

Indian Tobacco

Oct. Dec. 1953



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Indian Tobacco

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QUARTERLY

Vol. III No. 4

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OCT. - DEC. 1953



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INDIAN CENTRAL TOBACCO COMMITTEE

(Under Ministry of Food and Agriculture, Government of India)

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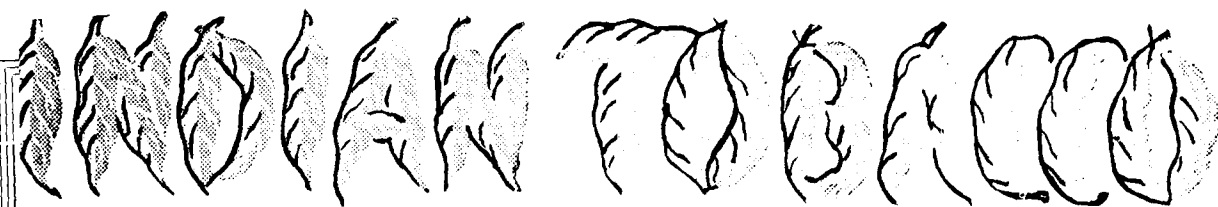
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OCTOBER—DECEMBER 1953



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BY THE
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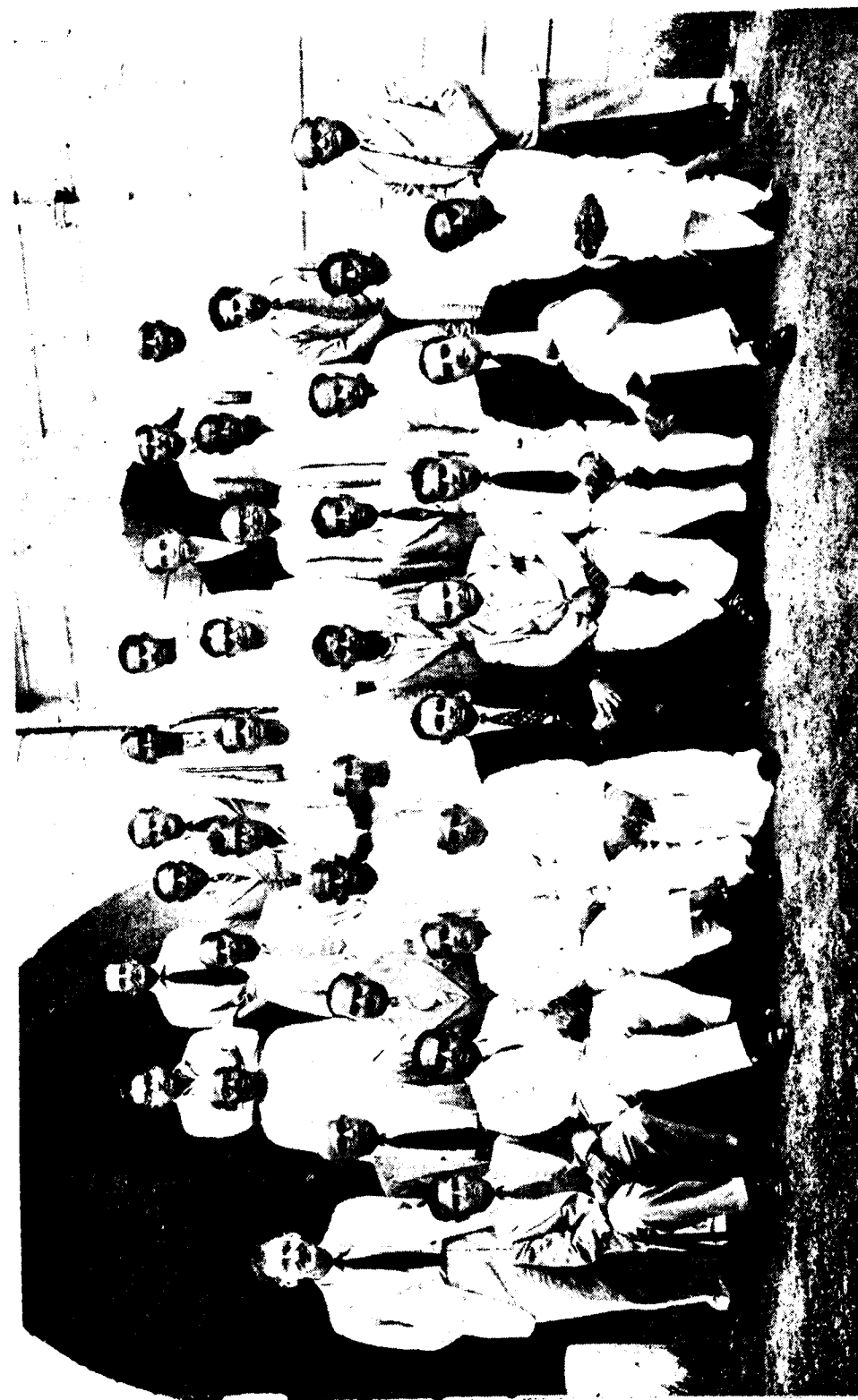
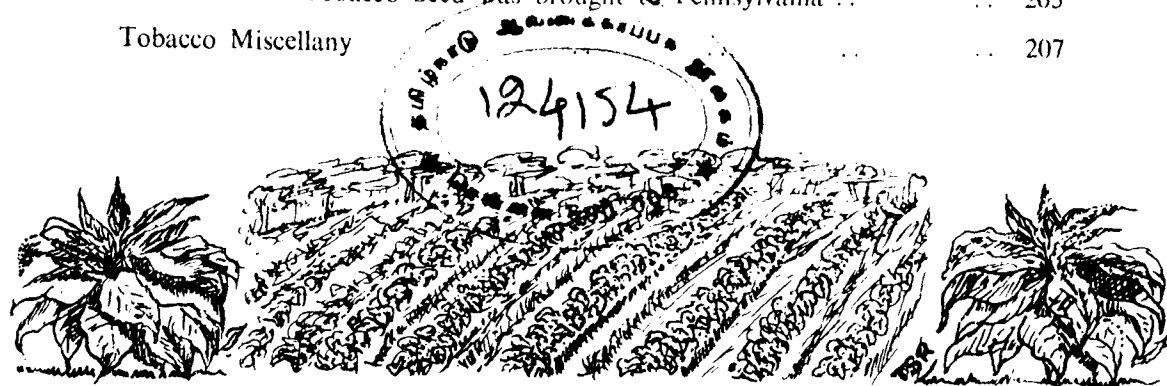


Photo taken on the occasion of the 14th Meeting of the
Indian Central Tobacco Committee held in Rajaji Hall at Madras on 5th December 1953.
Sri K. R. Danile, I.C.S., President, is seated in the centre.

President's Opening Speech at the 14th Meeting of the Committee



*Sri K. R. Damle, I.C.S., President addresses the Committee
at its 14th meeting on 5th December 1953,
held in Rajaji Hall, Madras.*

THE Ninth Annual Meeting and the 14th Ordinary Meeting of the Indian Central Tobacco Committee was held in Madras on 5th December 1953, with Sri K. R. Damle, I.C.S. the Additional Secretary to the Central Ministry of Food and Agriculture and President of the Committee in the chair. Among those present were Sri E. S. Krishnamurthy, Member of the Central Board of Revenue, Dr. M. B. Ghatge, the Central Agricultural Marketing Adviser, Sri B. K. Kochar of the Central Ministry of Commerce and Industry, the Directors of Agriculture of Bihar, Hyderabad and Mysore, the Joint Director of Agriculture, Madras, some members of the Parliament and representatives of the tobacco traders and growers in the Country.

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

"Gentlemen :

"It gives me great pleasure to welcome you all to the 9th Annual Meeting and 14th Ordinary Meeting of the Committee. We are also holding to-day, a special meeting of the Committee to consider certain amendments to the rules and regulations.

"Since we met last, the Central Tobacco Research Institute has been the victim of floods which caused such unprecedented havoc in the Godavari delta. The Secretary of the Committee has already expressed the sympathy of us all to the staff who suffered as a result thereof. The Finance Sub-Committee met at Rajahmundry and agreed to give two months' advance pay in order to relieve the distress of the sufferers. We are also taking steps to replace or rebuild the damaged farm and equipment.

"During the period since we met last, the new State of Andhra has been formed and most of the tobacco growing area which was formerly included in the old Madras State now lies in the new State. We are thinking of amending our Rules in order to give due representation to the new State of Andhra which now occupies nearly one-third of the total tobacco growing area in the country.

"This Annual Meeting has had to be held rather earlier than usual on account of certain directives received from the Government of India. Under the Rules of the Committee, the Annual Meeting always consider the Annual Report of the Committee, and the budget proposals for the next financial year. We have now been required to send up our budget estimates for the next financial year before the 15th of December of this year so that, there may be no delay in the sanctioning of the budget proposals and the works contemplated in the budget estimates may be undertaken from the beginning of the year. On account of the short time at our disposal to prepare the budget estimates and the Annual Report, this meeting has had to be postponed till practically the very end of the period which was given to us for submission of the budget proposals. This has necessitated our holding it at a time when the Parliament and some State Legislatures are meeting. We are extremely sorry that, as a result of clashing of the dates, some of our members are unable to attend this meeting. Since the new practice of holding the budget meeting earlier will be a permanent feature, we shall arrange our meeting in such a way that, as far as possible, our dates do not clash with the dates of the meetings of the Legislature.

"Considerable progress has been made in the field of dissemination of information relating to the cultivation and curing of tobacco. 'Indian Tobacco' and 'Tobacco Bulletin' are published regularly by the Committee and it is proposed to publish a journal in the Telugu language when the need for it is keenly felt. Our object now is to reach the cultivator and it is absolutely essential to publish our bulletins, leaflets and pamphlets not only in English language but also in regional languages so that the man who grows tobacco may be able to read them or get them read for him and follow the practices which have been recommended to him by us as a result of the research work done at our Institute. A beginning has been made in this regard by printing our leaflets in the Telugu language as this will serve and reach at least one-third of the area under tobacco.

"The Annual Report has been written on the model which was set up in the year before last. One or two improvements will be noticed. We have excluded the Audit Notes from the Report as it did not seem desirable to put them in a report which was meant for circulation to the general public. An attempt has been made to give an exhaustive list of co-operative societies engaged in various tobacco activities.

"At the Research Institute, manurial schedules have now been worked out and it is possible for the Committee to recommend doses of fertilisers, the method and time of their application for the benefit of the cultivators. A promising new variety—Chatham, which was so far under trial in the cultivators' fields has shown encouraging results. Economic methods of curing with less coal have also been demonstrated.

"Government have now sanctioned the construction of laboratories for the Research Institute and we hope that we shall soon have all the sections proposed in the Institute in full working order. Plan for tobacco research in the next three years is one of the items for your consideration today. Primarily, it pertains to the building of the

Institute and the establishment of various sections of research. The establishment of a full fledged institute of tobacco research has been a great necessity and although we have managed so far by means of makeshift arrangements and temporary buildings, we must now make permanent arrangements for the future if the good work which has been done is to be continued and consolidated.

"Developmental and extension activities are principally the concern of the State Governments and naturally the Committee cannot do much in this regard. Since the establishment of the National Extension Service and the Community Projects in the country which are soon expected to cover most parts of the country, it will be possible to devote more concentrated attention in specified areas. The Committee has also done some work in the distribution of improved seed in Anand and Rajahmundry areas and has demonstrated improved practices for topping, suckering, manuring and curing of tobacco. The Community Projects Administration will be requested to solicit the help of the Committee in the matter of training their field workers in the dissemination of information relating to these practices. The Committee will also be glad even to arrange a course of training at its Institute if a sufficient number of candidates sponsored by the Community Projects Administration is forthcoming.

"There are several subjects on the agenda before you today which lay great stress on the co-operative activities in the field of production as well as processing of tobacco. The Five-Year Plan, as you all know, lay great stress on the co-operative activities for this purpose. The field of co-operation is, however, the special jurisdiction of the State Governments and the Central Government can only show the necessary initiative by giving advice and by impressing upon the State Governments the need for fostering co-operative spirit for this purpose. Unfortunately, so far, no State Government has shown enthusiasm for this type of work. It is possible that the experience in the past has not been happy and this acts as a deterrent to a

sport in any co-operative activity. The Committee will make recommendations to the State Governments requesting them to sponsor at least model co-operative societies for this purpose and recommend them to the Committee for financial assistance. The Committee will be very glad to give assistance to any co-operative society which has been so formed and recommended by the State Governments. Credit facilities cannot of course be given in any large measure by the Committee as there are other agencies for this purpose. For example, there are State Governments who are competent to grant taccavi loans. Similarly, the Reserve Bank of India has also decided to make available a sum of money for the production of agricultural commodities.

"The question of disposal of large stocks of low grade tobacco which have accumulated in the country has been engaging the attention of the Government of India. It has now been decided by the Ministry of Commerce & Industry to appoint Sales Officers in the U.K., on the Continent and in the Eastern countries. Soon, these officers will take their positions. In order that these officers may be enabled to find markets for these low grades, it is necessary for us to maintain close liaison with them and to tender advice to them from time to time on the trends of trade and on the possibility of likely markets. It is also necessary for us to obtain statistics of needs and stocks of the trade within their jurisdiction and to intimate to them the availabilities from this end. It is, therefore, proposed that a sub-committee of this Committee may be formed to advise these Sales Officers as well as this Committee regarding the steps to be taken for promotion of export of tobacco to foreign countries. The Government of India will be requested to include tobacco as an item for export in all trade agreements with foreign countries. Only recently there was a Trade Agreement with Russia in which tobacco has been included for export purposes. Another way of disposing of the accumulated stocks is the establishment of nicotine extracting plants. The experiments relating to these plants have already been concluded

and necessary patents have been taken by the National Chemical Laboratory. The trade are now competent to establish plants wherever they consider it economically feasible.

"Out of the two scholars who were sent abroad for training, one has already returned and has been temporarily appointed as an Entomologist at the Central Tobacco Research Institute. The other scholar is expected to return early next year. One of our officers from the Central Tobacco Research Institute is at present in the U.S.A. under the Technical Co-operation Administration Programme for studies in virus diseases. We propose to send two more under the same Programme for studies in chemistry and on soils. Our intention is to give advance training to our officers in their respective fields so that, on their return to the Institute, they may be better equipped to discharge their duties.

