of Kanpur and Etawah are situated and in the West the districts of Mainpuri and Etah form the boundry. The districts comprises of four tehsils—(1) Kaimganj (Kampil) (2) Farrukhabad (3) Chhibraman and (4) Kannauj. It is the largest tobacco producing centre in U. P. a fact which has by no means to be under-rated.

Farrukhabad is an ancient district with a glorious past. This district witnessed many upheavals and the ups and downs of of Royal Nawab families. Remnants of old buildings and castles are visible everywhere while many have been levelled to the ground.

Farrukhabad is the divisional headquarters of the Assistant Collector of Central Excise. There are 5 circles, namely Farrukhabad, Kaimganj, Kannauj, Kasganj and Mainpuri in the division, comprising of a number of ranges. The last two circles though included in the division are in different district.

Soil and Climate :

The soil and climate conditions of the districts are very suitable for the produc-

tion of tobacco and potato. The numerous rivers and wells in the district provide ample facilities for irrigation. Tobacco requires saltish water or if the water is not saltish, the soil of the region must be 'lona mitti.' The best quality of *N. Rustica* is grown in localities where well-water is brackish. Tobacco is cultivated in and around this ancient district as ample supply of nitrates is available in the form of 'lona mitti.'

The climate of the district is neither too cold nor too hot. The summer monsoon between June-October is the chief source of water supply. The cold climate is quite suitable for the growing of wheat, potato and tobacco. In the district, tobacco is space both a cold and summer weather crop.

Cultivation :

The cultural methods prevalent in Farrukhabad district for the production of tobacco, do not differ from those, practices at other places.

Growing :

Importance is given to the preparation of the soil. Well-drained uplands and well manured fields are ploughed before these are ready for growing tobacco. Seed-beds are prepared upon a suitable situation, well protected from rain water and extreme sun. The seed is sown broadcast

with hand, mixed with some sand or ashes. When the seedlings are ready they are transplanted in the evening time or suitably in a cloudy weather. As soon as the plants have grown and begun to throw out flower seed-heads, they are topped.

Harvesting and Curing :

In the case of Hookah tobacco, generally the entire plants of *Desi* and *Calcuttia* types are cut and left at their places. For uniform drying they are turned occasionally. The plants of *calcuttia* variety when dried are piled at a place and after some-time twisted in ropes (*Russa*).

In the case of chewing tobacco the leaves are separated from the cut plants after they have been harvested and exposed to sun for a day or two for getting wilted. The leaves are either spread on the ground or made into heaps for further drying and fermentation. The leaves are tied up into bunches of 8 to 10 leaves and stored for curing. These bunches are called 'Gadia Tobacco' and are generally made from the superior variety of tobacco leaf. The leaf left as such (i.e. not tied up in bunches) is called as Ganj.

In the district, only ground and rack-curing are prevalent.

Types of Tobacco Grown :

The botanical types to which most of the Farrukhabad tobacco belong are *N. Rustica* (also called *Calcuttia*) and less (or negligible) to *N. Tabacum* (*Desi*). The multifarious types grown here are known by local names. These two types are also

categorised as *Mahu* and *Baisakhu* according to the season in which they are grown. They are also known as early or first crop and late or second crop respectively.

Mahu (Early or First Crop) :

This crop includes both *Calcuttia* and *Desi* Tobacco. The seeds of *Mahu* are sown during August and November and the transplantation is done by January and cured in March-April. In the district, Kaimganj, Kampil and Farrukhabad are more famous for the first crop.

Baisakhu (Late or Second Crop) :

This is of *Calcuttia* type. The seed is sown in January-February, transplantation in March-April and harvesting from June to July.

Nearly all the tobacco grown here is put into two categories viz.,—hookah and chewing tobacco. It is generally the method of curing that determines the category.

The tobacco grown in Farrukhabad Tehsil is especially famous for hookha tobacco, the varieties *Mahu*, *Dacca* and *Ganj* being chiefly used for smoking purposes.

Like hookah tobacco, the cultivation of chewing tobacco is also spread all over the district but Kampil and Kannauj are famous for their products far and wide. Gadia and Kampil are used for chewing purposes as they have got very Good flavour, aroma and pungency.

Acreage and Production :

The following figures give the acreage and production in the crop season 1951-52 :

Circle.	Acres.	Yield in '000 lbs.
Farrukhabad	5293	13959
Kannauj	5034	10871
Kaimganj	4104	15014

(Source: Office of the Assistant Collector of Central Excise, Farrukhabad)

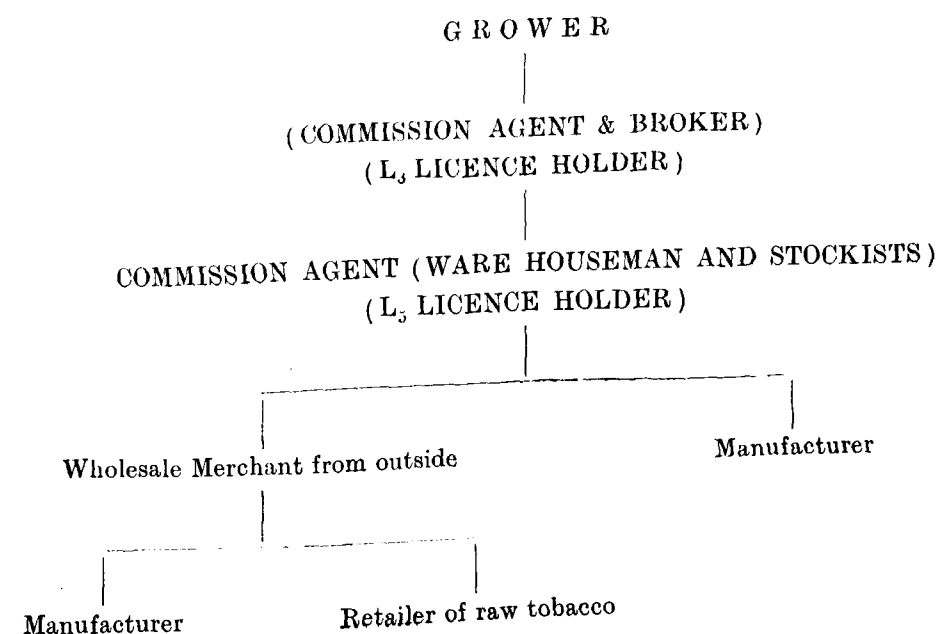
Marketing :

Though Farrukhabad district is an important tobacco growing centre, there is no regulated market for tobacco. No specific grade standards have also been laid down for the different varieties. A major portion of the tobacco grown in the district is exported outside. Bulk of the tobacco crop is sold by growers at their own farm by private negotiations with buyers. The crop is assembled by wholesale merchants and manufacturers who

visit the village through local commission agent or broker.

The commission agents or *arhatiyas* who are warehouseman and stockists are of two kinds—*Kachha* and *Pucca arhatiyas*. These *Kachha arhatiyas* purchase their tobacco through broker and keep in store until sold and deal only locally. It is only the *pucca arhatiyas* who enter into transaction with outside merchants.

The following chart shows the agencies engaged in the assembling and distribution of tobacco.



In the district the principal assembling and distributing centres are Farrukhabad, Kannauj, Kaimganj and Chhibramau. Market charges vary from place to place and are very large and complicated. They include charges as allowance in weight, weighing charges, unloading charges, com-

mission of *kachha arhatiya*, Muddat commission given by *kachha arhatiya* to *pucca arhatiya*, brokerage, subscription to the association and dharmada.

The following table gives the different types of licensees in three circles of Farrukhabad Distt. in the year 1952.

LICENSEES.	FARRUKHABAD.	KANNAUJ.	KAIMGANJ.
Curers	7,587	2,518	7,954
Wholesale dealers	315	523	236
Commission agent or broker	264	124	206
Factories	1	—	4
Curers' Bonded store room	25	566	927
Ware Houses	105	146	99

(Source: Office of the Assistant Collector of Central Excise, Farrukhabad)

Tobacco Products:

The main manufactured products of tobacco in this district are hookah tobacco, bidis and chewing tobacco.

Hookah Tobacco:

Manufacture of hookah tobacco is scattered all over the district. It is essentially a local industry which does not require much capital outlay. Hookah tobacco is generally divided into two types, the *Kaduva*, strong and pungent and *Mitha* i. e. sweet and mild. The former type is more common in the district than the latter one. The latter is imported from Lucknow, Gorakhpur and Rampur, but only to a small extent. The raw materials required for the industry are available locally. The *Calcuttia* variety of Farrukhabad and Kampil is famous for its flavour and strength. Mixing of scents and

powdered species with *Kaduva* tobacco is not common here. Nearly all the tobacco manufactured here is consumed locally and the exports are negligible.

Bidis:

Bidi making is concentrated in Gursahaiganj and in the surrounding villages where it is a flourishing industry and gives employment to a very large number of people. The raw materials required for bidi manufacture are all imported from outside. The filler tobacco comes from Gujarat and the wrapper leaf (tendu leaf) from Jhansi, Lalitpur (U. P.) and Katni (M. P.)