"The subject of the disposal of the redrying plant has been pending for some time. The Director-General of Disposals to whom the matter was referred has already invited tenders but, before we finally instruct the Directorate of Disposals to accept the best tender, we must take a decision on the proposal which has been made to the Guntur Market Committee offering the use of the redrying plant to it on certain favourable and concessional terms. The object behind this offer was to utilise the plant for the purpose for which it was imported. This Committee had at one stage declared its willingness to run the plant but the proposal fell through as sufficient guarantee was not forthcoming from the State Government. Frequent changes in our decisions have delayed the disposal of the plant and may cause loss to the Committee. The Guntur Market Committee must therefore make up its mind once for all as to whether the terms offered are acceptable or not.

"There are large number of subjects on the agenda but our work today has been made easier by the labours of the various Sub-Committees

President's Opening Speech at the 14th Meeting

which have met in the last three days and made their recommendations. These are before you for consideration. My thanks are due to them for their advice.

"Before I conclude, I desire to express thanks on your behalf as well on my own to the Government of Madras for placing the Rajaji Hall at our disposal for this meeting."

Important Decisions of the Committee at its 14th Meeting

By

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

Secretary, Indian Central Tobacco Committee

With a view to acquaint the cultivator at first hand with the results of research carried on at its Central Research Institute at Rajahmundry, the Committee sanctioned a scheme under which certain numbers of ryots from each taluk will be invited to the Institute to watch the improved methods of cultivation adopted at the Committee's farm. A demonstration unit from the Institute will also visit the farmers' fields and conduct demonstrations on all phases of tobacco cultivation, handling and curing. To enthruse the cultivators to adopt improved cultivational practices and increase the yield without increasing the acreage, the Committee decided to hold tobacco crop contests in the regions of East and West Godavari, Guntur and Mysore for flue-cured tobacco and in Charotar and Nipani tracts of Bombay for Bidi tobacco. It had also approved a plan of research work for the next three years at its Central Institute in Rajahmundry, and in its research stations and sanctioned the necessary items of expenditure. The Hookah and Chewing Tobacco Research Station was decided to be finally located at Pusa (Bihar). Several research schemes were sanctioned in different parts of the country for various types of tobacco. A scheme for multiplication of bidi tobacco seed at Anand was extended for a period of ten years, and a scheme for the study of grading and standardisation of quality of bidi tobacco at Anand was also sanctioned for a period of 3 years. Schemes for research on bidi tobacco at Nipani (Belgaum) and Hookah tobacco at Ferozepore were also extended. Another scheme to conduct investigations into the possibilities of growing flue-cured tobacco in paddy lands was sanctioned for 5 years as this will reduce the production of low grades and increase the production of bright grades of the flue-cured variety.

Schemes for exploratory work on cultivation of cigarette tobacco of good quality and high yield in 4 centres in U. P. and on Jaffna tobacco in one centre in Travancore-Cochin State, were also sanctioned, as these varieties were important not only from the economic point of view but also from the view point of trade and industry. The Committee decided to publish popular pamphlets in Telugu on improved agricultural practices for the benefit of the ryots, to be distributed in advance of the various seasonal operations.

The Committee discussed in detail the serious situation arising out of the large accumulations of stocks of Indian tobacco in foreign ports. As an experimental measure it recommended to the Government of India to ban exports on consignment basis for a period of six months, and watch the situation. It also decided to form an Advisory Sub-committee to consider the promotion of tobacco export to foreign countries and assist with advice and propaganda literature the tobacco sales officers to be appointed shortly by the Government of India in London, Antwerp and Hongkong or Singapore. This Sub-Committee will meet once in two months to study the problem and make its recommendations. The Committee also decided not to join the World Tobacco Organisation for the present. It strongly recommended to the State Governments to effectively encourage the formation of Co-operative Societies for tobacco growing and marketing and encourage the existing Co-operative Societies by entrusting them with the work of distribution of controlled commodities. It also decided to grant financial assistance to co-operative societies if they apply through the State Governments and for this purpose a lumpsum provision of Rs. 1,00,000/- had been

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sanctioned in the next year's budget. It recommended to the Government of India to levy excise duty on low grades of flue-cured virginia tobacco at a lower rate as this concession would help clear their accumulation, and to abolish the *ad valorem* export duty on cigars to give an impetus to increased export trade of Indian cigars.

The Committee decided to give representation to the Government of Andhra State and to the tobacco growers in that state on the Committee,

as Andhra produces nearly 1/3rd of the total tobacco produced in the Country. The Committee's budget estimates for next year and the annual reports and technical programmes of its various research stations and schemes were adopted. Shri Mohanlal A. Parikh was re-elected as its Vice-President for 1954-55. The Committee endorsed the Government of India's decision to combine the posts of the Tobacco Advisor and the Secretary of the Committee as the present Secretary is fully qualified to hold both the posts.

Tobacco Sale by Auction

By

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

Secretary,

and

P. N. BALAKRISHNA PILLAI, M. A.

Statistical Assistant, Indian Central Tobacco Committee

THE sale of tobacco by auction is a very popular system in vogue in the important tobacco growing countries of the World viz., U.S.A., Southern Rhodesia and Nyasaland. In India, this system of sale is in its infancy and is being gradually adopted and extended.

The obvious advantages of a well-organised auction system are:—

1. Quick disposal of every type and grade of tobacco.
2. Prompt realisation of cash.
3. No need for a grower to store tobacco for a long period.

4. Wider field for selection by the buyer according to his requirements.

5. Grower gets competitive price for his produce.

The auction system for tobacco was first introduced in the U.S.A. in the 19th century. It has since undergone several changes in the light of experience gained. Rhodesia and Nyasaland adopted this system after it was proved successful in the U.S.A.

At present, the system is reported to be working satisfactorily in the above-mentioned countries. As the U.S.A. is the pioneer in this line, it will be of interest to know the genesis and evolution of the auction sales of tobacco now

practised in that country and its working in other countries like Rhodesia and Nyasaland. This will also help to bring out the differences between the system as practised in other countries and that practised in India.

Auction Sales in the U. S. A.

Prior to the introduction of tobacco sales by auction in the U. S. A. in the 19th Century, there were only a few established markets with facilities for the sale of



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tobacco. The growers had to transport tobacco over long distances and reach a market and this necessitated the use of suitable packages. Some tobacco was sold on the farm itself. This did not help in realising competitive prices and did not encourage the growers to produce superior quality tobacco. Even now, in the cigar tobacco growing districts of the States, this system has not come in vogue. Most of the sales are made on the farm.



Weighing of tobacco in U.S.A.

The loose leaf auction system came into being in America in the States of Virginia, North Carolina and South Carolina during the last quarter of the 19th century. In subsequent years, it developed considerably and expanded very rapidly. Since markets with warehouses have sprung up, farmers could transport their tobacco without packing. The auction sales are conducted at specially constructed warehouses to the highest bidder. The bidders are usually the agents and representatives of the manufacturers, independent leaf dealers, speculators and exporters.

After the tobacco is cured in the barn, the growers sort the leaves according to quality, colour and length and tie them into hands. Each hand contains from five to twenty leaves. The hands are then delivered by the grower at the warehouse, where, each grade is placed individually in a broad shallow basket and weighed. The date, initials of the seller and the weight are recorded on a label placed on the top of the basket. All the baskets belonging to one grower are placed side by side on the warehouse floor for sale.

The warehouse floor is marked off in rows with walking space between the rows.

Before the auction starts, federal graders inspect each basket of tobacco and mark on the label the grade of the lot. In the U.S.A., the Tobacco Inspection Act provides for the growers three distinct services viz., demonstration, inspection and market news. At the time of bidding, the buyer is not given the opportunity to observe the U.S. grade, since the label indicating the grade is removed from the basket. He buys on the basis of grades established by several large purchasing companies. Hence, variations in the prices of the same grade sometimes occur.

At the commencement of the sale, the buyers line up on one side of the row. The representatives of the warehouse stand on the other side of the row. First in the line of the warehouse representatives is the 'starter'. He pulls from the basket a sample of tobacco and calls out a starting price. The auctioneer who is standing next to him, takes up the starting price and calls



Tobacco auction sale in action in the U. S. A.

for bids. The buyers indicate the bids by a signal such as a nod, a wink or a gesture. When the final bid has been made, the auctioneer announces the sale to the highest bidder and passes on to the next lot. The 'marker' who follows the auctioneer marks on the label the price, the name of the purchaser making the bid, and the purchaser's grades of the lot, the latter being indicated by the buyer. There is another representative of the warehouse who bids for the warehouse from time to time to encourage higher bidding from buyers and to prevent certain lots selling too low. (Any tobacco bought by the warehouse is re-auctioned at a later time). Two other

employees of the warehouse follow the sale with blank cards for recording the weight and number of each basket. They mark the price paid, the name of the purchaser, and the gross amount of the sale. When the totals are compared, one copy of the list is sent to the office for settlement with the grower, and the other is kept for permanent record in the warehouse.

After the bid has been made, if the grower is dissatisfied with the final bid on any lot of his tobacco, he has the privilege to reject the bid immediately after the sale. This, he indicates by turning upside down or removing the warehouse

label from the basket. The tobacco for which the bid is rejected is re-auctioned at a later date. If the bid is accepted, the sale is booked and a cheque is issued to the grower by the warehouse for the amount of the sales after deducting the warehouse charges. The warehouse charges are generally fixed by the Government, though, in some states, they are also fixed by Tobacco Boards of the Trade. The charges are:—

- (1) Weighing fee of about Rs. 0-7-7 per lot upto 100 lbs. There is a sliding scale of charges for quantities above 100 lbs.
- (2) A general flat rate of auction fee of Rs. 0-11-5 to Rs. 1 7-0 per pile.
- (3) Warehouse commission is usually 2.5% of the final sale price. This gives an inducement to the warehouse to obtain the best possible price for the tobacco.

Auction Sales in Southern Rhodesia:

The system of auction sales in Southern Rhodesia is more or less similar to that in America.

The system of tobacco marketing adopted in Southern Rhodesia has changed periodically and has included sale by auction, private treaty, sealed tender and contract. In 1910, the auction system was introduced when sales by private treaty had proved disappointing. But, owing to disagreement between the sellers and the buyers, the auction sales were discontinued in 1914 which resulted in the formation of the Rhodesian Tobacco Co-operative Society to undertake the warehousing and marketing of tobacco. After 1918, this society marketed tobacco under contract with two leading manufacturing firms in the Union of South Africa, which covered a period of three years. In 1923, however, the Rhodesian Tobacco Warehouses and Export Co., Ltd conducted the business on co-operative lines. In 1926, this company exported a fairly large quantity of tobacco to the U.K. and in 1927, allowed their old contracts with South

African buyers to lapse, with one exception, and at the same time instituted sales locally by sealed tender and later by private treaty. Marketing by sealed tender was also a failure. A sale by private treaty was, therefore, established in 1927, when, the leading companies erected a warehouse and began purchasing direct from the producers. In 1928, the auction system was re-introduced but was discontinued, soon thereafter.

In 1936, the system of auction sales was again started under a Tobacco Marketing Act which stipulated that all flue-cured and fire-cured Virginia tobacco must be sold by public auction unless otherwise approved by the Minister, or through a pool organised by the Tobacco Marketing Board.

A Tobacco Marketing Board was also established by Act and has control over the licensing of the necessary auction warehouse, the procedure to be adopted by the latter at auction sales, the licensing of buyers, the selling charges, the speed of selling, the quantity to be sold daily, the quantities to be delivered periodically by each grower etc. The Board has also the power to cancel or withdraw temporarily the licences in the case of irregularities by the companies or lack of adequate facilities.

Besides the two licensed tobacco auction warehouses in Southern Rhodesia, the Tobacco Marketing Board has the authority to license further warehouses if considered desirable. These warehouses are both private limited companies over which the Board has no control except in respect of the procedure at the auction sales, the facilities offered etc. All staff are engaged by the companies.

The Board lays down the charges which the Auction Warehouses may impose. They are:

- (a) Weighing fee of Rs. 0-5-4 per bale;
- (b) Selling fee of Rs. 0-5-4 per bale;
- (c) 2½% of the proceeds of the sale;

- (d) Buyer's licence fee of Rs. 267-8-0 per annum. Auction warehouse license fee is also fixed by the Board which is at present Rs. 6,687-8-0 per annum.

All other expenses incurred by the Board are met from the tobacco levy imposed on the seller at 3½ pices per lb. The revenue from this levy is used to finance the Board and the Rhodesian Tobacco Association.

During the height of the tobacco season, more tobacco is offered for sale by the growers than can be accommodated and sold. When this position arises, the Board introduces "Delivery Quota." Every grower is given a fortnightly delivery quota of a certain number of bales which he may not exceed during that period. These quotas are fixed according to the grower's acreage and his potential yield per acre based on his record over the past five years. In other words, the larger and better grower receives a bigger quota than the smaller and less experienced grower.

Auction Sales in Northern Rhodesia and Nyasaland:

The system of auction sales of tobacco in Northern Rhodesia and Nyasaland closely follows that in Southern Rhodesia. In both these countries, all the tobacco is sold on auction floors. Following the pattern of Southern Rhodesia, the Nyasaland Protectorate introduced the state control of the marketing of tobacco under "The Tobacco Marketing Ordinance" passed in 1936. This Ordinance closely followed the Marketing Act in Southern Rhodesia except that provision for sale of tobacco by auction was omitted. But later, however, the system of auction sales was introduced and the entire produce in Nyasaland is now sold at the auction floors. For the purpose of the Ordinance, all tobacco grown in the Protectorate was divided into the following two classes:

- (1) Unmanufactured flue-cured tobacco of Virginia type.
- (2) Unmanufactured tobacco which has been dark-fire-cured, sun-cured or air-cured.

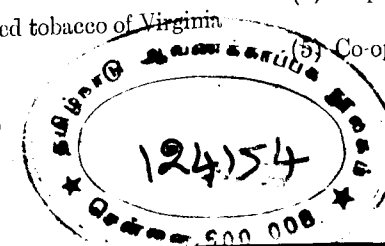
As in the case of the Southern Rhodesia, a Tobacco Control Board was set up consisting of officials and non-officials selected from among the growers, buyers and exporters. A register of growers is kept and no person is allowed to grow tobacco for sale unless he registered himself annually in accordance with the provision of the Ordinance. No person is allowed to purchase tobacco unless duly licensed. The growers are allowed to retain a certain percentage of the produce for home consumption under the quota system. The export is restricted under the quota system by issuing quota certificates and export permits. The Board has powers to establish and control a Tobacco Pool and to appoint a committee of management thereof and to determine the classes, types or grades of tobacco to which the operations of the Pool will extend.