Bidi workers are generally local men or those from near by villages. The labour engaged in the industry is categorised as *Karigar*, *Bhattiwala*, *Packer* and *Labeller*. Local labour is cheap and the supply is not scarce.

Bidis made at Gursahaiganj are mostly consumed locally. They do not compete with the products of Jubbulpore and Gondia (M. P.)

Chewing Tobacco:

Chewing tobacco may be classified in order of importance as follows:—*Surti*, *Zarda*, *Kimam*, *Dokta* or *Gundi*, *Sukha Dandar*, *Pills* and *Mainpuri*. Generally most of them are taken with betels. Their popularity is due to the fact that they contain a delicate aroma. About 75% of the total chewing tobacco manufactured in India comes from U. P. The important centres being Banaras, Lucknow and Kannauj (Distt. Farrukhabad). Chewing tobacco manufacture requires much capital and experience. At Kannauj it is merely a cottage industry giving employment to about 200 persons. Motihari (the strong) Mingli (medium) and pullopat (mild) are used for the various preparations of chewing tobacco. The leaf is generally imported from Madras, Bengal, Gujrat and Tejpura. Beside the imported

tobacco leaf, some locally grown Kampila and Gadia are also used.

Kannauj the biggest manufacturing centre of perfumes has got the advantage and facilities for being a good centre for chewing tobacco in which perfumes count the most. The local consumption of chewing tobacco is not at all promising. Here the people are more accustomed to Mainpuri tobacco, mostly prepared in Farrukhabad, by mixing finely cut betelnuts with manufactured tobacco.

Kannauj is a good exporter of manufactured as well as unmanufactured tobacco to various states. The chewing tobacco manufactured here is exported outside, mostly to Madhya Pradesh in tin cans covered with gunny bags.

Trade and Commerce:

The district is a good exporter of both unmanufactured and manufactured tobacco. The hookah tobacco produced at Farrukhabad and the one produced at Kampil called Kampila fetch very high prices.

QUARTERLY STATEMENT OF WHOLESALE AND RETAIL PRICES
(QUARTER ENDING 30—9—53)

Description & Variety.	Name of Market & Purchasing Centres	Grade or brand.	Wholesale dealers, price per md. in Rs.		Retailers, price. in Rs.	
Hookah (Gadia).	Kaimganj	I QUALITY	70/-	60/-	80/-	72/-
		II QUALITY	65/-	55/-	75/-	65/-
		III QUALITY	55/-	50/-	60/-	55/-
N. F. C. Hookah	Farrukhabad	Rassa	42/-	*		*

* Price is inclusive of duties.

(Source: Office of the Assistant Collector of Central Excise, Farrukhabad)

Tobacco in Farrukhabad

The tobacco from this district is exported nearly to every part of India. The following table gives the quantity exported in different years.

EXPORTS OF TOBACCO FROM FARRUKHABAD
DIVISION TO DIFFERENT COLLECTORATES IN INDIA

Collectorate to which exported.	Quantity exported.		
	1950-51.	1951-52.	1952-53.
Delhi	9,22,241	31,96,600	55,56,469
Bombay	51,207	91,072	1,94,044
Calcutta	65,369	2,03,461	4,20,512
Rajasthan	—	1,97,418	1,88,442
Saurashtra	—	38,715	2,43,295
Baroda	28,026	—	3,02,811
Madras	—	19,516	—
Shillong	—	—	11,234
Patna	—	—	13,273
Ajmer	—	35,252	—
Total	10,62,843	37,83,034	69,60,080

(Source :—Office of the Assistant Collector, Central Excise, Farrukhabad.)

It is only the bidi tobacco that is imported in Farrukhabad. The figures of imports of bidi tobacco for the last three years are given below :—

YEAR.	QUANTITY IMPORTED IN LBS.
1950-51	1,44,976
1951-52	17,81,943
1952-53	1,39,610

(Source :—Office of the Asst. Collector, C.E., Farrukhabad)

Present Problems of the Trade :

The tobacco trade at Farrukhabad is of considerable importance. It requires attention of all concerned. Some of the difficulties are enumerated below :

(a) Dryage or Loss During Storage :

Huge quantity of tobacco produced here is rolled up in ropes (called *Russa*) when the commodity is green and freshly cut from fields. It is sun and air-cured

G. D. Sharma

and is brought to the market in a semi-cured state containing lot of moisture. When this tobacco is warehoused as such, it loses weight. Reasonable concession or relief for loss to the warehouse owners will appear to be necessary.

(b) Loss in Transit :

During transit losses occur due to dry-age loading, unloading and transhipping etc. The loss in transit is greater than usually permissible under Central Excise Rules e.g. the *rusa* variety loses 3 to 4 percent within a period of a week while the rules permit 1 6 per cent per day.

The commodity is weighed in the presence of an officer of the Department at the time of export and reweighment is done at destination. In these circumstances if no pilferage or tampering is suspected in transit, full loss should be allowed as they are natural losses.

(c) Storage gain in stalk tobacco :

Stalks separated from the leaves are crushed for storing only after the payment of duty due on it. While in storage it is generally seen that the stalk gains in weight during rainy season as it absorbs moisture (generally 125 mds. becoming 130 mds. during rainy season).

Reasonable consideration should be paid in such cases.

(d) Loss During Stock Taking :

Stock-taking is generally done in the month of October when the stocks in the warehouses are generally the maximum and thus there is great difficulty in weighing as well as in determining actual or approximate losses also. The full weighing of loose *rusa* tobacco results in heavy loss to the owners as it deteriorates in quality and fetches less price.

Associations :

To help the tobacco growers and dealers there are three associations in the district, namely, Tobacco Growers' Association at Kannauj, Tobacco Dealers' Association at Farrukhabad, Tobacco Merchants' Association at Kaimganj.

From the foregoing it is clear that Farrukhabad may yet remain an important centre of tobacco if some timely help is extended to it. In order to bring a good return to the producer and to give impetus to its cultivation, the cultural and marketing methods require improvement.

Reasonable concession and relief to the traders has to be granted as regards the various losses and gains in storage, transit and stock-taking. Improvement in packing and quality, more publicity and propaganda for the various products of the two cottage industries will also be necessary.

Cable: JONAS, LONDON.
Telegrams: JONAS, STOCK, LONDON.

Telephone: MANSION HOUSE 0121.
Code: BENTLEY'S PHRASE

JONAS, ELLIOTT & CO. LTD.

(SUCCESSORS TO E. JONAS & BROS.)

EST. 1792

LEAF TOBACCO MERCHANTS.

Import—Export

Empire and Foreign Tobaccos.

Rhodesian Branch:

JONAS, ELLIOTT (Rhodesia) LTD.,
P. O. Box No. 1987,
Salisbury, S. Rhodesia.
Cables: JONAS, SALISBURY, RHODESIA

23, LIME STREET,
LONDON, E. C. 3.

Telephone: No. 2152.

Telegrams: "MYSTOBACCO".

THE MYSORE TOBACCO CO., LTD., KEMPEGOWDA ROAD, BANGALORE-2.

FIELD STATION at
GORIBIDNUR,
Kolar District.

GRADING STATION at
WHITEFIELD,
Bangalore District.

DEALERS, CURERS AND PACKERS OF FINEST QUALITY VIRGINIA LEAF TOBACCO

The Company provides facilities for Tobacco cultivation,
curing and sale and has installed a most up-to-date
plant for—Redrying and Packing of leaf at Whitefield.

For further particulars address the Secretary

Jaffna Method of Curing Tobacco (as practiced in Coimbatore)

By

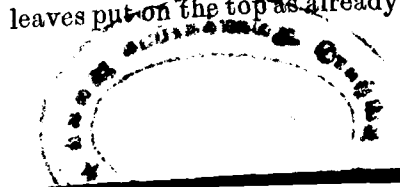
C. RAMAN MOOSAD, B. Sc. (Ag.)
Assistant Marketing Officer, Coimbatore

IT is estimated that at least 50% of the tobacco grown in about 30,000 acres annually in Coimbatore District gets exported to Kerala or the West Coast region comprising of the district of Malabar and the State of Travancore-Cochin. Inspite of this large import from Coimbatore, Travancore-Cochin also imports fairly large quantities of Jaffna Tobacco from Ceylon, often at much higher costs than what is paid to the best quality of Meenam-palayam tobacco of Coimbatore. Jaffna tobacco commands a definite preference in Travancore-Cochin despite its higher cost on account of its superiority in flavour and probably higher nicotine content. The test for the best tobacco according to chewing experts is that when a bit of tobacco is placed in the mouth for two minutes the Chewer must get a reeling sensation as a result of its action on the nervous system. Taking note of this higher preference to the Jaffna tobacco in the Southern Markets, an attempt is now being made, on a fairly large scale, by several tobacco curers in Coimbatore District to produce the Jaffna quality of tobacco in Coimbatore, with the help of a few curers who had first-hand knowledge of tobacco curing in Jaffna. It is estimated that at least some 500 candies (of 500 lb. each) of tobacco of this special quality will be produced in Palladam area of Coimbatore District this season. The curers generally purchase standing tobacco crops, from which the

best leaves are selected for Jaffna curing and the rest of the crop is cured in the ordinary way. The following is a brief account of this process of curing.

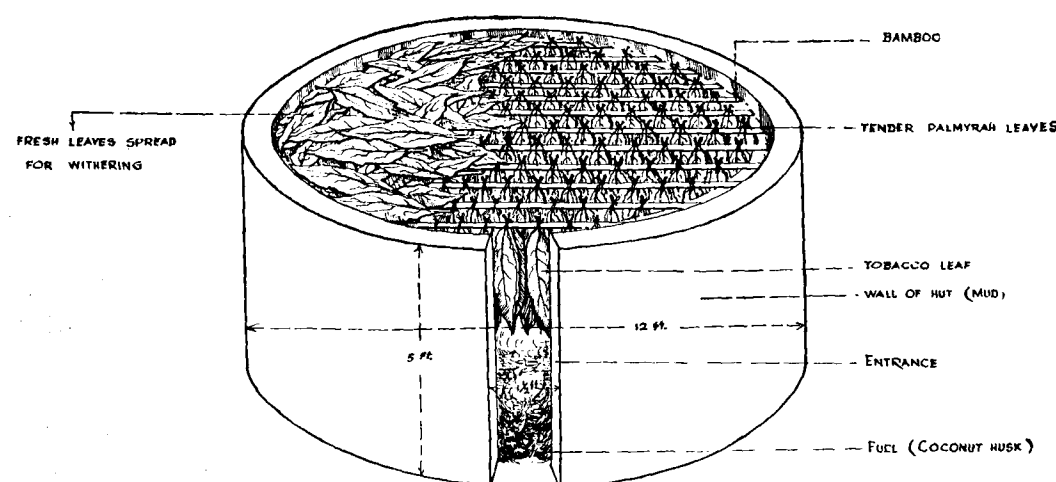
1. *Selection of leaves*—The biggest and the best 6–8 leaves from each plant are selected for Jaffna. These leaves are then allowed to wither a bit either by loosely stacking in round heaps or by placing over the smoking huts five or six layers thick for one night. They are then tied together in lots of threes, using strips of tender palmyrah leaves for tying and these lots hung vertically with their stalks down from a number of thin solid bamboos arranged across the wall of the smoking huts so as to form a sort of ceiling for the huts.

Smoking huts—These are of the shape of horseshoe about 12 feet in diameter with walls about 5 feet in height and with a narrow opening in front about 1½ feet wide for the labourers to get in for tying the leaves on the bamboos and putting in the fuel for smoking. Dry coconut husk is then arranged on the floor of the hut one layer thick and set fire to at night. The entrance is then closed with bamboo mat pieces and a thick layer of fresh leaves is arranged on the top of the bamboos. This helps the smoke to be retained within the hut and also to give a preliminary withering to the leaves put on the top as already mentioned.



A rough sketch of the smoking hut described above is given below.

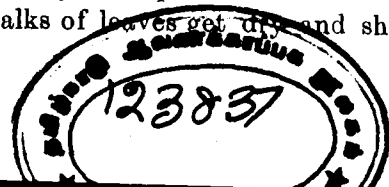
SMOKING SHED OR HUT



In addition to closing the individual huts as already described the whole enclosure or the curing yard containing six to eight huts usually, is also completely covered up on all sides including the top with bamboo mats supported by suitable framework of bamboos. This will help the smoke generated to be retained within the curing yard for effective curing as well as for preventing the formation of flames in the course of smoking with its attendant danger. All the labourers employed inside the yard are women and males are usually not admitted inside. The leaves smoked over night are removed next morning, and stacked in round heaps for two days at the end of which they are again smoked for one night. This process of smoking over night followed by stacking for two days is repeated 2 to 5 times till the stalks of leaves get dry and shri-

velled and the leaves are fairly dry and attain a uniform dark colour.

After the full course of smoking is over the leaves are stacked in heaps and restacked at intervals of 4—6 days. This process of stacking and restacking goes on for 2—3 months till the leaves attain the desired texture and aroma. The final process of curing is then done by dipping the leaves in seawater and stacking again. The process of stacking for 6—8 days and restacking is repeated for 4 to 6 weeks when the leaves are tied into bundles of suitable size at the stalk ends in the usual way. The stuff is now ready for marketing. In the absence of ready sale the leaves will have to be kept in bundles covered by mats as usual and rebundled every now and then till it is sold. The total duration of the curing



may take 5 to 6 months and the cost works out to about 12 annas per pound of cured tobacco. The outturn of cured leaves to the fresh leaves by weight works out roughly to 25%. The curers expect to sell this quality of tobacco at Rs. 2/- to Rs. 2/8/- per pound in Travancore-Cochin markets as against Rs. 1-4-0 to Rs. 1-8-0 for best quality of Meenam-palayam Sun cured tobacco.

The seawater and the coconut husk required for the curing are transported all the way from West Coast in lorries or by rail over a distance of about 300 miles.

No jaggery water is used for this method of curing of tobacco and the desired stickiness of the leaves is obtained by the treatment with sea water only.

As already stated it is expected that at least 500 candies tobacco of this qua-

lity will be produced this year in Coimbatore district. If the quality proves acceptable to the consumers in Travancore-Cochin State and the business takes root, there is every possibility of this process being adopted on a much wider scale in this district and thereby bringing more money for the benefit of the growers and the curers alike. Palladam, Puliam-patti, Palayakottai and Chandrapuram near Sultanpet are the main centres where this mode of curing has been started on a fairly large scale.

Acknowledgements

The data for this note were collected by personal enquiries with the curers at Palladam to whom my thanks are due especially for the facilities so kindly afforded to me for seeing the actual process of curing in its various stages.

NINTH ANNUAL REPORT OF THE INDIAN CENTRAL TOBACCO COMMITTEE 1953-54

*A Handy Review of The Progress of Research
Marketing & Technology of Tobacco in India.*

PRICE As. 8 PER COPY Copies can be had from The Secretary

RENEWAL SUBSCRIPTION

of a considerable number of our readers becomes due, after 31st Dec. 1954. They are notified individually. They may kindly renew their subscriptions for 1955 by remitting Rs. 3-0-0.

Cable Address:
ELSALZMA, LONDON

Telephones:
MANSION HOUSE 7524 & 7584

GREGORY SALZMAN (London) LIMITED

(Incorporating E. I. Salzman)

23, St. Swithin's Lane, Cannon Street,
LONDON, E. C. 4

LEAF TOBACCO
MERCHANTS
AND BROKERS

Commonwealth, American
and Near Eastern Tobaccos

GREGORY SALZMAN (PVT.) LIMITED

P. O. Box 1297, SALISBURY,
SOUTHERN RHODESIA

Cables: GREGSAL, SALISBURY, RHODESIA

GREGORY SALZMAN (PVT.) LIMITED

P. O. BOX 167, LIMBE,
NYASALAND

Cables:
RHODNYA, LIMBE, NYASALAND

Growing Tobacco in Northern Circars

Notes on seasonal operations (for flue-cured and Lanka tobaccos)
for the months December to April

(Central Tobacco Research Institute, Rajahmundry)

December:

As this is the period when there is rapid growth in flue-cured tobacco crop, inter-culture by planet junior hoe or gorru and subsequently by a country plough should be completed in both directions. This should be done early before the soil hardens up. Care should be taken that the leaves are not spoiled by the bullocks. Weeds may have to be removed once or twice during this month. Orobanche the root parasite of tobacco, otherwise known as *Tokra*, *Bodu* or *Malle*, starts making its appearance during this month. The plants affected by this parasite are stunted in growth and have a wilted appearance. (Fig. 1.) The leaf from such plants is



Fig. 1.

also poor in curing qualities. It was found at this Institute, that the parasite can easily be controlled by regular removing

the parasite before it sets seed. In about three years even badly infected fields can be completely got rid of Orobanche by regular removal in time. The pulled out shoots should be burnt or buried deep and should on no account be left in the field.

The useless sand leaves should be removed as early as possible as these are the major source of infection for fungus diseases like powdery mildew ("Challa" in telugu). During this month, as the soil moisture will be low unless there is a rain, it may be necessary to give a light irrigation to accelerate the growth and also to boost up the yield. Excessive irrigation results in a great loss as the flue cured tobacco is very sensitive and does not stand water logging even for a short period. Soon after the soil comes into condition after irrigation, hand hoeing should be done as otherwise the soil cracks deeply and exposes the root system. Plants affected by mosaic or leaf-curl should be promptly removed otherwise the disease may spread to other healthy plants. A healthy plant should not be touched after an infected plant is touched as the virus can thereby spread from the diseased to the healthy plant.