A table showing the quantities of tobacco sold and the price realised at auction in the U.S.A., Southern Rhodesia, Northern Rhodesia and Nyasaland are given in Table I in the next page

Auction Sales in India:

In India, the bulk of the tobacco crop is sold in villages. The village "dalals" (commission agents) play an important role in the distribution of tobacco and form the most important link in the chain of distribution of unmanufactured tobacco. Distribution of unmanufactured tobacco is done by one or more of the following agencies:—

- (1) Growers, professional curers, village merchants and money-lenders.
- (2) Commission agents and wholesalers.
- (3) Manufacturers.
- (4) Exporters.
- (5) Co-operative Societies (Negligible)



Tobacco Sale by Auction

TABLE I

YEAR	S. RHODESIA		N. RHODESIA		NYASALAND		U. S. A.	
	Quantity m. lbs.	Average price per lb.	Quantity m. lbs.	Average price per lb.	Quantity m. lbs.	Average price per lb.	Quantity m. lbs.	Average price per lb.
		RS. A. P.		RS. A. P.		RS. A. P.		RS. A. P.
1947	57	1 3 6	32	1 7 6	21	0 12 6	1,407	1 11 9
1948	75	1 6 9	37	1 11 3	29	1 2 9	1,197	2 4 9
1949	82	1 6 6	57	1 12 6	25	1 7 0	1,212	2 2 6
1950	104	1 8 0	62	2 3 6	32	1 4 0	1,375	2 8 6
1951	89	1 6 6	107	2 4 6	26	1 2 0	1,592	2 6 3
1952	97	1 9 0	95	1 7 9	23	1 1 9	1,503	2 5 6

COURTESY: "Tobacco Intelligence"

Almost all the big buyers make their purchases direct in the villages of production through their own agents or with "dalals." Others make their purchases through commission agents and wholesalers operating in the producing areas.

Complaint against the present system of marketing tobacco is, that the grower does not get a fair price for his produce. This is attributed to lack of competition. It is alleged that monopolisation of certain areas of production by agencies who advanced money to the ryots even before harvest, buy the entire tobacco crop at a price fixed by them. The buyers are also very much inconvenienced by having to go to the villages and make the purchase.

Some of the growers take their tobacco to the buyers' platforms while others sell it in their own villages to the mediocre merchants who go to the villages during the season and purchase their requirements. Both the practices have their disadvantages.

To keep pace with the methods of marketing practised in other progressive tobacco-growing countries to obtain a fair deal for the producer by

adopting those methods and thereby eliminating undue reduction in weight and other malpractices that existed and simultaneously secure for the trader, desired tobacco at a central place, the Government of Madras extended in 1939, the Madras Commercial Crops Market Act of 1933 to cover tobacco. This was with the intention of regulating the tobacco market by conducting its sale in the market yards established for the purpose. But, due to causes like the Second World War and other vital national and economic problems after the War, it was not possible to establish auction sales of tobacco till 1951 when the Government of Madras directed the Guntur Market Committee, (now in Andhra State) to launch the Scheme, in one place in Guntur District (the concentrated area of Virginia tobacco production) from the 1951 tobacco marketing season. It was also stated that, if the results were successful, the Government would consider the possibility of extending the scheme to other centres as well. Accordingly, the scheme was first inaugurated in Guntur on the 24th January 1951.

Under this scheme, all tobacco produced within a radius of 5 miles of the Guntur Market Committee is brought to its market yard for sale either "by

auction" or "mutual treaty" between the buyer and the grower at the option of the grower. The growers and traders in the restricted area may, however, take their tobacco to any place outside the restricted area and sell it if they choose to do so. In the year 1952, the Madras Government extended the scheme to Mangalagiri, and in 1953 to Tadikonda in Guntur District. The areas within a radius of 5 miles to Mangalagiri and Tadikonda market yards were declared notified

areas in respect of auction sales of tobacco. Special warehouses were also constructed by the Guntur Market Committee for the purpose.

Statements showing the quantity, value and price per lb. of different varieties of tobacco sold by auction and by private negotiation at Guntur for three seasons (1951-53), at Mangalagiri for two seasons (1952-53), and at Tadikonda for one season (1953) are given below:

TABLE II
QUANTITY OF TOBACCO SOLD BY AUCTION AND PRIVATE NEGOTIATIONS

QUANTITY OF TOBACCO SOLD BY AUCTION			
TYPES	YEAR	BY AUCTION	BY PRIVATE NEGOTIATIONS
		000 lbs.	000 lbs.
(a) Guntur			
F. C. V.	1951	302	4,075
	1952	241	3,395
	1953	701	2,912
S. C. V.	1951	957	677
	1952	1,092	206
	1953	155	1,555
S. C. C.	1951	1,168	419
	1952	1,171	1,147
	1953	4,217	1,583
Others	1951	Negligible	5
	1952	"	23
	1953	Not Reported	1
(b) Mangalagiri			
F. C. V.	1952	297	2,100
	1953	190	1,591
S. C. V.	1952	389	67
	1953	915	112
S. C. C.	1952	Not Reported	Not Reported
	1953	"	234
Others	1952	4	69
	1953	Not Reported	Not Reported
(c) Tadikonda			
F. C. V.	1953	15	1,919
	1953	Not Reported	534
S. C. V.	1953	"	250
S. C. C.	1953	"	

Note: 1953 figures are only upto October 1953.

Source: Guntur Market Committee.

OCTOBER — DECEMBER 1953



Auction House of the Guntur Market Committee

The auction market yards are open between 5 A.M. to 6 P.M. on all days except on holidays. The growers cart their tobaccos to the market yards early in the morning. All the tobacco brought to the market yards for sale must be covered by the Central Excise T. P. 3 permit.

As soon as the bundles arrive, the staff of the Guntur Market Committee arrange the bundles on the sales-floors in rows, in order of priority. After the bundles are so arranged, the date, lot number and serial number of the bundles in the lot are stencilled on one of the pattas of the bundle and each bundle is given an identity card in triplicate.

The original identity card is retained with the Market Committee, the duplicate copy by the buyer and the triplicate attached to the bundle. A register showing all these details is also maintained.

After the identity cards are issued, the bundles are examined by the Market Com-

mittee's Grading Inspectors who certify the grade of the tobacco in each bundle according to the Guntur Market Committee grades.

The auction sales start at about 7 A.M. and close by about 12 noon. At the commencement of the auction, every bundle is opened by the auctioneer for inspection by the buyers. The auctioneer starts the bid. The buyers then announce their bids. The auctioneer repeats loudly each bid and closes the bid in favour of the highest bidder. Immediately, the price and the name of the highest bidder are recorded on the identity card by the auctioneer and on a voucher by the accompanying clerk.

When the sale of each lot is completed, the auctioneer signs on the voucher. After the identity card is so recorded, it is deemed that the buyer has accepted the price noted on the identity card.



Bales arranged on the auction floor before auction starts

M. S. Patel and P. N. B. Pillai

FORM OF IDENTITY CARD ISSUED BY
THE GUNTUR MARKET COMMITTEE

Market yard

1. Date put up for sale	2. T. P. No. & Date
3. Name & address of the seller	5. No. of the bundle in the lot
4. Lot No.	7. Grade declared by the buyer
6. Grade declared by the seller	9. Rate per candy
8. Grade declared by the Gr. Insp.	
10. Name & address of the buyer	
11. Gross Wt.	13. Classification of Packing material
12. Nett Wt.	

Weighman.

Grading Inspector.

Chief Superintendent & Auctioneer

The seller has the option to accept or reject the bid. Identity cards of the bundle or bundles for which the prices offered are not acceptable to the seller, may be cancelled by the seller. The prices of the bundle on which the identity cards are not so cancelled are considered as accepted by the seller.

The buyers have also a right to inspect the bundle purchased by him and bring to the notice of the auctioneer if there is any error in certification before removing the bundle for weighments and the decision of the auctioneer is final. If the auctioneer feels that the tobacco bundle is not uniform throughout, the sale of such bundles will be cancelled and they will be treated as unsold tobacco.

The bundles of which the price is accepted by the seller, are removed for weighment. The weighman of the Market Committee weighs the bundles. He notes the weight on the voucher and on the identity card, and initials them. The duplicate voucher is given to the seller and the duplicate identity card to the buyer and the originals are kept with the Committee. On receipt of the original vouchers in the office of the Market Committee, the accountant prepares a statement showing the amount payable by each buyer and the amounts to be received by each seller.

The seller has the option to take back the unsold bundles or store them in a godown specially allotted for the purpose. According to rules, all intending bidders should keep a deposit of Rs. 500/-

VOUCHER FORM USED BY
THE GUNTUR MARKET COMMITTEE

1. Date 2. T. P. No. & Date 3. Lot No
4. Name & address of the Seller

S. No. of the bundle	Kind of tobacco	Gr. Wt.	Nett Wt.	Highest bid price per candy	Name & Address of the Buyer	Initials of the Chief Supt. & Auctioneer	Cost of tobacco			Cost of pack- ing material			Amount payable to the Seller		
							Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
1.															
2.															
3.															
4.															
5.															
6.															
7.															
8.															
9.															
10.															
11.															
12.															
Total															

Extended by Weighman Accountant Chief Supt. & Auctioneer Cashier Signature of the Payee

Verified by

with the Committee. The successful bidder will receive the bill by about 4-30 P.M. and pay 10% of the value of the tobacco purchased by him plus charges thereon before 7 A.M. on the next working day, in default of which the deposit of Rs. 500/- will be forfeited. If the buyer pays the whole amount on the same day, he may remove the tobacco immediately. T.P. 3 permits are issued to clear the purchase from the market yard. If the buyer does not pay the full amount the same day, he may pay the balance before 4 P.M. on the next working day and remove the tobacco from the market yard.

The Chief Superintendent and Auctioneer will disburse the price amounts received from the

buyers to the respective sellers after deducting the sums due to the Market Committee before 6 P.M., the next working day.

In case of sales by private negotiations, both credit sales and cash sales are permitted. In respect of credit sales, a contract agreeing to such conditions as may be prescribed by the Market Committee in this behalf should be executed by the buyer and the seller. The Committee will, thereafter, be free from all responsibilities for the due performance of the contract. All charges payable to the Market Committee under these rules must, however, be paid before 4 P.M. on the next working day and the Committee will pay the amounts to the respective sellers.

M. S. Patel and P. N. B. Pillai

The Committee's charges collected from the buyers in case of sales by auctions as well as by private negotiations are as follows:—

F. C. V. tobacco —Rs. 4-0-0 per candy of 500 lbs.

Sun-cured tobacco 2-8-0 "

Guntur Market Committee
grades VII, VIII, Choora
or scrap, P. L., or F. C. V.
Gulla, Jutty or primings and
dust. } Rs. 1-0-0 "

In addition to the above, there are labour charges of Rs. 1-8-0 per candy of any variety of tobacco. The grades marked by the Grading Inspector will be taken into account for calculation of charges.

The most important advantages claimed for selling tobacco in auction market is that, by competitive bidding, the commodity fetches a competitive price.

In the U. S. A. and Rhodesias, the system of auctioning of tobacco, reported to be working satisfactorily was evolved after many decades of hard toil and trial and greater opposition in the early stages. Similarly, in India too, the modified auction sales system which is in its infancy is passing through this stage.

Some of the criticisms levelled against the present auction sales system adopted in India are listed below:

- (1) The provision of allowing sale by mutual treaty between the buyer and the seller at the auction floors.
- (2) The provision of allowing the grower to move his tobacco outside the restricted area and sell it there.
- (3) The adoption of definite grades at the market yards is often difficult as the tobacco brought to the market yard is not properly graded by the growers.
- (4) Many of the traders, especially, the mediocre merchants experience difficulties in obtaining

huge amount of ready cash to participate in the auctions.

- (5) The charges levied by the Guntur Market Committee at the market yards are reported to be high.
- (6) Frequent handling and carting of tobacco result in the deterioration of quality.
- (7) The area of operation being restricted to 5 miles radius, there is scope for misusing the provisions mentioned at (1) and (2) above.

The provision allowing trade by private negotiation between the seller and buyer is made with a view to help the growers in case the important buyers refrain from bidding at the auction yards and also to protect the mediocre traders who otherwise would be deprived of their trade for want of adequate cash in time. The growers are allowed to move the tobacco outside the restricted area with a view to helping them to realise the maximum price for their produce.

As regards lack of graded tobacco coming to the Market, it often happens because the tobacco holding being very small, the quantity available for grading by each farmer, will be small and therefore, grading will be cumbersome. Moreover, many of the growers are not aware of the exact grade specifications. This could be overcome by educating the ryots by practical demonstrations and through the medium of literature in regional language and explaining to them the advantages of proper grading in securing better prices. A co-operative grading organisation can do much in this matter. Required banking facilities in the tobacco marketing areas will solve the problem of the traders in finding adequate cash for trading in the market yards. The charges at the market yards also could be modified to the advantage of all concerned.

If the scheme is to be popular in the interest of the primary producer for whom it is mainly meant, it should be the endeavour of all concerned to review it periodically and adopt suitable modifications in the present scheme, in time, on the basis of experiences gained.

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Auction Sales of Tobacco in the Guntur Market Yards

By

KALIDASU SANKARAI AH

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and Member, Indian Central Tobacco Committee.*

AMONG various methods of tobacco marketing in India, auction sales conducted in the public market yards deserve consideration, being a novel experiment sponsored by the Government of Madras through the Guntur Market Committee. The Market Committee functions under the Madras Commercial Crops Market Act, 1933, powers of control being vested in the Madras Government. The Market Committee consists of representatives of growers, traders and manufacturers, partly elected, and partly nominated by the Government of Madras. The aims of the Act are to create and develop a spirit of co-operation between the producers and the traders in all aspects of tobacco marketing, to fetch profitable prices to the producers and to regulate marketing on just and reasonable lines.

When misunderstandings were at their height between the producers and the traders in respect of grading and prices three years ago, the Act empowered the Market Committee to conduct open auctions. Only certain areas of the District were notified under the Act and in each area, a market yard was opened by the Market Committee with temporary warehousing facilities. Within the notified area, marketing of tobacco should not be conducted in any other place than the market yard and all producers should bring their tobacco to that yard where traders would meet and bid. The highest bidder is entitled to the goods. Thus, producers and traders are made to meet on a common platform. However, an exception was made to this rule to the effect that the traders may purchase tobacco by private negotiation also but produce the tobacco bundles so purchased at the

market yard for weighing and recording the details of the transaction, on payment of a prescribed fee. This exception was made with a view to create credit facilities to the small traders who cannot command adequate finance for immediate cash payments.