Lanka tobacco has to be pot watered during the early part of this month and one or two hoeings are to be given by the end of the month. Removal of sand leaves and Orobanche are to be done as mentioned above.

January :

In such fields, which are light green in colour at the time of first priming, the plant may be topped 2-3 days before the priming. Topping is done by snapping off the flower head by hand. The size and body of the leaves improve considerably by topping and the yield increases by 10 to 15% without detriment to quality. (Fig. 2.)



Fig. 2.

Plants which are too green should not, however, be topped as leaves from such plants will not cure properly. When the suckers appear as the result of topping they should be regularly removed or their growth checked by applying a drop of coconut oil by means of a small brush at the top most five or six leaf axils immediately after topping. (Fig. 3.)

Only ripened leaves of uniform maturity should be harvested. It is generally uneconomical to cure leaf which is less



Fig. 3.

than 12" in length. The leaves should neither be overripe nor too green at the time of harvest as in either case the cured leaf will be of very bad quality. The harvest done on contract basis results in indiscriminate harvest of undesirable and unripe or overripe leaves and therefore should be avoided. The damage to the leaves due to improper and excessive handling is another cause of loss in quality. The leaf has to be properly handled at the time of harvest, during transport to the stringing pandal and also during stringing. It is desirable to grade the leaf before stringing, into overripe, ripe and unripe leaves, so that at the time of loading the unripe leaves are kept at the top and ripe leaves at the lower tiers. Leaves of different varieties should not be loaded for curing in the same barn.

It should be remembered, that while stringing, each stick should not have more than 90-100 well developed leaves which will weigh about 5 lbs. In each bunch there should be about three leaves placed back to back, as otherwise, sponging occurs due to little aeration between

the leaves when they are folded one over the other. A single barn should not be loaded with more than 650-700 sticks.

By the end of this month the early planted Lanka tobacco is ready for topping. According to development of the plant, 10 to 14 leaves can be left on the plant at the time of topping. Suckering should be attended to whenever necessary.

February, March and April:

The care in the harvest of flue-cured tobacco should be the same as in January. Orobanche should be continued to be weeded out. Removal of mosaic affected and other diseased plants should also be continued. The virus affected plants should be burnt or buried. The leaf from seriously affected plants is lifeless and becomes powdery when handled after curing.

The bulk of lanka tobacco is ready for topping during the early part of February.

Plants affected with aphids can be sprayed with tobacco decoction for their control. The decoction is prepared by soaking 5 lbs. of waste tobacco in 10 gallons of water for 24 hours. The liquid is then strained through a thin cloth and made upto 10 gallons. Addition of 4 oz. of soft soap dissolved in water increases the efficiency of the decoction. The decoction should be used soon after preparation as on standing it may get spoiled. Any sprayer with a fine mist spray may be used for spraying the decoction on the leaves. Particular care should be taken to spray the underside of leaves where the aphids are usually found in larger numbers.

The Lanka crop is ready for harvest by the end of March. The harvest should be done before the leaf is overripe.

The details regarding curing, grading and marketing of flue-cured and Lanka tobaccos will be given in another leaflet.

Atomic Fertilizer

United States Government Scientists expect to produce their first tin of "atomic fertilizer" this year at a cost of £ 25,000.

The work is being done at a Department of Agriculture research station in the State of Maryland, reports the U.S. industrial correspondent of *The Financial Times*.

"Atomic fertilizer" is produced by adding radio active phosphorus to regular phosphorus, an important basic food element. It is being used on test plots.

Plants taken from plots at various stages of growth can be checked with Geiger counters to measure the effect of the fertilizer.

--Rhodesian Tobacco Journal Aug. 54.

DITHANE

For your convenience

DITHANE

- * Dependable
- * Effective
- * Economical

PROTECTION AGAINST BLUE MOULD HELPS YOU

- * Prevent Blue Mould
- * Grow Plenty of Sturdy Plants
- * Set your plants on Schedule
- * Save money

DUST..... SPRAY.....

- * Light in colour
- * Clean in Storage
- * Easy to use
- * Free flowing at all times
- * Mixes easily with water.

Once you use **DITHANE**
You will always use it.
You will like the way it protects Your plants

You can't afford to ignore **BLUE MOULD**

RHOTHANE

- * Give fast, effective and long lasting control of hornworm, budworm and flea beetle.
- * Improves yield and quality of the crop
- * Economical and easy to use
- * Has a high margin of safety for the applicator

KATHONS **DEPENDABLE WEED KILLERS**

Chemical control is an economical solution to many costly weed problems. The advantages of this method are numerous. Most important is the fact that the profit from the improved quality and yield invariably is far greater than the cost of the weed-control.

AMRITLAL & COMPANY LTD.
11, SPROTT RD., BALLARD ESTATE, BOMBAY-1
(Branches at Calcutta, Madras, Kanpur, Delhi, Alleppey etc.)

TOBACCO MAP

of

ANDHRA STATE

(in Three Colours)

1953-54

with a Tobacco Map of India

PRICE ANNAS FOUR PER COPY

For copies, write to the Secretary

INDIAN CENTRAL TOBACCO COMMITTEE

**Always Please Enquire
FOR STANDARD QUALITIES
OF INDIAN TOBACCO**

★

Messrs.
**POLISSETTY
SOMASUNDARAM**

**LEAF TOBACCO MERCHANTS
& EXPORTERS,**

Post Box No. 99

**GUNTUR,
SOUTH INDIA.**

Cables :
SUNDARAM

Telephone
No. **252.**

Tobacco Bibliography

(Central Tobacco Research Institute, Rajahmundry)

Agronomy :

Adamson, N. J. Commercial tobacco culture. *Bull. N. Z. Dep. Agric.* 137, revised 1947, pp. 12, bibl. 3, illus. (H. A. 24, 1697a 1954)

Allen, N, et al. Effect of soil treatment with DDT, benzene hexachloride, and toxaphene on tobacco, cotton and cowpeas. *Tech. Bull. U.S.D.A.* 1047, pp. 22, bibl. 22, illus. 1951. (H. A. 23, 3233, 1953)

Anonymous. Flue-cured tobacco (Kasungu). *Nysaland Agric. quart. J.* 1951 (issued Nov. 1952), 10 : 105-7. (H. A. 23, 1988, 1953)

Anonymous. Dark fired tobacco. *Nysaland agric. quart. J.*, 1951 (issued Nov. 1952), 10 : 102-5. (H. A. 23, 1994, 1953)

Anonymous. Dark-fired tobacco. Flue-cured tobacco. *Rep. Nysaland Dep. Agri.* Part II, 1952 and 1953, 1954. pp. 9-11. (H. A. 24, 2848, 1954)

Anonymous. Improvement in tobacco growing in Austria. *Rev. Tabacs*, 1953, 28 (204) : 39-41, illus. (H. A. 24, 1654, 1954)

Anonymous. Notes on agronomic research 1952. Tobacco trials. *Rev. Agric. Brux.*, 1953, 6 : 1725-32. (H. A. 24, 1655, 1954)

Anonymous. Delcrest and hicks lead in Research Board Trials. *Rhodesian Tobacco Journal*, 5 (11) : 63-66. 1953.

Anonymous. Implement to sow tobacco seedbeds more efficiently. *Rhodesian Tobacco Journal*, 5 (8) : 97-98, 1953.

Anonymous. Growing tobacco in Northern Circars : Notes on seasonal operations for the months June to November. (Central Tobacco Research Institute, Rajahmundry) *Indian Tobacco*, 4 (2) : 102-105, 1954.

Anonymous. Management of bidi tobacco nurseries in Gujarat. (Bidi Tobacco Research Scheme, Institute of Agriculture, Anand). *Indian Tobacco* 4 (3) : 140-143, 1954.

Anonymous. Trashy leaf. *Rhodesian Tobacco Journal*, 5 (12) : 66-70, 1953.

Anonymous. Trashy leaf of tobacco. *Rur. Res. C.S.I.R.O.*, 1953, No. 4, pp. 18-20. (H. A. 24, 28, 2851, 1954)

Anonymous. Research news—Advice on fertilizers. *Rhodesian Tobacco Journal*, 6 (8) : 91-92, 1954.

Anonymous. Research Board's recommendations on new flue-cured tobacco fertilizers—Application in bands more effective. *Rhodesian Tobacco Journal*, 5 (7) : 43-44, 1953.

Anonymous. Latest recommendations for the fertilization of flue-cured tobacco in the United States. *Rhodesian Tobacco* No. 5, p. 9, 1954.

Anonymous. Research Board's report on tobacco experiments. *Rhodesian Tobacco Journal*, 6 (3) : 55-60, 1954.

Anonymous. Research Board's recommendations on fertilizing flue-cured tobacco. *Rhodesian Tobacco Journal*, 6 (9) : 83-91, 1954.