Though it is premature to comment upon the working of this auction system on all aspects, there are two vital issues that deserve immediate consideration, as in my opinion, they defeat the objects of the Act.

- (1) Whether all the tobacco produced within the notified area is brought to the auction floor.
- (2) Whether the system of private negotiation is doing justice to the tobacco concerns.

Rules do not bind the producer to sell his tobacco only in the market yard established for that growing area. The producer may move his tobacco to any market. No doubt, this privilege to the producer is necessary as the trader or the State cannot guarantee the price demanded by the producer. At the same time, it should be remembered that, if remunerative prices are paid in his own area, no producer will hunt after markets. When a portion of the district is notified for "Public Auctions" and the adjacent area is left free, it is giving scope for the trader and producer to carry on the usual private business just outside the notified area, thus defeating the object of the Act which is to bring the producer and trader to a

Auction Sales of Tobacco in the Guntur Market Yards

common platform to regulate their business on just and reasonable lines. Producers are tempted with better prices for transactions outside the notified area. Hence, the scope for such mischief has to be restricted by bringing at the outset the entire area of production, i.e. atleast a district, under the purview of the Act. Financially it may be a problem to set up as many market yards as are required for a district. But, having known that, what was being done at present, to make the object of the Act a success, was rendered nugatory, the State should invoke all means at its disposal to get over the impediments. As three market yards had worked already and gained experience in Guntur District, there may not be much difficulty in working half a dozen more in that district. Each

Market yard has a source of income by levying fees under the law.

Coming to the second issue of "private negotiations" within the notified area, it can boldly be said that such a transaction is hampering justice. Though this system of private negotiation is intended to create credit facilities to the small traders in a few cases, this forms the bulk of the transactions, whereas the system of open auction has become secondary. The following particulars regarding Auction Sales at the market yards of Guntur District extracted from March-June 1953 issues of "Tobacco Bulletin" published by the Indian Central Tobacco Committee justifies the above statement.

Comparative Statement of Auction and Private Sales of Flue-Cured Tobacco in the notified areas of Guntur District.

Month.	GUNTUR.		MANGALAGIRI.		TADIKONDA.	
	Auction lbs.	Private Sales lbs.	Auction lbs.	Private Sales lbs.	Auction lbs.	Private Sales lbs.
27-1-53 to						
31-3-53	478,740	2,320,234	185,866	1,069,209	15,918	921,058
April 1953	312,853	1,574,319	6,266	399,495	-	813,485
May 1953	2,147,338	803,047	-	191,802	-	336,684
June 1953	988,377	346,864	-	6,053	-	25,876
Total	3,927,308	5,044,464	192,132	1,666,559	15,918	2,127,103
	35%	65%	11%	89%	0.8%	99.2%

ABSTRACT

Area.		Auction lbs.	Private Sales lbs.
Guntur		3,927,308	5,044,464
Mangalagiri	...	192,132	1,666,559
Tadikonda	...	15,918	2,127,103
Total ...		4,135,358	8,838,126
		32%	68% (Total 12,973,484).

The quantity of tobacco shifted to places outside the notified areas is not known. If the flue-cured Virginia tobacco that entered the market yards in the District is taken into consideration, 68% of the tobacco was sold by "Private Negotiations" and 32% by "Open Auctions". If a detailed examination is made, Guntur Market, the oldest of the three, recorded only 35% by "Public Auctions". It is a striking observation that Tadikonda Market almost boycotted "Open Auctions" and welcomed "Private Negotiations" to the tune of 99.2%. Private negotiations were carried on by small traders in the villages of the producers and the good quality leaf was reported to be exhausted by them. Only that tobacco which escaped the notice of the small trader or which was not good reached the market yards. Naturally, for such selected goods and that too on credit, the small traders had to agree to pay attractive prices. The big traders who purchased large quantities could not afford to send buyers into the villages as it was quite impossible to secure honest and efficient personnel of buyers to go round the villages along with the hundreds of small traders who functioned. The goods brought to the Market yard for public auction was of second rate, and that too, a minor portion of the production, to bid or outbid. That was said to be a handicap for the big traders and trader-manufacturers to take active part in public auctions. Reports indicated that certain small traders tempted the producers with higher prices than the highest bid in the auction by way of offering 5 or 10% more than the highest bid and the producer was made to exercise the privilege of rejecting the bid whether low, moderate or high. Next day, the same goods were presented at the yard under "Private Negotiations". They were inclined to concentrate in non-notified areas in the customary way. This position deprived the big traders of equal opportunities to secure high quality goods. This was not the intention of the legislature.

It is true that small traders also should be encouraged by providing facilities for them and monopoly by big traders is not desirable. On this

score, a situation should not be created, which will throw the big traders out of the business. This may endanger the economic position of tobacco production itself as will be explained *infra*. If the object of permitting "Private Negotiations" is only to create credit facilities to the small traders, it can be achieved by providing them facilities elsewhere. Equal opportunities to big and small traders can be provided by getting all varieties of leaves on the auction platform and the producer will also have the best opportunity to get the maximum price as was contemplated by the Act. Though the question of providing credit facilities to the small traders is not a small one, the Reserve Bank of India and the credit corporations can provide facilities and it may be on the hypothecation of the graded and conditioned goods for which there is generally a market. The Government will be helping by way of exploring markets. However, the small trader should also be in a position to have some capital of his own earnings or borrowings to start the business, which will be a security for further long-term credit by Banks for rotation. There are instances of small traders who start business with no pie on hand but entirely depend upon the credit allowed by the producer and get reinforced either by small borrowings or by moving the credit from producer to producer. They tactfully manage throughout the marketing season and honestly pay to the last pie to the producers in favourable years. All are not honest and all seasons are not favourable. Hence, the relations between the small trader and the producer become hazardous to economic production. Unlimited credit transactions may lead either the trader or the producer to bankruptcy in the long run, though, at the outset, it may appear smooth.

If equal opportunities are not created both for the small and big traders to bid only on the common platform, it creates a monopoly to the small trader to have direct contact with the producer at his threshold and the small traders are likely to become the brokers of the big traders. This is sure to happen when credit facilities and

profits are offered by big traders and when the small traders cannot afford to process the goods and export. There are manufacturer-traders who can afford to bid the maximum and their direct contact with the primary producer is indispensable to fetch remunerative prices to the producer. When the manufacturer who is the link between the producer and the consumer is in the buying court, encouraging middlemen-trade is not a healthy move in the interests of either production or consumption.

There is dissatisfaction that big traders are not participating actively in the auctions. It is true, they have been opposing this auction system as it disturbs their monopoly. The present position of the regulated marketing gives them scope to enjoy the monopoly in non-notified areas and they are incapacitated in the notified areas to make liberal purchases as explained *supra*. Scope should not be given to act in two ways when the intention of the Act contemplates only one way of auction system. This can be achieved only by bringing the whole district under the purview of the Act and by putting an end to the system of private negotiations, providing reasonable financial facilities to the small traders. No screw should be loose, to prevent jolting. Weakness of one link makes the whole chain weak. If that cannot be done,

there is no good of enforcing the Act half-way and make it unpopular.

Mending of the present system is necessary in as much as the spirit of the Act is not fully conveyed and exhibited. The enactment was made with the commendable object of doing justice to all sections. Till the Act is fully executed and its results are noted, the question of ending it does not arise; but the operation should be so quick and effective as to give relief immediately against the woeful and annoying ailment. Especially in view of the fact that U. S. A. has been successful in the auction system, there should be no half-hearted measures here, but a more vigorous pursuit to achieve the end in view. The Government of Madras had given enough time since passing of the Commercial Crops Market Act in 1936 to mend matters and they were forced to amend the Act in order to bring justice by regulating marketing conditions. The importance of the crop is realized all-round. Notwithstanding the past, the present and the future move should be quick and effective to put an end to the present confusion and to carry out wholehearted measures to achieve the objects of the Act. This step is sure to receive the acclamation of the lovers of justice.

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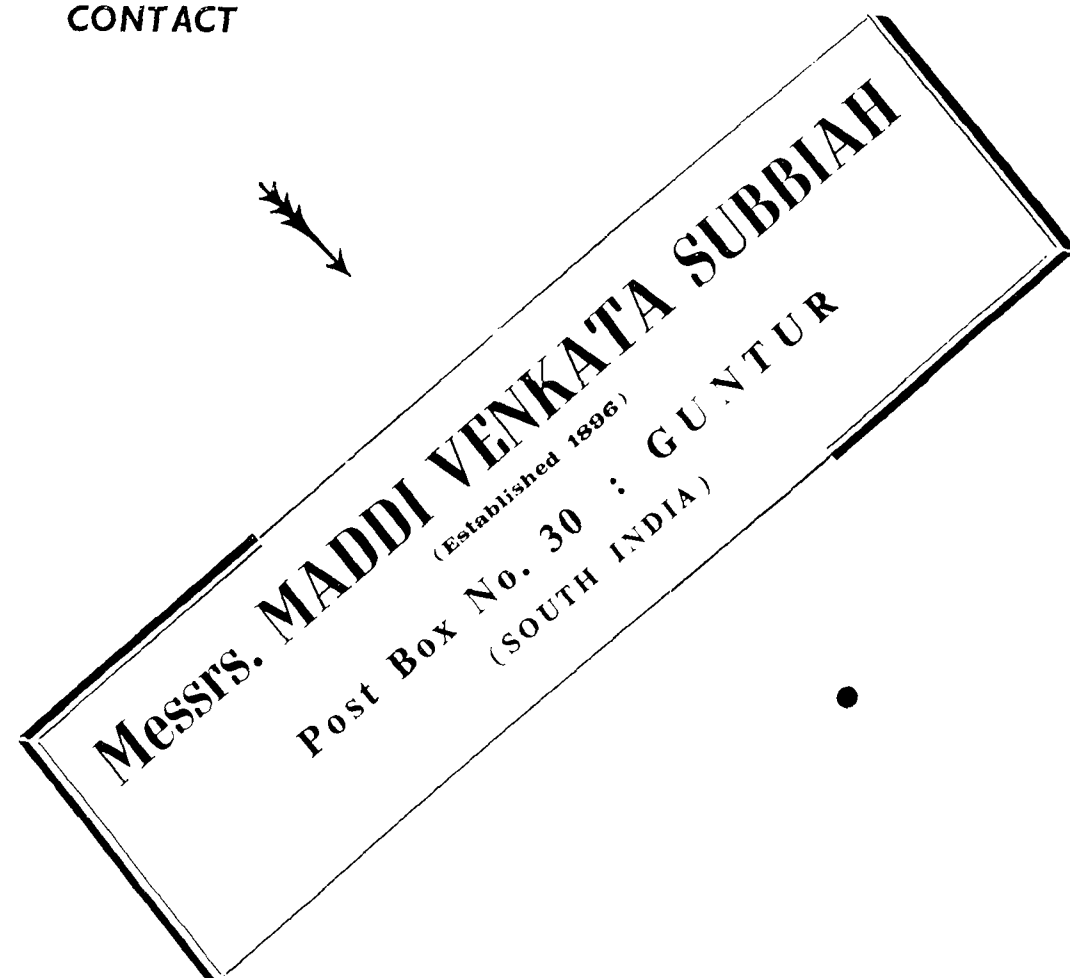
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Export of Tobacco on the Basis of Samples

By

PUVVADA MRUTYUNJAYA ROW

Submission of samples :

The samples that are submitted by the suppliers have naturally a wide range of variation from party to party although in general, they are of the same quality. In the case of Flue-cured Virginia tobacco, the samples are generally sent to overseas buyers from out of the first and second pickings in the month of January and February which have a bright lemon or bright orange colour with good and silky texture. Besides, the samples, being very small in quantity, do not suffer from pressure or any other rough handling. On the other hand, they are packed with utmost care and every endeavour is made to see that the leaf retains its best form and colour. Moreover, unlike the leaves in the bales for export, the samples do not suffer from the effects of the varying conditions of temperature and humidity at the time of grading, packing and shipping. The varying moisture contents in the bale which change the colour and to some extent the texture of the leaf do not affect the samples which generally retains the bright appearance. Being of the earliest pickings, the samples naturally are free from blemish and retain a bright colour.

Allotment of supply quotas :

The allotments of tobacco orders, especially from such Governmental Institutions as the Japan Monopoly Corporation, are received after the supply quotas have been fixed in Japan, by which time, the first few pickings of Virginia crop are over. The leaf-handling merchants in the United Kingdom and the leaf purchase organisations of the cigarette factories in India, however, usually place their orders very early and procure the supplies from the first three to four pickings and thus secure the best of the first pickings of the

crop. The Japanese orders are usually received sometimes by the end of March, and even later sometimes, when the curing of the Virginia leaf is nearing completion and gradual rise in temperature day by day occurs. The hot and dry conditions obtained in summer months adversely affect mainly the colour of the leaf which not only loses its bright characteristic but the leaf also tends to become dry and brittle. The loss of time in the placing of orders for supplies of tobacco by overseas buyers makes it difficult, if not altogether impossible, for the Indian suppliers to match the samples accurately in their bulk shipments—particularly in respect of colour.

Quality characteristics and chief areas of growth :

Each leaf varies from the other even though it may belong to the same plant. These differences are noticeable in the crop-growths of the different areas and tracts. The chief Virginia tobacco-growing area may be divided as below —

1. The North Guntur area
2. The Chilakaluripet area
3. The Parchoor & Ongole area
4. The Lanka area
5. The Godavari area
6. The tank-bed area

The leaves of North Guntur and the Chilakaluripet areas have much similarity with a slight difference in the body, having good burning quality, fine aroma and orange yellow colour. Those of the Godavari, Lanka and tank-bed areas are thin with light body, good burning quality and lemon yellow colour, while those of Parchoor and Ongole area have good body, but have tendency to deteriorate in colour rather rapidly and poor burning quality.