Anonymous. Tobacco Research. *Ann. Report Cawthron Inst. N. Z.*, 1951/52, pp. 25. (H. A. 23, 1984, 1953)

Tobacco Bibliography

Anonymous. Tobacco culture in France and the French Union. *Rev. Int. Tabacs*, 1951, 26; 232-4, 240, from abstr. in *DocumBl. trop. Prod. Amst.* 1952, 7: 112. (H. A. 23, 889a, 1953)

Anonymous. Tobacco research in 1951-52. *Ann. Report. Canada Minist. Agric.* 1951, 52, 85-7. (H. A. 23, 1983, 1953)

Anonymous. Research report. Tobacco growing in Kaniama. *Bull. Inf. I.N.E.A.C.* 1953, 2: 67-76. (H. A. 23, 3199, 1953)

Baird, E.W. The production of tobacco seedlings in the Mareeba-Dimbulah District. *Queensland Agric. J.* 75 (3): 125-137, illus. 1952. (B.A. 28 (D): 6779, 1954)

Bolsunov, I. What Austria is doing to increase and improve varieties of own leaf. *Tobacco*, 1952, 134 (17): 31, 63, 167, illus. (H. A. 23, 3207, 1953)

Bolsunov, I. Austria is growing new varieties of nicotine-poor and nicotine-rich leaf. *Tobacco*, 1952, 135 (5): 65, 160, illus. (H. A. 23, 3208, 1953)

Bolsunov, I. Experiments with shade tobacco. *Tobacco, N. Y.*, 1953. 137 (27): 15-16, illus. (H. A. 24, 1664, 1954)

Carr, J. M. & Neas, I. Influence of fertilizer rates on four varieties of flue-cured tobacco. *Circ. Ga. Ext. Stat.* 22, 1952 pp. 14. (H. A. 23, 1991, 1953)

Ciferri, R. Browing of Virginia Bright tobacco during curing. *Tobacco*, 1953, 57: 35-44. (H. A. 23, 3239, 1953)

Clark, F. & Volk, G. M. Plant beds for flue-cured tobacco. *Circ. Fla. Agric. Exp. Stat.* S.44, 1952, pp. 18, illus. (H.A. 24, 1659, 1954)

Collin, R. The fertilizer recommendations in practice. *Rhodesian Tobacco*, No. 5, 6-8, 1954.

Collin, J. C., N. R. tobacco research. N. R. research. Variety trials. *Rhod. Fmr.* 8 January, 1954, pp. 10-17 and 15 January. pp. 10-11,13. (H. A. 24, 1652, 1954)

Crawford, D. E. Tobacco production practices in the coastal plain area of South Carolina. *Bull. S. C. agric. Exp. State.* 405, 1953. pp. 29, illus. (H. A. 24, 1649, 1954)

Crouse, R. H. Aromatic (Turkish) tobacco production. *Ext. Circ. N. C. agric. Ext. Serv.* 375, 1953, pp. 12, illus. (H.A. 24, 1697 f, 1954)

Dalrymple, J. L. Tobacco grown with spray irrigation. *Rhodesian Tobacco*, No. 5, pp. 22-23, 1954.

Erakman, K. & Muhendisi, Y. Z. The effect of spacing on yield, quality and morphology of tobacco. (English summary $\frac{1}{2}$ p). *Tekel Enst. Raporlari*, 1951, 6 (1): 139-42, bibl. 5. (H. A. 1663, 1954)

Ferrari, R. Mechanical transplanting of tobacco. *Bol. Prod. Fom. Agric.*, B. Aires 1951, 3 (19): 2-5: from abstr. in *Biol. Abstr.*, Sect. D, 1953, 27, No. 7463.

Ferrer, L. G. Effect of ammonium sulphate on the reduction of shade-grown wrapper tobacco at St. Barbara, Pangasinan Province. *Philippine J. Agri.* 17, 139-52, 1952. (C. A. 48, 10277 c, 1954)

Fiorentino, C. The cultivation and curing of Salento tobacco in Lecce Province. *Tobacco*, 1953, 57: 11-24, bibl. 2, illus. (H. A. 23, 3206, 1953)

Gilmore, L. E. Sulphur in tobacco fertilizers. *The Lighter*, 24 (2): 1-, 1954.

Tobacco Bibliography

Giovagnotti, C. Investigations on the composition of tobacco in relation to soil fertilization. *Ann. Fac. Agrar. Perugia*, 1952, 8: 128-40, bible. 9 (H. A. 24, 2847, 1954)

Grimaldi, A. On crop rotation for Umbrian farms growing Virginia Bright. *Tobacco*, 1953, 57: 171-82, illus. (H. A. 23, 4331, 1953)

Heggstad, H. E. & Neas, M. O. Burley 2. A new, improved variety of tobacco. *Circ. Tenn. Agric. Expt. Sta.* no. 110, 1953. (P. B. A. 24, 2299, 1954)

Junnila, W. A., et al. Firing of shadegrown with LP gas. *Bull. Storss agric. Expt. State.* 300, 1953, pp. 23, bibl. 6, illus. (H. A. 24, 2865, 1954)

Komatsu, N. Effect of the varied amount of phosphatic fertilizer on the maturity of bright-leaf tobacco. II. *J. Sci. Soil Manure*, Japan 24, 331-3, 1954. (C. A. 48, 9000d, 1954)

Krishnamoorthy, T., Awatramani, N. A. & Kadam, B. S. Nitrogenous manuring, spacing and topping of bidi-tobacco in Gujeret. *Indian Tobacco*, 4 (3): 124-138. 1954.

Lollichon, F. Cigarette tobacco production in Combodia. *Arch. Rech. agron. Cambodge*, Laos, Vietnam, 1952, No. 16, pp. 48+2, (H. A. 23, 4334, 1953)

Mann, T. J., Weybrew, J. A. & Monroe, R. J. will we be growing tobacco ten feet tall? Research & Farming. *Prog. Rep. N. C. Agric. Exp. Stat.* 1952, 11: no. 2. 11-12. (P. B. A. 24, 2304, 1954).

Marchand, J. D. Irrigation of yellow tobacco in Quebec. *Rev. d'Oka*, 1952, 26: 129-41, bibl. 23. (H. A. 2002, 1953)

Matthews, E. M. & Baker, V. H. A forced-ventilation tobacco curing system. *Agric.*

Engng. St. Joseph., Mich. 1952. 33: 429-30, illus. (H. A. 23, 887, 1953)

Mattison, J. R. Martin, J. A. & Senn, T. L. Aromatic tobacco. Instructions for its production in South Carolina. *Bull. Clemson agric. Coll.* 11, 1953, pp. 36, illus. (H. A. 24, 1650, 1954)

Moreira Santos, I. General considerations on tobacco and its cultivation. *Bol. Agric. Minas Gerais*, 1952, 1 (6): 58-62. (H. A. 25, 4358c, 1953)

Neas, I. Progress report on irrigation experiments in America. *Rhodesian Tobacco*, No. 5: 24-25, 1954.

Noordhoff, L. J. Dixie Bright 28. *Sth. Seedsman* 1953, 16. No. 9, p. 18. (P. B. A. 24, 530, 1954)

Ogden, W. B. Wisconsin tobacco soils: their fertility and management. *Bull. Wis. agric. Exp. Sta.* 493, 1951, pp. 20. (H. A. 23, 3217, 1953)

Ogden, W. B. & Fulton, R. W. Tobacco seedbed hints. *Circ. Wis. Agric. Expt. Serv.* 441, pp. 19. (H. A. 23, 4336, 1953)

Pack, A. B. Curing of Valley Cigar tobaccos. *Tobacco (N. Y.)*: 136 (26): 16-18, 1953.

Pack, A. B. & Junnila, W. A. Principles of curing broadleaf and Havana seed tobaccos. I. General principles of curing. II. The principles of curing with LP-gas. *Circ. Conu. Exp. Stat.* 183, 1952, pp. 27, bibl. 9, illus. (H. A. 23, 2021, 1953)

Pearse, H. L. & Stein, L. H. Fertilizer studies with tobacco, using 32 P superphosphate. III. *J. S. Afr. Chem. Inst.* 6, 25-30. 1953 (Soils & Ferts, 17 (3): 289, 1954)

Tobacco Bibliography

Puzzill, M. The effect of rainfall on quantitative production of Virginia bright tobacco in the Citta di Castello district. *Tabacco*, 1954: 58: 84-7. (H. A. 24, 2846, 1954)

Rollin, L. & Laumont, P. Guide to the cultivation of tobacco in Kabylie. *Tabacoop Kabyle, Alger* 1953: pp. 15. (P.B.A. 24, 2303, 1954)

Scott, W. A. New burley cultural practices presage revisions. *The Lighter*, 24 (1): 1, 1954.

Seward, E. M. Excessive nitrogen can play havoc with tobacco. *Rhodesian Tobacco Journal*, 6 (6): 89-93, 1954.

Stephen, R. C., Neas, I., Hunter, J. G. Towards a better cure. *Rhodesian Tobacco*, No. 5, 3-5, 1954.

Stinson, F. A. How can we improve flue-curing? *Rhodesian Tobacco Journal*, 5 (10): 43-48, 1954.

Stokes, W. M. Time and fuel saved in steam curing tests. *Rhodesian Tobacco Journal*, 6 (5): 89-92, 1954.

Stokes, W. M. Radiant heat and ventilation in tobacco barns. *Rhodesian Tobacco Journal*, 6 (4): 61-64, 1954.

Subbanna, M. L. Development of flue-cured virginia in the Mysore State. *Indian Tobacco*, 4 (2): 96-100, 1954.

Swanback, T. R. The nitrogen fertilization of Connecticut tobacco. *Bull. Conn. Agric. Exp. Stat.* 559, 1952, pp. 23, bibl. 50, (H. A. 23, 1995, 1953)

Swanback, T. R. & Anderson, P. J. Fertilizer placement for Connecticut tobacco. *Bull.*

Conn. Agric. Expt. Stat. 561, 1952, pp. 10, bibl. 1. (H. A. 23, 1993, 1953)

Thomson, R. Trials of flue-cured tobacco varieties. *N. Z. J. Agric.* 1952, 84: 199-202. (H. A. 23, 851, 1953)

Thomson, R. Flue-cured tobacco growing in New Zealand. *D. S. I. R. (N. Z.) Inf. Ser.* I., 1948, pp. 51, illus (received 1954) (H. A. 24, 1697 n, 1954)

Tisdale, S. L., Woltz, W. G. & Carr, J. M. Sources of nitrogen in crop production. Sources of nitrogen for flue-cured tobacco. *Tech. Bull. N. C. Agric. Exp. Sta.* 196, 1952, pp. 33-42, bibl. 3 (H. A. 23, 1997, 1953)

Tombesi, L. & Giovannozzi, M. Physiological and biochemical research on Virginia Bright. Note II. New lines of research on fertilization. (English summary 1½ p) *Tabacco*, 1954, 58: 3-33, bibl. 6, illus.

Trappenberg, R. Investigations on the effect of sprinkler irrigation on the microclimate in tobacco. *Arch. Met. Geophys. Bioklim.* 1952, 4B: 65-84. (H. A. 23, 4345, 1953)

Van Bavel, C. H. M. Irrigating flue-cured tobacco. *Better Crops with Plant Food*, 38 (2): 19, 1954.

Van Der Ven, L. F. J. M., et al. Tobacco culture in Baden, Western Germany. (English summary ½p). *Meded. Dir. Tuinb.* 1954, 17: 215-27, illus. (H. A. 24, 2842, 1954)

Van Leer, R. & Dory, J. Cigar wrapper tobacco growing at Lomami. *Bull. agric. Congo belge*, 1952, 43: 999-1010, illus. (H. A. 23, 1981, 1953)

Vellard, E. Tobacco culture in Madagascar. *Rev. Int. Tabac.* 1952, 27: 8, from abstr. in

Tobacco Bibliography

Docum. Bl. trop. Prod. Amst. 1952, 7, 216. (H. A. 23, 889 i, 1953)

Walker, E. K. Irrigation of flue-cured tobacco at Delhi, Ontario. *The Lighter*, 24 (2): 12-16, 1954.

Westbrook, E. C. Irrigation of flue-cured tobacco. *Tobacco (N. Y.)*: 137 (5): 99, 1953.

Woltz, W. G. Sources of nitrogen in crop production. Sources of nitrogen for flue-cured tobacco plant beds. *Tech. Bull. N. C. Agric. Expt. Stat.* 196, 1952, pp. 26-32, bibl. 1. (H. A. 23, 1996, 1953)

Botany, Gytogenetics & Plant Breeding.

Alcaraz Mira, E. Growth studies on some tobacco varieties. (English summary ½ p) *Bol. Inst. Invest. Agron.* Madrid, 1952, 12: 1-55, bibl. 5, illus. (H. A. 23, 852, 1953)

Alcaraz Mira, E. Genetics of tobacco. *Euclides*, Madr. 1953: 13-344-48; 392-97; 438-43; 1954: 14: 13-20. (P. B. A. 24, 2302, 1954)

Anonymous: MH-30 tested in Valley. *Tobacco (N. Y.)*, 139 (13): p. 16, 1954.

Bolli, M. On the maturation of Virginia Bright leaf. (English summary 16 lines) *Tabacco*, 1953, 57: 399-407, bibl. 12, illus. (H. A. 24, 1693, 1954)

Bolsunov, I. The testing of new interesting tobacco varieties from a world-wide collection at the Tobacco Breeding Station, Furstenfeld. *Fachl. Mitt. Osterreich, Tabakregie*, 1951, Hft 2., pp. 6-11 (received 1953). (H. A. 23, 3209, 1953)

Bolsunov, I. Results and prospects of tobacco breeding in Austria. *Fachl. Mitt. Osterreich. Tabakregie*, 1951, Hft 1, 11-17, illus (received 1953.) (H. A. 23, 3244 a, 1953)

Bolsunov, I. The production of higher yielding varieties as the aim of tobacco breeding. *Fachl. Mitt. Osterreich. Tabakregie*, 1952, Hft 1, pp. 6-16, bibl. 16, illus. (H. A. 23, 4333, 1953)

Bolsunov, I. Results of topping and pruning trials with Austrian tobacco varieties. *Fachl. Mitt. Osterreich. Tabakregie*, 1953, Hft 3, pp. 17-23. (H. A. 24, 1674, 1954)

Bolsunov, I. Virginia Bright Tobacco breeding in Austria and prospects thereof. *Tobacco (N. Y.)*, 1953, 136 (18): 152-3, illus. (H. A. 24, 1967, 1954)

Bonazzi, A. The physiology of tobacco. VI. The topography of soluble ash. *Rev. fac. agr., Univ. Central Venezuela*. 1,219-22, 1954. (C. A. 48, 9021c, 1954)

Bonazzi, A. Studies on tobacco physiology. VI. Nitrogen distribution in tobacco leaf and its importance. *Rev. Fac. Ing. agron. Maracay*, 1952, 1: 103-13, bibl. 18. (H. A. 23, 4338, 1953).

Brown, J. C. & Steinberg, R. A. Iron and copper enzymes in leaf lamina of tobacco when deficient in micronutrients or grown on calcareous and organic soils. *Plant Physiology*, 28 (3): 488-494, 1953.

Cirkovskii, V. I. The influence of ageing of seeds on the development of tobacco plants. (Russian). *Doklady Akad. Nauk S. S. S. R.* 1953, 92: 439-42, bibl. 4, illus.

Cirkovskii, V. I. Periodicity of dormancy in tobacco seeds. (Russian). *Doklady Akad. Nauk S.S.S.R.* 1952, 82: 1013-16, bibl. 1 (H. A. 23, 3215, 1953)

Cirkovskii, V. I. The formation of tobacco seed in relation to the position of pods in the inflorescence. (Russian). *Doklady Akad. Nauk*

S.S.S.R. 1952, 85 : 225-8, bibl. 3, illus. (H. A. 23, 854, 1953)

Coolhaas, C. Large-scale use of F_1 hybrids in 'Vorstenlanden' tobacco. (Dutch summary $\frac{1}{2}$ p). *Euphytica*, 1952, 1 : 3-9. (H. A. 23, 1987, 1953)

Cooper, W. D. The ribonucleic acids of certain viruses and of the chloroplasts of Turkish tobacco plants. *Univ. Microfilms* (Ann Arbor, Mich.), Publ. No. 5632, 70pp. *Dissertation Abstracts* 13, 655, 1953. (C. A. 48, 1493c, 1954)

Cot Galan, R. Studies on selection of tobacco plants for nicotine content. II. The application of *N. rustica*, variety tetraploid Erbasanta, of the method previously developed. *Bol. Inst. Invest. Agron*, Madr. 1953 ; 8 : 29-55. (P. B. A. 24, 528, 1954)

D'Amato, F. Histological aspects of the root infestation of *N. glauca* X *N. Langsdorfii* by *H. marioni*. *Agricoltura ital.* 1952 : 7 : 212-15. (F. B. A. 24, 2312, 1954)

Deimontovic, B. I. Artificial self-pollination of tobacco. *Agrobiologija*, 1951, No. 5, pp. 141-2. (H. A. 24, 1670, 1954)

Elgin, N. An anatomical study of *Nicotiana tabacum* leaf and stem. (French summary $1\frac{1}{4}$ p). *Tekel Enst. Raportari*, 1951 6 (1) : 89-106, bibl. 9, illus.

Gigante, R. Alternations due to extreme temperatures in tobacco nursery plants in Lecce. *Boll. Staz. Pat. veg. Roma*, 1951. (issued 1953), 9 : 83-92, bibl. 8, illus. (H. A. 23, 3212, 1953).