Causes of difference between supplies and samples :

The samples supplied being too small may be drawn from any one of the above areas and the supplies may contain tobacco from all the above said areas with varying quality characteristics of leaf, depending upon the availability of supplies, transport facility, prices etc. The actual deliveries of tobacco leaf may thus give an appearance somewhat different from the samples even in the same grade or same quality. Such quality factors as (1) colour, (2) body, (3) texture and (4) condition, form the broad basis for determining the grade of the leaf and quite naturally, therefore, any supplies conforming to the prescribed minimum standards are packed and marked with appropriate grades without reference to the small sample submitted by the supplier, though every earnest attempt is made by the packer to secure uniformity of quality as far as possible. The percentage of moisture given up and absorbed by the leaf in the process of redrying varies according to the area from where the leaf is obtained and since leaf from the different areas may be mixed, the uniform drying and moisture given in the redrying machine may have varying effects on the leaves from the different areas. As a consequence, some leaves may become more brownish than others. Further, the time lost in despatching the tobacco bales and effecting the shipments reduces the lustre of the leaves further giving them a dull appearance. Deterioration of colour may also take place while tobacco bales are stacked in the suppliers' godowns or at the

shipping agents or Port Warehouses or ship's holds where they may be stacked in 8 to 10 high. It will thus be apparent that it is extremely difficult, for any supplier to ensure deliveries of tobacco, strictly in accordance with the samples.

Conclusion :

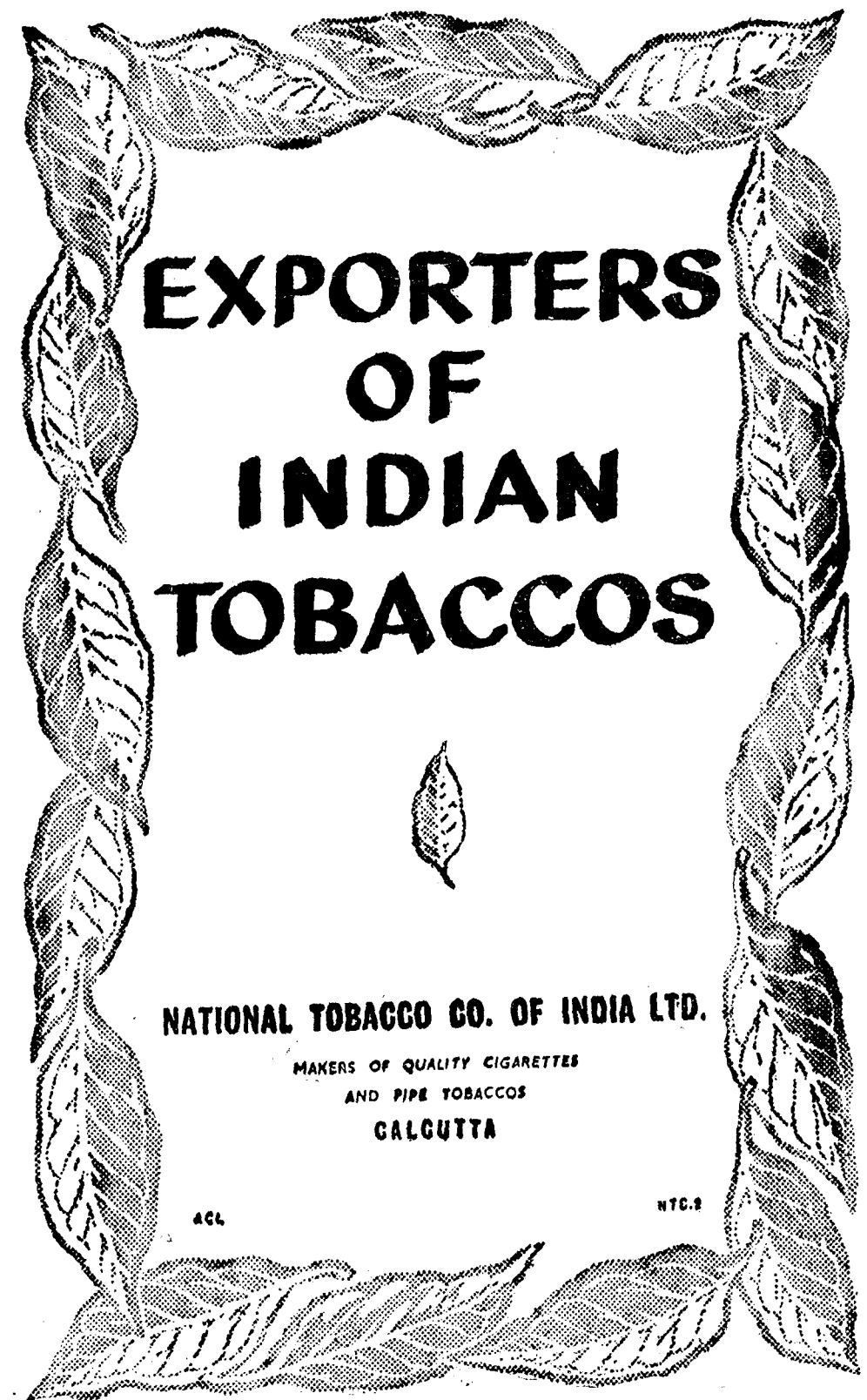
The trading in tobacco on the basis of samples in foreign markets places the suppliers in a distinctly difficult position, especially in the event of a sharp decline in tobacco prices. In such a case, overseas buyers may totally decline to take delivery of the supplies or may ask for a rebate in prices on the ground that the deliveries do not compare strictly with the samples. With the introduction of Agmark system of grading by the Government of India in May 1945, the export trading in tobacco on the basis of samples has been very much restricted. There are, however, a few countries who still insist on submission of samples. It is, however, hoped that with the confidence created in the minds of overseas buyers by shipments of qualities and grades in general agreement with the specifications of the Agmark printed and published by the Government of India, the time may soon come when they may fall into line with other countries and place their orders on the basis of Agmark grades alone.

While contributing this article I shall be failing in my duty if I were not to acknowledge with thanks the suggestions and help given by Sri P. L. Tandon, B. Sc. (Wales), Chief Inspector, Tobacco Grading.

**EIGHTH ANNUAL REPORT
OF THE
INDIAN CENTRAL TOBACCO COMMITTEE
1952-53**

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

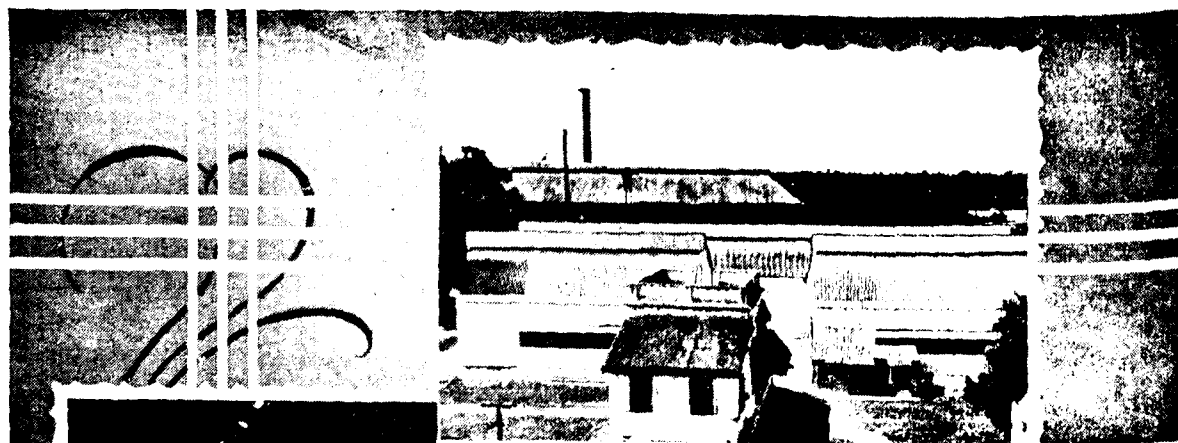
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Drying Technology with Special Reference to Re-drying of Tobacco

By

A. V. REDDI, B.A., B.Sc. (Hons.) Lond: A. C. G. I.

RE-drying of Virginia Tobacco is a very important process which is designed to create suitable conditions for the proper maturing of the leaf in storage. It is, therefore, a procedure which cannot be treated lightly or haphazardly. The need to bestow greater care and attention in re-drying becomes more and more apparent after a perusal of the following paragraphs where, the technology of drying in its application to tobacco is dealt with. There are several re-drying machines installed in the Andhra area which often work at high pressure during tobacco season. These re-drying machines are all imported ones and so, their cost is prohibitive. The tobacco cultivation is developing very fast in Andhra area and many re-drying machines would

have to be installed to cope with increased production.

The writer felt the need to design and build re-drying machines within the country in order that many factories can be built at moderate expense. After observation of the working of several re-drying factories, the writer came to the conclusion that an experimental investigation into the drying and humidification characteristics of different varieties and qualities of Indian tobacco leaf should be undertaken so that a proper and most suitable design for the re-drying machine could be worked out. With this in view, an investigation into the physical characteristics and behaviour of our leaf

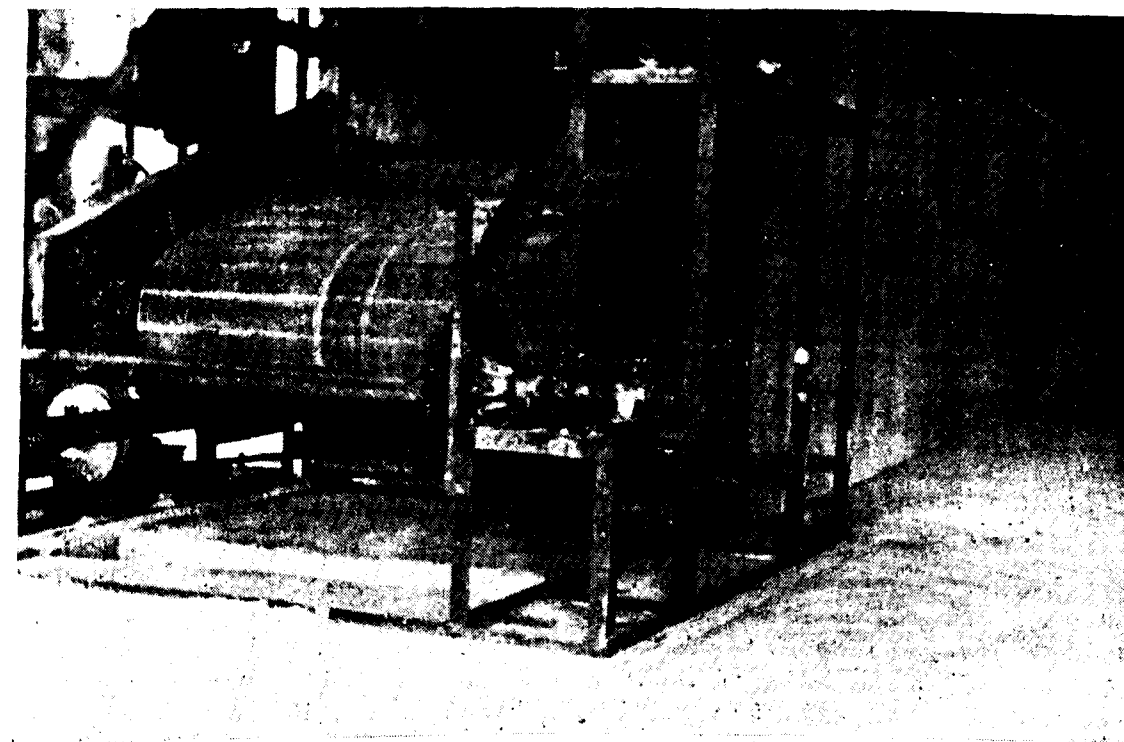


Fig: A—A view of the new redrying machine having improved drying characteristics and controlled air circulation.

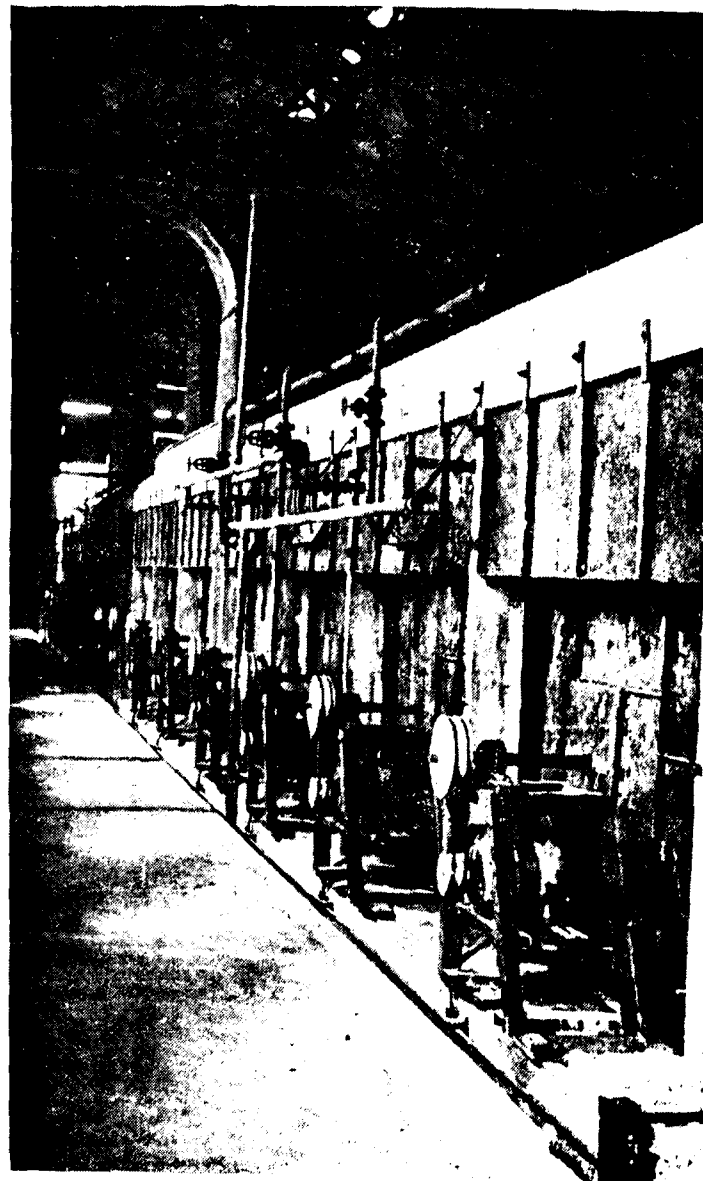


Fig: B—Humidifying Section: (foreground) note provision of individually driven fans and cooling water circulation.

was undertaken. Several experiments under different sets of drying conditions were conducted with strict control over air temperature, humidity and velocity. As a result of the data collected from these experiments, a new design for a re-drying machine was worked out incorporating in it such improvements as are calculated to assure controlled

operation of the machine at the optimum values for the particular type of leaf handled, both in the drying and humidifying sections. The machine, as designed, has been fabricated and erected and illustrations of it are given in Figs. A and B.