Haney, T. G. The prevention of sucker growth of tobacco after topping. Experiments with mineral oils. *J. Agric. W. Aust.*, 1952, 2 (n.s.) : 571-4. (H. A. 23, 2903, 1953)

Izard, C. On spontaneous tumours in some interspecific hybrids of *Nicotiana*. *C. R. Acad. Agric. Fr.*, 1953, 39 : 409-12. (H. A. 23, 4358d, 1953)

Jagendorf, A. T. & Wildman, S. G. The proteins of green leaves. VI. Centrifugal fractionation of tobacco leaf homogenates and some properties of isolated chloroplasts. *Plant Physiology*, 29 (3) : 270-279, 1954.

Kadam, B. S., Radhakrishnamurty, B. Krishnamurty, T. & Patel, G. J. A crumpled dwarf mutation in tobacco. *Sci. & Culture*, 29 (2) : 91-92, 1954.

Kher, A. E. Cycles of transformation of tissues of certain genetically controlled, tumour forming *Nicotiana* hybrids. *Genetics* 1953; 38 : p. 672. (Abst) (P. B. A. 24, 2305, 1954).

Kramer, P. J. & Jackson, W. T. Causes of injury to flooded tobacco plants. *Plant Physiology*, 29 (3) : 241-245, 1954.

Lefevre, J. On the spontaneous tumours of certain interspecific hybrids of *Nicotiana*. *CR Acad. Agric. Fr.* 1953, 39 : 409-12. (P. B. A. 24, 526, 1954).

Mallah, G. S. Inheritance in *Nicotiana Tabacum* XXV. Analysis of an interchange. *Proc. Egypt. Acad. Sci.* 1952, 8 : 12-25. (P. B. A. 24, 2307, 1954).

Mandy, G. The pigmentation of dried tobacco leaves from various levels on the plant harvested at different times. (English summary 1 p.). *Novenyterm*, 1952, 1 : 51-56, bibl. 2 (H. A. 23, 3236, 1953)

Maskovcev, M. F. & Sirotenko, A. A. The ability of the cells of the aerial part of the tobacco plant (*Nicotiana tabacum*) to synthesize nicotine. (Russian). *Doklady Akad. Nauk S.S.S.R.* 1951, 79 : 437-9, bibl. 4. (H. A. 23, 861, 1953.)

Matthews, R. E. F. Factors affecting the production of local lesions by plant viruses. I. The effect of time of day of inoculation. *Ann. appl. Biol.* 1953 : 40, 377-83, bibl. 7. (H. A. 23, 4335, 1953)

Melchers, G. Mammoth tobacco with early maturing leaves. *Zuchter*, 1951, 21 : 353-6, bibl. 4, illus. (received 1953) (H. A. 23, 1985, 1953).

Mihailova, P. V. Varietal adaption of the development of the pollen tube of makhorka to different temperatures, (Russian) *Doklady Akad. Nauk S. S. S. R.*, 1952, 82 : 477-9, bibl. 10. (H. A. 23, 957, 1953)

Mihailova, P. V. Selective fertilization in tobacco and modes of mutual interaction between the pollen and the pistill tissues. *Bjull. mosk. Obsc. Ispyt. Prirod. (Bull. Moscow Soc. Nat.)* 1951 : 56 : No. 5 : 70-78. (Russian). (P. B. A. 24, 2308, 1954)

Muraoka, Y., Tokitsu, T. & Otori, K. Varietal differences in the way in which the growth processes of tobacco respond to various combinations of temperature and day length. *Ikushugaku Zasshi/Japan J. Breeding*. 1953, 2 : 133-41. (Japanese). (P. B. A. 24, 2308, 1954)

Pal, B. P. & Deshmukh, M. J. A note on some improved types of hookah-tobacco (*Nicotiana rustica* L.) *Indian J. of Genetics & Pl. Breeding*. 14 (1) : 44-46, 1954.

Parikh, N. M. & Shah, C. C. Absorption of minerals by the bidi tobacco plant. *Indian Tobacco*, 4 (2) : 86-95, 1954.

Peterson, E. L. & Naylor, A. W. Some metabolic changes in tobacco stem tips accompanying maleic hydrazide treatment and the appearance of freckling symptoms. *Phyiol. Plant*, 1953, 6 : 816-28, bibl. 24. (H. A. 24, 1677, 1954)

Petrosini, G. On nicotine biosynthesis in tobacco seed during germination. (English summary $\frac{1}{2}$ p). *Tabacco*, 1954, 58 : 39-55, bibl. 21. (H. A. 24, 2844, 1954)

Puzzilli, M. Autonomous growth movements in the inflorescences of *Nicotiana glauca* and *N. sylvestris*. *Tabacco*, 1954, 58 : 88-95, bibl. 6, illus. (H. A. 24, 2843, 1954)

Puzzilli, M. Osmotic pressures in *Nicotiana tabacum* var. Virginia Bright, Italian strain (No. 7) under various water regimes. *Tabacco*, 1952, 56 : 152-5, bibl. 8. (H. A. 23, 859, 1953)

Puzzilli, M. Notes on first generation hybrids between American strains resistant to mosaic and the Italian strain of Virginia Bright. *Tabacco*, 1953, 57 : 207-16, bibl. 4, illus. (H. A. 23, 4251, 1953)

Puzzilli, M. Osmotic pressures in the genus *Nicotiana* in relation to drought resistance. *Tabacco*, 1952, 56 : 110-22, bibl. 11. (H. A. 23, 858, 1953)

Raeber, J. G. Current experiments to produce improved varieties. *Rhodesian Tobacco*, No. 5 : 26-27, 1954.

Razvjazkina, G. M. The importance of tobacco thrips in the development of epidemics of mahorka tip chlorosis. (Russian). *Doklady vsesojuz. Akad. sel'sk. Nauk*, 1953, 18 (6) : 27-31, bibl. 5. (H. A. 24, 16971, 1954)

Scarascia, G. T. The phytotoxicity of HCH. The effect of its gamma isomer of *Nicotiana tabacum* and *N. rustica*. *Tabacco*, 19. (H. A. 23, 868, 1953)

Scarascia, G. T. Development of the anther tapetum in *N. Tabacum* L. var. Bright. *Caryologia*, Pisa, 1953 : 5 : 25-42. (P. B. A. 24, 525, 1954.

Schwartz, D. Fardy, A. and Cuzin, J. New experiments on defoliation. The influence of various leaves on the function of the apex in *Nicotiana tabacum*. *Ann. Inst. exp. Tabac Bergerac*, 1952; 45-50, illus; from abstr. in *Bol. Inst. Invest. agron. Madrid*, 1951, 12: 657-S. (H. A. 23, 3214, 1953)

Sen Gupta, J. C. & Pain, S. K. Effect of time of sowing and pre-sowing cold treatment on the growth development of tobacco plants. (*Nicotiana tabacum*. L. and *N. rustica*) *Bull. bot. soc. Beng.*, 1949, 3 (2); 73-97. (B.A. 27 (D) 17528, 1953)

Smith, H. H. Studies on gene systems that differentiate species. *Erfelijkheid. i. Prakt.* 1953, 14: 16-17. (P. B. A. 24, 527, 1954)

Stankovic, I. Heterosis as a means of increasing the yield and quality of tobacco. (French summary 1 p.) *Arch. poljopr. Nauk, Belgrade*, 1952, 5 (7): 153-69, bibl. 5, illus. (H. A. 23, 4332, 1953)

Steinberg, R. A. Symptoms of molybdenum deficiency in tobacco. *Plant Physiology*, 28 (2); 319-322, 1953.

Steinberg, R. A. Temperature and tobacco. *Agric Res.* 1954, 2 (8): 11. (H.A. 24, 1660, 1954)

Szteyn, K, Brouwer, H. M. & Piepers, W. J. The growing capacity of cigar tobaccos. (English summary 1/3 p.) *Meded. Dir. Tuinb.* 1953, 16: 414-26, bibl. 16, illus. (H. A. 23, 4358 i, 1953)

Takenaka, Y. Cytogenetical studies in *Nicotiana I. Senshokhutai* (Chromosome) (*Kromosomo*, 1951, Nos 8-10: 354-92 (Japanese) (P. B. A. 24, 2306, 1954)

Takeyama, K. Studies on the macro-element nutrition of tobacco seedlings. *J. Sci. Soil, Tokyo*, 23, 245-246, 1953. (Soils & Ferts. 17 (4): 382, 1954)

Thams, J. C. & Zenone, E. On sunlight duration and radiant energy on the Magadino plain with special regard to tobacco culture. *Landwirtschaftl. Jahrb. Schweiz.* 1 (new series) (2): 139-180, 1952, (B. A. 28 (D): 6780, 1954)

Vickery, H. B. & Palmer, J. K. The metabolism of the organic acids of tobacco leaves, VII. Effect of culture of excised leaves in solutions of (+) tartrate. *J. Biol. Chem.* 207, 275-85, 1954, (C. A. 5946c, 48, 1954)

Vickery, H. B., Hargreaves, C. A. I. & Nolan, L. S. The metabolism of the organic acids of tobacco leaves. VI. Effect of culture of excised leaves in solutions of dl-malate *J. Biol. Chem.* 1952, 197, 133-9, bibl. 8. (H. A. 23, 889 j, 1953)

Volodarskii, N. I. Apical chlorosis of tobacco caused by nitrogen deficiency. (Russian) *Doklady Akad. Nauk S. S. S. R.* 1951, 80, 833-6, bibl. 7, illus. (H. A. 23, 867, 1953)

Volodarskii, N. I. The character of the formation of lateral shoots in tobacco in relation to their height on the stem. (Russian) *Doklady Akad. Nauk S. S. S. R.* 1951, 79, 677. 80, bibl. 2, illus. (H. A. 23, 855, 1953).