The writer feels that, if anyone wishes to understand what happens to tobacco as it passes through the re-drying machine, it is necessary for him to be acquainted with some of the fundamental concepts relating to the technology of drying and how they become applicable to tobacco. The following paragraphs are written with this object in view and with the further object of arriving at the optimum and best basis for treatment of the leaf and a design for a machine compatible with these requirements.

The removal of moisture from a wet substance by a current of warm air is not so simple as it appears at first sight. It is really a very complicated phenomenon, depending for its action on several variables functioning simultaneously. Before the wet solid becomes completely dry, it passes through two distinct drying stages, the first one being called the constant rate period, and the second, the falling rate period. The first stage corresponds to the removal of excess moisture freely available on the surface of the solid being dried, wherein the solid

assumes a temperature which is the wet bulb temperature of the drying air. After this stage is completed, the falling rate period of drying sets in, and this is characterised by absence of free moisture on the surface of the solid. The point where transition from one stage to the other takes place is called the critical point for the particular drying conditions.

During the falling rate period, internal diffusion of moisture through the solid to the surface becomes the controlling factor, and hence it is obvious that the rate of drying will steadily decrease with a diminishing moisture content of the solid. The constant rate period does not exist in re-drying of tobacco; on other hand, it is entirely within the falling rate period, owing to the moisture content of the tobacco being low. A study of the characteristics of drying during the falling rate period is essential in order to understand the process of re-drying of tobacco leaf. This study cannot be entirely mathematical based on well founded assumptions, as the physical nature of the cellular structure of the lamina introduces constants and variables which cannot be reduced to equations, and hence have to be computed by a collation of experimental data with known formulae.

The first thing to deal with is the properties of air and water vapour mixtures in relation to its temperature, as air is used as a vehicle to carry away the moisture from the drying solid. Air without any moisture in it is called bone dry air, and its pressure is due entirely to its own. But when water vapour gets mixed with it, the vapour contributes a certain pressure called the partial pressure of the vapour, to the total pressure of the air. For each temperature, there is a partial pressure for water vapour at which the water and vapour phases are in equilibrium; if, at the same temperature for air and vapour mixture, the pressure due to vapour is equal to its partial pressure, then, the air is said to be saturated with water vapour, and cannot absorb anymore vapour. If, for each temperature, a plot is made of the quantities of water vapour required for saturating the air, a curve called the saturation curve for water vapour in air will be obtained, which is very important in understanding the behaviour of air in drying.

The weights of water vapour required to saturate the air at different temperatures

can be calculated by an application of the Gas Laws, namely, that equal volumes of gases at N. T. P. contain equal number of molecules. As air and vapour are mixed together in gaseous phase, the pressure exerted by the vapour at saturation will be equal to its partial pressure at the temperature, the balance of the total pressure of the mixture being made up by that of air. If we denote the partial pressure of vapour at saturation at any temperature as 'p', and 1 as the total atmospheric pressure, then (1-p) will be the pressure due to air, and hence, the following equation can be written down:

$$\frac{\text{Mols of vapour}}{\text{Mols of dry air}} = \frac{p}{(1-p)}$$

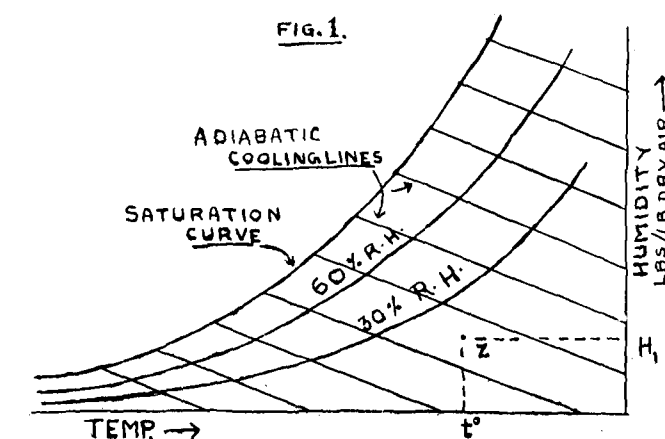
Taking the molecular weight of water vapour as 18, and that of air as 29, and multiplying both sides of the equation by $\frac{1}{1-p}$, the equation becomes:

$$\frac{\text{Weight of vapour}}{\text{Weight of air}} = \frac{18 p}{29 (1-p)}$$

If now, the basis for the weight of air is taken as 1 lb, and the weight of water vapour is denoted by letter H, the equation can be re-written as follows:

$$H = \frac{18 p}{29 (1-p)} \text{ in pound units per pound of bone dry air.}$$

This formula can be used to calculate different values of H by substituting the partial pressures at each temperature as a fraction of the atmospheric pressure, and a plot of the values so obtained will give the saturation curve. Fig. 1 is an indication



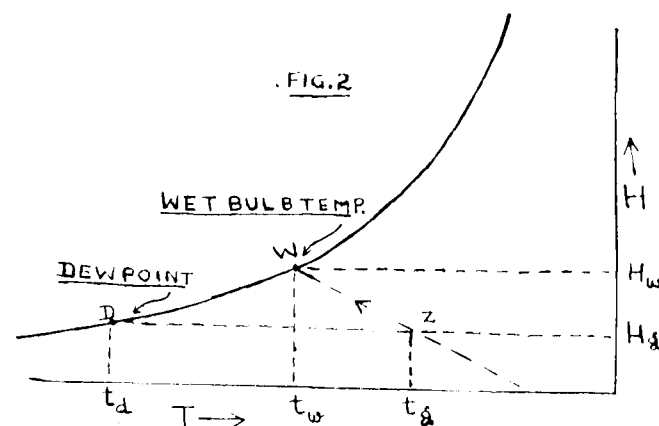
of the shape of the saturation curve, the temperatures being on the X axis, and the weight of vapour per pound of bone dry air mapped on the Y-axis. Any point such as Z on the graph paper can be made to represent a condition of air corresponding to its temperature and weight of water vapour contained by it. The term Relative Humidity is an expression in percentages of the fraction of water vapour contained in the air on a datum of saturation at that particular temperature. As such, nearly paralleled curves can be drawn as shown in the fig 1 to represent percentage Relative Humidity lines.

If air at a temperature t_g and humidity H_g is brought into contact with a moist surface, the air will fall in temperature to say t_w giving up its heat to the moisture for vapourising it. This vapourised moisture will be absorbed by the air, thereby increasing its humidity. Let this be denoted by H_w , and let s and L represent the specific heat of air and vapour mixture and the latent heat of water; then an equation of heat balance can be written down as follows:

$$H_w - H_g = \frac{s}{L} (t_g - t_w)$$

This equation is linear and so represents a straight line with a slope or inclination to the X-axis whose tangent is equal to $\frac{s}{L}$. For different values of t and H , the plot of the equation will result in a series of parallel lines inclined to the X-axis and these are called the Adiabatic cooling lines for air in contact with moisture. The above equation is based on the adiabatic concept namely that no external heat is supplied to or any heat taken away from the air and moisture during drying and hence the adiabatic cooling lines represent the path taken by air when in contact with moisture and drying it adiabatically.

There is another cooling line called the wet bulb cooling line and this can be explained as follows.



When air gives up its sensible heat for vapourising water, the vapour so formed at the surface of the water must diffuse into the air for it to be absorbed. But the water and its vapour phase equilibrium sets in immediately vapourisation commences, thereby creating a film at the interface of the water and air, through which vapour should diffuse in order to be absorbed by air. This film is really a theoretical concept, although this assumption is borne out as true and real in practice. Since it becomes placed between water and air interfaces, heat must reach the water from the air through this film. In other words, the film offers resistance to the flow of heat across it, and the diffusion of vapour through it. This resistance is governed by physical constants depending on the drying conditions, heat conduction and radiation, air velocity, and temperature. The effect due to radiation in the absence of hot bodies in close proximity can be neglected in practice. These constants are grouped under one symbol K_g for diffusion, and h_c and h_r for heat transfer. If H_w , H_g , t_g and t_w have the same meaning as in the previous equation, the heat balance for the wet bulb cooling can be written down as follows:

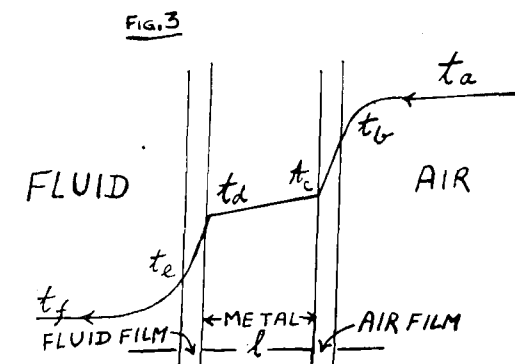
$$H_w - H_g = \frac{h_c + h_r}{K_g L} (t_g - t_w)$$

This equation is similar to the adiabatic cooling and will be the same if

$$s = \frac{h_c + h_r}{K_g}$$

In practice, s is found to be equal to h_c/K_g , and so if h_r is neglected, the above equation is true for water. Therefore the wet bulb cooling temperature will be the same as the adiabatic cooling temperature for water.

The film concept may now be studied to understand how heat is transmitted through it. The film is always supposed to be formed at the interface of air and solid or liquid and the thickness of the film is a function of the turbulence of fluid flow near its proximity. Bearing these primary concepts in mind, a theoretical distribution of temperature between two fluids separated by a metal wall of thickness 'l' as illustrated in Fig. 3 may be studied. Let t_a and t_f be the tempe-



ratures of the air and fluid respectively, t_a being higher than t_f and let the other suffixes to 't' denote the temperatures intermediate between the film and air, film and metal and similarly on the fluid side. Let this distribution be as indicated in the figure. The gradient t_b to t_c and t_d to t_e is the temperature drop through the film on either side of the metal wall and it can be seen that it is very steep, meaning that a high resistance is offered for the transfer of heat to the metal wall or away from it. This film in actual practice corresponds to a layer of air or fluid in contact with the metal wall and having very little or no velocity irrespective of the speed of flow of the main bulk of air or fluid. The film, however, can be made extremely thin by the creation of a turbulent flow near the metal wall, and if this is done, the drop

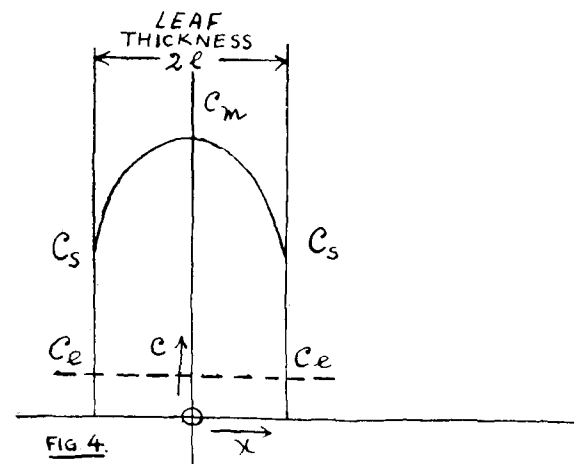
between t_b and t_c will diminish although the gradient remains the same. This means that the resistance of the film is lowered to the transfer of heat from the air to the metal and similarly on the fluid side if the fluid also is in turbulent flow. Hence the quantity of heat transferred per unit area, per unit difference in temperature between air and fluid, per unit time will be greater if the film thickness is made smaller by creating turbulence near it. In the special case where the fluid is 'condensing-steam' at a higher temperature than air, the condensate will adhere to the metal wall destroying the film and conducting heat direct from the condensate to the metal wall and to the film and air on the other side. If the air is in turbulent flow across the other side of the metal wall, it can obtain a large quantity of heat from the steam. This heat transfer is expressed by a coefficient for each particular condition of turbulence, viscosity, and conductivity obtaining therein.

In diffusion of matter from one substance to another in different phases, the same film concept aids concept considerably in understanding and evaluating coefficients of material transfer. This film as usual is placed at the interface of the two substances or at the transition surface where there is change of phase. The film will have the same properties as the one assumed for heat transfer, and will offer resistance to material transfer through it similar to conduction of heat or electricity through a material. The driving force to maintain a steady flow of matter across the film is provided either by a difference in molecular concentration giving rise to osmotic pressure, or a difference of partial pressures of the diffusing substances at the interfaces of the film. The film will further possess the characteristics of transitory equilibrium of pressures or concentrations under the given physical conditions, so that the diffusion may at times take place in a reverse direction to that of molal concentration, as in the case of stream condensing over a water surface. Turbulence of flow at the interface will reduce the film thickness with corresponding reduction in resistance

Drying Technology with Special Reference to Re-drying of Tobacco

to diffusion. Temperature too has a direct effect on the rate of diffusion, as it increases the space available between the cell walls by expansion when diffusion is taking place within the substance itself, and providing a higher partial pressure difference through the film on the surface of the substance.

A reference to the manner in which moisture concentration distributes itself across a thickness of tobacco leaf, or any hygroscopic substance is useful to understand the relationship between diffusion and drying. Fig. 4 is a section of the



leaf lamina of thickness $2l$ and the parabolic curve in it with its main axis lying on the central plane of the lamina represents the molecular concentration of the moisture contained by the leaf at any moment, when the leaf is subjected to a certain set of drying conditions. C_m and C_s are the concentrations in the centre and on the surface of the leaf section and the difference between C_m and C_s represents the driving force for diffusion at that particular moment. For each set of drying conditions, there will be a horizontal line through the lamina representing the lowest point to which it can be dried; this is called the Equilibrium Moisture Line. The position of C_s on the surface is dependent on the rate of drying to which the leaf is subjected to, being lower, that is nearer to the equilibrium line for fast drying rates and *vice versa*. When C_s and C_e are very near to one another, with C_m high up in the usual place, the

force driving moisture to the surface is maximum and if the substance is delicate as the case of tobacco, it may result in an internal tearing or maceration of the cellular structure of the leaf. It therefore becomes obvious that the drying rate should be such that the rate of diffusion will not harm the quality of the leaf.

Mention may be made here of the most general formula derived from theoretical assumptions approximating to the actuals, so that the relationship of the time factor to the process of drying may be elucidated. Let the following symbols have the meaning given to them:—

- W = Total moisture content of a drying substance at a given time.
- E = Equilibrium moisture content for the particular drying conditions.
- T = Time.
- l = Half thickness of leaf.
- r_i & r_s = Resistance to internal diffusion, and at the surface respectively.
- D = Diffusivity of material.
- W_{sc} = Critical value of moisture content at the surface corresponding to the critical point under the particular drying conditions.
- R_c = Rate of drying at the critical point.
- K = Numerical constant embodying physical factors and resistances to diffusion and drying.

At any moment of time during the drying of a substance in the falling rate period, the drying rate is proportional to the free water content of the substance. If dW is a small quantity of moisture removed in time dT seconds, the following general differential equation can be written down based on the above mentioned proportionality.

$$-dW = \frac{dT}{l(r_i + r_s)}$$

Integration of this equation between limits $W = W_1$ and W and $T = 0$ and T , will give:—

$$\log_e \frac{W_1 - E}{W - E} = \frac{T}{l(r_i + r_s)} = K.T. \text{ where}$$

$$K = \frac{1}{l(r_i + r_s)}$$

r_i and r_s have the following values whose derivation need not be considered here.

$$r_i = \frac{1}{3D}; \quad r_s = \frac{(W_{sc} - E)w}{K_p(H_{sc} - H)} \text{ where } K_p,$$

H_{sc} and w represent the wet bulb cooling constant, saturation humidity at the critical point and weight of bone dry solid per unit volume of drying substance respectively. The above equations will be very useful to determine from experimental data, the values of constants, whose substitution will enable the application of the equations for design purposes or for forecasting results.

Reference has been made to the equilibrium moisture content in the previous paragraph. This is a property possessed by all hygroscopic substances and represents the lower limits to which such substances can be dried under given sets of drying conditions of temperature and humidity of the air. It is directly proportional to the relative humidity of the air, bearing a certain fixed relationship to it at each stage. If plots are made of the equilibrium moisture at different relative humidities for a substance at a particular temperature, a curve having a 'S' shape, that is, having changes in the signs of curvature at two proximate points in the middle ranges of humidities will be obtained. At high humidities, the equilibrium moisture curve rises very steeply. If temperature also is varied, similar curves will be obtained for each temperature, all such curves being parallel to one another, but displaced in an inverse manner, namely, the higher curves starting at lower humidity values. The importance of ascertaining this data for tobacco leaf is evident from the manner in which the term 'E' enters into the equations for drying.

The tobacco leaf lamina is generally so thin that the amount of resistance offered to internal diffusion is not considerable and hence does not form a limiting factor in drying, although it becomes decisive as the equilibrium moisture is approached. Besides, tobacco as already pointed out, should not be subjected to a very fast rate of drying or high

temperature, as otherwise it is likely to suffer in quality. So, a proper and suitable drying rate and conditions of temperature and humidity should be selected from actual experimentation for each type, variety and quality of leaf, and entire re-drying should be carried out under these optimum conditions, if deterioration in quality is to be minimised or eliminated. It is a good practice to select a medium temperature for the drying air, and obtain variation of the drying rate by a change in the relative humidities of the air, and the number of re-circulations that the air is permitted to make through the leaf before it is exhausted. In order that temperature of the leaf does not rise locally to higher values due to radiant heat received by it from hot surfaces placed near it, the leaf especially if it is of good quality should be screened or otherwise protected. But a safer procedure would be to conduct the entire drying operation adiabatically, eliminating all sources of direct radiation so as to ensure a temperature control on the leaf. When drying is adiabatic, the leaf will assume a temperature lying between the wet and dry bulb temperatures of the air, depending on the time and manner of contact of the air with the leaf and the number of re-heats and circulations. This method of re-drying tobacco lends itself to finer controls of the process and reduces it to a strictly rational procedure. In order to be able to do this, a re-drying machine should be so constructed that it can operate on any desired ranges of drying rates and temperatures with controlled circulations and quantities of air passing through the machine.

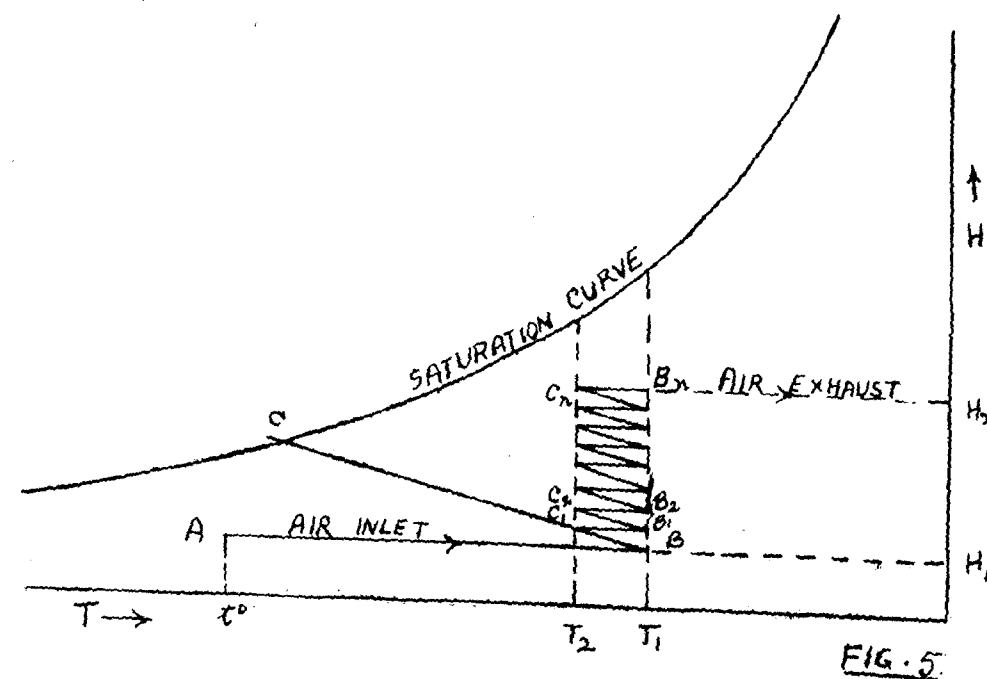
It is a well known fact that sugar turns brown due to caramelisation and this process becomes fairly rapid at higher temperatures. Tobacco leaf of good quality contains a fair amount of sugar and should therefore be protected from high temperature if browning is to be avoided. This consideration alone will re-inforce any other claim on the use of a lower temperature for re-drying on grounds of retaining quality.

It has been explained earlier that there should be turbulent flow of air to improve upon the heat

transfer and material transfer coefficients. But since the leaf is very fragile when dry, high turbulence may damage it and is therefore clearly not advisable. It also happens that the proportionate improvement in the values of coefficients with increase in turbulence tapers off above a certain velocity for air and is more or less constant over a wide range of velocities. Therefore a velocity can be chosen which while being safe for the leaf, will also possess good coefficients. Such a velocity can then be adhered to throughout the process and need not be changed. The only other variables left in the drying conditions are the relative humidity and the quantity of air used per unit weight of leaf; variation in drying rate should therefore be obtained by control of these factors, which means a machine with integrated control of quantities of air and number of re-circulations.

The mechanism of drying can now be understood in the light of foregoing explanations of the principles involved and a reference to the saturation curve etc. of Fig. 1. Fig. 5 is the same as fig. 1 and

it have a temperature of t'' and a vapour content of H_1 Lbs per pound of bone dry air. If T'' is the chosen temperature at which drying is to take place, the air has to be heated from point 'A' to 'B' so that it is at T'' temperature. If this air is brought in contact with the leaf, drying will take place adiabatically which means that the air will cool along the adiabatic line BC. C is on the saturation curve and will be the temperature to which the air will cool if sufficient time and contact is given. When point C is reached, the air has to be reheated in order that it can absorb more moisture. It is not always possible or desirable to reach point C, as otherwise the temperature variation of the drying air will be large and not conducive for the maintenance of uniform drying conditions. Instead, a point C_1 may be chosen on BC, a few degrees lower than B and the air allowed to cool along BC_1 , when it is reheated again to B_1 . From B_1 it is cooled to C_2 and this process is repeated several times as shown in the fig. 5 until the air attains the humidity at which it is set to exhaust. This exhaustion takes



a point 'A' is chosen in it to represent a particular condition of atmospheric air taken for drying. Let

method of carrying out a re-drying operation of heat sensitive materials, especially high grade

tobacco leaf. The re-drying machine should be capable of operating on this cycle, and such a machine is illustrated in figures A & B. This machine can be set at will to give any number of circulations over the leaf coupled with the quantity of air passing through it, and incorporates a patented arrangement for varying the air and its re-circulations.

After the leaf is dried, it should be cooled to a lower temperature before it is humidified. Humidification is really an exact reversal of drying, the same equations holding good under the given conditions within proper ranges, with only the sign for dW changed from negative to positive. The first thing therefore is to maintain sufficient velocity of air past the leaf in order to keep down the values of resistances offered by the film on the leaf surface. Similarly a proper temperature should be chosen at which humidification can be carried out at the safest fast rate. When these two factors are fixed, a steady rate of humidification can be maintained by blowing saturated air across the leaf and re-circulating it as in drying. Solid deposition of water particles as mist by precipitation or condensation should be avoided as it will injure the quality of the leaf apart from making humidification extremely erratic. When steam is used to saturate the air, the risk of condensation of excess steam on colder surfaces, to wit the leaves is always present and greater attention is needed to keep condensation within bounds.

An examination of what happens when steam is jotted into air is instructive to appreciate the vicious spiral it sets up. Suppose steam at some pressure is allowed to discharge through a jet into air at atmospheric pressure, then the issuing steam will become super heated and mixing with air will raise its temperature much more than it would before expansion. This rise in air temperature is aggravated very much more by condensing steam releasing its high latent heat, thereby setting up an additive reaction. A high temperature for air means a higher capacity to hold water vapour and hence a higher risk of bulk condensation or precipitation on colder surfaces. This spiral of undesi-

rable air and vapour characteristics has to be controlled by removal of the heat released by steam so that the air can be maintained at the desired temperature and saturation. The re-drying machine illustrated in fig. A & B is equipped with cooling devices to achieve this result and it ensures removal of excess vapour from the air by condensing it out away from the leaf and delivering only fully saturated air for humidification of the leaf.

The re-drying machine illustrated here incorporates in its design the results of the discussion contained in the previous paragraphs. Some of the salient features of this design are briefly as follows:

The banks of the steam heaters are placed away from the main drying tunnel so that no radiant heat can reach the tobacco leaf directly and in such a position in relation to the blower that the air flow across it is at maximum turbulence, giving the best possible heat transfer coefficient from steam to air. Another point is the suction ends of the fans are extended into the centre of the drying tunnel and a movable air collecting device is mounted on it so as to be able to position it in such a way that the air can be made to traverse through the machine in a spiral of decreasing or increasing pitch as determined by the position of the air collecting trough. The machine is in addition equipped with wire mesh bottomed trays which can be arranged to travel in single or double tiers through it. These trays which are loaded at one end and taken out at the other, will make it possible to arrange good quality leaf in the best desired manner as the loading or arranging of the leaves can be done away from the machine under full supervision. Another point is that the humidifying section of the machine is fitted with equipment similar to that of the drying side, but with cooling coils instead of heaters, through which water is circulated to maintain the humidifying air at the required temperature and to minimise the condensation of any excess steam on the leaf inside the tunnel.

It has been observed in the course of this article that the results of several experiments conducted on different types and varieties of tobacco leaf, point to the conclusion that the physical characteristics vary from type to type and from grade to grade of the same type, so that particular values for the individual and overall physical constants for each type and grade have to be obtained for guidance. This indicates that it is essential to carry out experimental work with pilot plants, especially when dealing with high grade tobaccos, in order to ascertain their drying constants and to afford them a proper re-drying under conditions optimum for these constants. This rational pro-

cedure is not only necessary but highly essential to conduct re-drying in a safe manner, ensuring the preservation of the high quality of the leaf. These considerations will lead one to the conclusion that a suitable schedule of re-drying requirements for each grade, variety and type of leaf should be ascertained before hand and the re-drying machine set to operate on this schedule. Since the schedules are different for each variety, the re-drying machine should have flexibility and be capable of being adjusted to work on any drying schedule of temperature, drying and humidification rates, and air flow. The new design for the machine is calculated to meet these requirements.

Tobacco Crop Contest in Mysore

By

M. L. SUBBANNA

*General Manager, The Mysore Tobacco Co., Ltd.
and Member, Indian Central Tobacco Committee*

VIRGINIA Flue-Cured Tobacco is a short-term cash crop which comes in handy to the farmer. As practised in Mysore, it goes with paddy in rotation which is greatly appreciated because, paddy coming after tobacco yields better. It is clear from this that, tobacco instead of impeding "Grow More Food," campaign, increases the production of food.

Tobacco cultivation and curing are in the nature of an agricultural cottage industry. Any encouragement given to this activity makes for the prosperity of the farmers. A good crop in the field is a first step in the production of good cured leaf. If the crop is neglected in the field, the entire industry suffers. Tobacco is a very sensitive crop and all the care and attention of the farmers are needed for its cultivation.

A scheme was launched by the Mysore Tobacco Co., Ltd., to induce the farmers to apply themselves intensively to the cultivation. In order to secure their whole-hearted cooperation in the activity, it was announced that 80 prizes would be awarded to them.

The Company realised that, without the unstinted co-operation of the farmers, tobacco enterprise would be a failure. In this agricultural cottage industry, the growers played a very important part. In fact, in this venture, they form, so to say, the first line of defence. If the crop is good in the field, half the battle is won and we are sure of the curing results in our barns.

Virginia tobacco cultivation in Mysore State is done entirely under the auspices of the Mysore Tobacco Co., Ltd.,. The farmers grow virginia flue cured tobacco under an agreement with the Mysore

Tobacco Company Limited. They are supplied with seedlings and manures for the crops in the field. There is a special field establishment to look after the fields. They give them practical suggestions for the cultivation of the crop. The green leaves as they mature, are picked and supplied to the Mysore Tobacco Co., Ltd., on the instructions of the field staff. The green leaves are purchased outright at a reasonable price fixed at the beginning of the year. The Company has 250 barns spread over 18 centres in the State, each centre having 10 to 20 barns. The green leaves are cured by the Company in their own barns.