Volodarskii, N. I. & Bykovskaya, I. P. The effect of varied soil-moisture content on tobacco yields in relation to stage of growth. *Doklady Akad. Nauk S. S. S. R.*, 45, 187-190. (Russian). (Soils & Ferts. 17 (4): 382-1954).

Wijeratne, W. M. Inhibition of sucker growth in tobacco. *Trop. Agriculturist*, 1953, 109: 139-40, bibl. 3.

Wilson, R. W., Woltz, W. G. & Scofield, H. T. Mineral oil for sucker control. *Res. and Fmg.* 1952, 11 (1), 3-4, illus. (H. A. 24, 1673, 1954)

ILLUSTRATED LEAFLETS IN TELUGU & ENGLISH on the following Topics Available Free to the Growers

- | | |
|---|---|
| (i) Control of "damping off" | (ii) Manuring, transplanting and care of virginia Tobacco |
| (iii) Control of "Orobanche" | (iv) Topping virginia tobacco |
| (v) Curing of virginia tobacco | (iv) Chatham-a new variety of cigarette tobacco |
| (vii) Growing Tobacco in Northern Circars | |
| (viii) " " " " | |

(Notes on seasonal operations for the months - June to November and December to April)
FOR COPIES, WRITE TO THE SECRETARY,

INDIAN CENTRAL TOBACCO COMMITTEE

Have You Booked

SPACE FOR YOUR ADVERTISEMENT
IN THE TOBACCO DIRECTORY?

If not, ask for particulars from

THE SECRETARY, INDIAN CENTRAL TOBACCO COMMITTEE

HANG TAI & FUNGS
(TOBACCO) CO. LTD.
(INCORPORATED IN HONG KONG)

"The House of Fungs"

Celebrate their 150 Years of established business throughout the Far East.



Suppliers of:

LEAF TOBACCO
CIGARETTE PAPERS
ALUMINIUM FOILS
BITUMEN KRAFT
CELLOPHANE
CIGARETTE CONVEYING TAPES
TOBACCO MACHINERY

for processing and manufacturing

LABEL PRINTING
COVERING for Tobacco Seedling-Beds
SPRAYS and SPRAYERS for Fumigation of Tobacco
and Tobacco Warehouses
NICOTINE and SODA RECOVERY PLANTS
FIRE FIGHTING APPLIANCES
INDUSTRIAL MACHINERY

Enquiries should be addressed to:

P. O. Box 629, Bangkok, THAILAND : P. O. Box 629, HONG KONG : Cable Address: "FUNGS"

WE SUPPLY THE FINEST MADE BY THE FINEST

INDIAN TOBACCO (QUARTERLY)

Containing interesting and valuable articles and general information on tobacco cultivation research, marketing and technology.

	Inland.	Foreign.
Single copy	As. 12.	2sh.
Annual subscription	Rs. 3.	8sh.

Size of the Journal & Bulletin : $9\frac{1}{2}'' \times 7\frac{1}{4}''$.

TOBACCO BULLETIN (MONTHLY)

Containing statistics on tobacco acreage, production, prices, exports, imports, consumption, etc. and inland and foreign market reports.

	Inland.	Foreign.
Single copy	As. 4.	8d.
Annual subscription	Rs. 3.	8sh.

Size of the printed page : $8'' \times 6''$

ADVERTISEMENT TARIFF FOR SPACES IN JOURNAL & BULLETIN.

(Strictly payable in advance.)

			In quarterly	In monthly
Back cover (outer)	per insertion	...	Rs. 75/-	Rs. 60/-
Back cover (inner)	per insertion	...	Rs. 60/-	Rs. 50/-
Front cover (inner)	per insertion	...	Rs. 70/-	Rs. 55/-
Inside full page not facing reading matter	per insertion	...	Rs. 50/-*	Rs. 40/-†
Inside half page not facing reading matter	per insertion	...	Rs. 30/-*	Rs. 20/-†
Inside quarter page not facing reading matter	per insertion	...	Rs. 15/-*	Rs. 10/-†

* Space facing reading matter in the Quarterly Journal will be charged 20% extra.

† No extra charges in the Monthly Bulletin for space facing reading matter.

In the case of contract advertisements, i.e., advertisements involving 3 or more continuous insertions in the Quarterly Journal and 8 or more continuous insertions in the Monthly Bulletin, a rebate of 20% will be allowed. Advertising space is sold or contracted for, subject to the right of the Secretary of the Committee to refuse insertion of any advertisement or to discontinue the insertion of the same at any time, thereby cancelling the sale or contract, without assigning any reason. Matters for insertions will have to be supplied by advertisers. If blocks have to be made, they will be prepared at the cost of advertisers. Rates for colour advertisements will be quoted on application.

Outstation cheques should include bank collection charges.

Remittances from foreign countries should be made through banking channels.

IT PAYS TO ADVERTISE IN THESE PERIODICALS WHICH HAVE OVERSEAS CONTACTS WITH IMPORTERS AND MANUFACTURERS THROUGH THE INDIAN GOVERNMENT TRADE COMMISSIONERS ABROAD

All correspondence should be addressed to:

The Secretary,
INDIAN CENTRAL TOBACCO COMMITTEE
14, Victoria Crescent Road, Egmore.
MADRAS-8 :: INDIA.

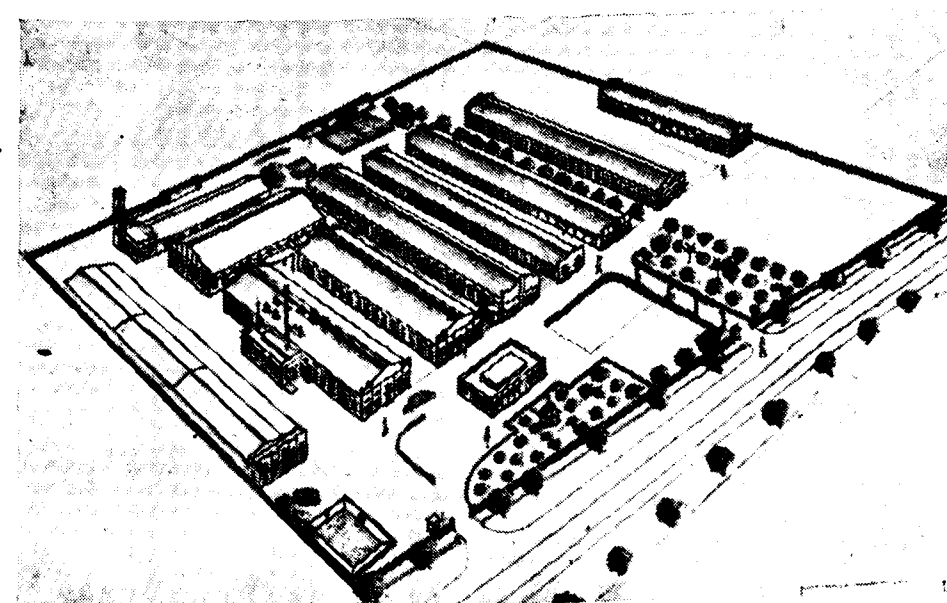
Subscribers and Advertisers in the U K. and the Continent may please contact:

THE HIGH COMMISSIONER FOR INDIA IN
THE U.K., COMMERCE DEPARTMENT
India House, Aldwych,
LONDON, W. C. 2.

Telegrams & Cables :
BITCORP, GUNTUR

Telephone :
GUNTUR : 57

British India Tobacco Corporation Ltd. GUNTUR, SOUTH INDIA



Specialists in :

HANDLING : REDRYING : PACKING
ALL GRADES
INDIAN LEAF AND STRIPPED TOBACCOS

★

Registered Office :

IBEX HOUSE, MINORIES
LONDON, E. C. 3

Telegrams & Cables :
BITCORP, LONDON

Telephones :
LONDON : ROYAL 5432

Printed by Sri B. Nagi Reddy at The B. N. K. Press Ltd., Madras-26. Edited and Published by Dr. M. S. Patel, M. Sc., Ph. D. (N. Carolina), Secretary, Indian Central Tobacco Committee, Madras-8