With a view to build up the yields in the fields, the incentive scheme was started. The farmers earn more by intensive cultivation. Our accounts reveal to us that many farmers have earned more than Rs. 800/- to Rs. 1000/- to an acre in three months which, to say the least, is a very high income from an agricultural produce.

The Company maintains regular accounts of the individual farmers who supply their green leaf. At the end of the season, the accounts of all farmers are compiled and money due on their green leaf paid to them. The highest paid on the basis of acreage is adjudged the successful farmer. Four prizes to each of the Centres are awarded with a view to encourage intensive cultivation in each area around the centres. This would focus the attention of farmers individually on his cultivation.

As a result of their co-operation, the Company produced 2.4 Million pounds of cured leaf in an area of 3000 acres—800 pounds of cured leaf to an acre is a fairly high average in India and our profits were a record in the entire history of the

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Company. The Company has been paying a dividend of 10 per cent for the past 3 years which is a unique event in the history of the Company.

Besides the tobacco growers who supply green leaf to the Company, we started giving encouragement to private curers. Material aid was freely given to farmers who desired to build their own barns and cure their green leaves in them. This is a new venture which the Company has undertaken with a view to spread this agricultural industry in the villages. A field station was inaugurated by the Minister for Industries at Gorihidnur for stacking all the materials required for this work. Prizes to the best curers among the private curers were also instituted. Special personnel was posted to help them in their operations of cultivation, picking and handling of green leaf and curing them in the barns.

We realised that the prosperity of the farmers is inextricably connected with the prosperity of the Company. This incentive scheme has made the tobacco venture a popular one among the farmers and they are whole-heartedly cooperating with the Company.

The Company is a sort of a regulated marketing society through which the farmers can sell their produce at a reasonable price. There is no question of exploiting them by the Company. A fair deal is assured to them in all the transactions.

At the end of the season, a prize distribution ceremony was organised at Maddur on 5th July 1953. The Hon'ble Sri K. Hanumanthaiya distributed 80 prizes to the successful farmers. There was a huge gathering of the farmers and the function was a great success. Messages from Ministers and the Secretary, Indian Central Tobacco Committee were received. I close the article with an extract from the message of the latter.—

"I could not help remarking that your Company deserves compliments for organising this function, the first of its type in India as far as Tobacco is concerned, and giving a lead to others interested in the development of Indian Tobacco Industry. You will be glad to know that the Indian Central Tobacco Committee has also decided to organise similar contest to give a fillip to the tobacco growers to adopt scientific methods of tobacco production and curing for the ultimate improvement of their lot and Mysore will be one of the areas for conducting the contest.

Being quite suitable for tobacco production of good quality, both from view-points of soil and climate, perhaps, it will not be wrong to say that with due encouragement, Mysore might become a leading State in producing and exporting high class tobacco.

I wish your function a success."

How the First Tobacco Seed was Brought to Pennsylvania

— *An Indian Legend*

HAD not an attractive Indian princess of long ago used her charm to distract the priest of a neighbouring tribe, the Pennsylvania tobacco fields might never have been, if there is truth in Indian legends related by Dr. Anthony Benezet, first historian of the Pennsylvania Folklore Society State Museum, in Harrisburg.

"It is well known that the Indians cultivated the American variety even before the time of Columbus", stated Dr. Benezet.

"With them, tobacco was used as a sacred incense or as the guarantee of a solemn oath in nearly every important function—in binding the warrior to take up the hatchet against the enemy, in ratifying the treaty of peace, in confirming sales or other engagements, in seeking omens for the hunter, in driving away witches or evil spirits, and in regular medical practice. It was either smoked in the pipe or sprinkled upon the fire, never rolled into cigarettes, as among the tribes of the south-west, neither was it ever smoked for the mere pleasure of the sensation.

"Of late years, white neighbours have taught the Indians to chew it, but the habit was not aboriginal. It is called *tsalu*, a name which, has lost its meaning to the Cherokee language, but is explained from the cognate *Tuscarora*, in which *charhu*, 'tobacco,' can still be analyzed as 'fire to hold in the mouth,' showing that the use is as old as the knowledge of the plant.

"The tobacco originally in use among the Cherokees, Iroquois, Delawares, Stockbridges and other eastern tribes was not the common tobacco of commerce (*Nicotiana tabacum*), which has been introduced from the West Indies, but the *Nicotiana rustica*, or wild tobacco, distinguished by the older Indians as *tsal-agayun'li*, 'old tobacco'.

"Its various uses in ritual and medicine are better described under different headings. For the myth of its loss and recovery, the legend: 'How They Brought Back The Tobacco,' gives it very well. The cardinal flower (*Lobelia*), mulelin (*Verbascum*), and one or two related species are called *tsaliyusti*, 'like tobacco', on account of their general resemblance to it in appearance.

"In his letters from the Allegheny Mountains, Dr. Charles Lanman tells the Indian tobacco myth as he obtained it in 1848 from Chief Kalahu. In the Kalahu version, the story is connected with a gap in the Alleghenies six miles east of Lock Haven.

"Captured and wandering Mohawks passing the West Branch Valley were anxious to take the seeds of the old tobacco to Northern New York and Canada. 'You may use the plant while here, but you cannot take any of the seed or plants' was the word of the Delaware chieftain's council.

"Those who have ventured earlier into the more southerly regions, and were prevented by wounds or ill health from returning, had learned to inhale the plant and pleaded with the trading parties to bring them seeds or growing plants.

"The Pennsylvania Indians guarded the stock so carefully they could not get hold of any. The wise men of the Mohawks put a spell on the chief's son and he became a mole who burrowed into the seed bed and was coming out of his burrow with his mouth full of seeds when a Lenni Lenape high priest passing by saw him as a human being, and not having his disguise crushed the image to death with his foot. The oldest daughter of the chief came as a small bird, but the priest seeing it, struck it down as it was flying slowly gorged with seeds.

Tobacco Miscellany

How The First Tobacco Seed was brought to Pennsylvania

"Distressed, the chief determined to make more effort, to let his favourite daughter come, as herself, and try to escape destruction. Came Princess Talahawi, the 'bringer of sweet tidings', and she managed to walk through the tobacco beds, holding a number of seeds between her toes. The priest of the Leni-Lenapes saw her as herself and as it was intended to be, fell violently in love with the young sprig of Mohawk royalty. He did not question her as she passed along the trail, but he watched her with enamoured eyes.

"She walked slowly and with proud dignity out of his presence and started for a secret hemlock-hidden spot on Lick Run (now Clinton County), where she paused and worked the precious seeds of the 'old tobacco' from between her toes and put them in a sacred sack of panther skin which she wore over her heart.

"Then she started on the long journey to the Mohawk Valley, where the seeds were planted in sound ground, every one of them taking root and thriving. The maimed and the sick had all the 'real' tobacco they needed after that, a great want had been fulfilled by her mission in Pennsyl-

vania. After that she was called Soula Talahawi, 'the producer of goodness'."

Dr. John Wittthoft, Indian expert at the State Museum, says that while the pipe smoking of tobacco originated in eastern North America, the first cigars came from Central America, snuff taking in eastern South America, while chewing tobacco was from Peru. Cigarette smoking originated in Napoleon Bonaparte's Egyptian campaign, he says, when it was hard to secure pipes, though tobacco was plentiful, causing the soldiers to roll tobacco inside of cartridge papers and the fad shortly spread to Europe.

Smoking first came to England and the Mediterranean countries through sailors, and it was taken up by the marines and later by foot soldiers, and soon became a fad with private citizens.

The earlier Pennsylvania German pioneers smoked with the Indians, which made them become good friends, and tales of exchanging pipes and tobacco still lingers among old people as an interesting memory of early Pennsylvania folklore and history. —From "U. S. Tobacco Journal," Aug. 24, 1953.

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Samples on application.

1. Soil Conditioner aids Production:

A Chemical Company announced in Lexington (USA) that its Krilium soil conditioner, when applied to plant beds in which tobacco seeds are raised to the seedling stage, produces healthier plants and reduces growing time.

Krilium, marketed at 10 pounds for 25 \$—enough to treat 200 sq. ft. of tobacco seed bed—keeps soil in a loose, crumbling state, making it easier for germinating seed to rise through the earth and permitting seedlings to be transplanted without the loss of their root hairs as occurs when they are pulled through solid soil.

The Company said that the synthetic soil conditioner will enable growers to plant tobacco as much as 10 days earlier.

—U. S. Trade Journal 31-8-53.

2. Controversy over oil for Suckering:

U. S. Government tobacco plant pathologists are not yet prepared to say whether or not the oil treatment for the control of suckers is either good or bad.

Experiments are continuing at the Chatham experimental station. In some cases, mineral oil has been found to control suckers while in others, harm has been done with the plants "burning".

The belief is that, if used in moderate quantities, certain kinds of oil or oil emulsion are good, but that, over dosage does more harm than good.

—Tobacco N. Y. 9753.

3. U. S. Tobacco Revenue:

Tobacco taxes in the U. S. are estimated at 2,150 m.; over three-quarters of this goes to the

Federal Government and the rest to 41 States which tax tobacco. More than nine-tenths of the tobacco tax receipts come from the Federal tax of 8 cents per package of 20 cigarettes. As the law stands, the tax will revert to 7 cents on Apr. 1, 1954. U. K. revenue from tobacco duty for the financial year 1952-53 amounted to £ 605 m. equivalent at the present rate of exchange to \$ 1,750 m. Taking into account the difference in population, tobacco taxation is nearly 2½ times as heavy in the U. K. as in the U. S. A.

—Commonwealth Producer—July-Aug. '53.

4. Enough Cigarettes for all the World:

Production of cigarettes in the U. S. last year broke all records; a total of 435,500,000,000 was manufactured—nine-tenths for home consumption. This total would be enough to supply every man, woman, and child in the World with about 200 each.

—Rhodesian Tobacco Journal, June, '53.

5. Concession to old:

A Government concession allows 2,200,000 old people in Britain to buy tobacco at reduced prices.

—Rhodesian Tobacco Journal—July '53.

6. How much they smoke:

Americans are the heaviest smokers in the World. Consumption per adult is over 10 lbs. per year, compared with 6 lbs. in Britain, and between 6 and 8 lbs. in the main countries of the Continent (except Holland) and the Commonwealth. Dutch consumption is 9 lbs. per year. China is about 200 per year.

—Rhodesian Tobacco Journal—July '53.

7. Salaries paid in kind:

The use of cigarettes as currency in parts of Europe after the war was not the first time that

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tobacco had played this role. Before the American Revolution, leaf tobacco was used as currency in Virginia, where it was the mainstay of the Colony's economy. It is recorded that the salaries of school teachers there, were about 8,000 lbs. of tobacco per year.

—*Rhodesian Tobacco Journal—June '53.*

8. Trade in Cigarette Butts:

Cigarette butts are the source of a thriving trade in Rome. They're being collected and sold so that the remaining tobacco can be made into full length cigarettes again. The Government condemns the illegal practice, for the butts are both germ-ridden and contain concentrations of nicotine, but the collectible portion of 20 tons of butts discarded daily in Rome alone bring upto \$ 2-50 per pound.

—'Tobacco', N. Y. 27-8-53.

9. Specially made for Proud Fathers:

American custom demands that, as soon as a proud father's uneasy vigil in the maternity home waiting room is over, he shall carry the glad tidings to his friends, at the same time passing round the cigars. To make the custom easy to observe, a U. S. manufacturer has introduced a special brand of cigars in packages announcing the

happy event and even answering the inevitable question, "Boy or Girl"

—*Rhodesian Tobacco Journal, July '53.*

10. Tobacco as Defence Against Plague:

During the Great Plague of London in 1665, many doctors recommended smoking as a defence against the disease. It is said that, during this epidemic, the boys at Eton College were required to smoke in school every morning under the supervision of a master and were soundly whipped if they failed to do so.

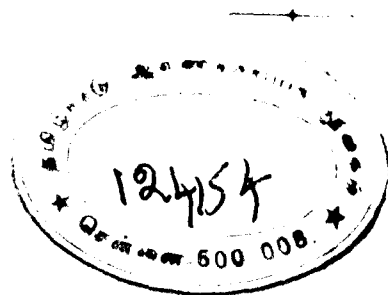
—*Rhodesian Tobacco Journal, June '53.*

11. Cure of the Habit:

Smithers was feeling off colour and consulted a doctor. The doctor examined him and said "All that's wrong is that you smoke too many cigarettes. Here's a way to cure yourself of the habit. Whenever you light a cigarette, put a stone in your pocket. Soon the discomfort of carrying the stones about will cure you."

Smithers nodded and departed. Three days later the doctor received a postcard from his patient. "Dear Sir", it said, "I'm following your advice, but I look darned funny pushing a wheelbarrow!"

—*The Canadian Tobacco Grower, Aug. '53.*

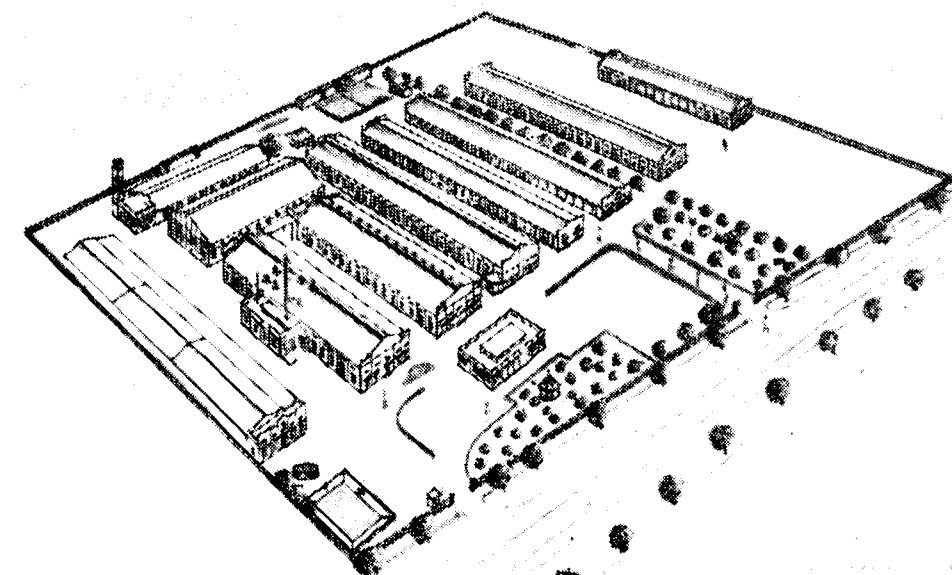


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