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U. S. DEPARTMENT OF AGRICULTURE.

Report No. 59.

CURING AND FERMENTATION
OF
CIGAR LEAF TOBACCO.

BY

OSCAR LOEW,

OF THE

DIVISION OF VEGETABLE PHYSIOLOGY AND PATHOLOGY.



WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1899.

the 1990s, the number of people in the UK who are aged 65 and over has increased by 1.5 million, and the number of people aged 75 and over has increased by 1.2 million (Office of National Statistics 1999). The number of people aged 85 and over has increased by 0.5 million.

There is a growing awareness of the need to develop services to meet the needs of the ageing population. The Department of Health (1999) has set out a strategy for the future of health care for older people. The strategy is based on the following principles: (1) to ensure that older people have access to the services they need; (2) to ensure that services are of high quality; (3) to ensure that services are cost-effective; (4) to ensure that services are accessible to all; (5) to ensure that services are sustainable. The strategy is based on the following assumptions: (1) that the needs of older people are different from the needs of younger people; (2) that the needs of older people are changing; (3) that the needs of older people are increasing.

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LETTER OF TRANSMITTAL

U. S. DEPARTMENT OF AGRICULTURE,
DIVISION OF SOILS,
Washington, D. C., February 19, 1899.

SIR: In accordance with the recommendation in my annual report for 1898, approved by you, and the authorization of Congress, a comprehensive line of tobacco investigations, to extend and supplement the tobacco soil investigations of the Division of Soils, has been undertaken. The work includes the mapping of soil areas, studies in fermentation, improvements in breeding and selection, investigations of the conditions of growth and manipulation in foreign countries, and the question of supplying tobacco to foreign markets.

In examining and classifying the soils of the principal tobacco districts of the United States certain facts developed in regard to the commercial value of the crop from certain soils which could not be clearly understood or explained without a further investigation of the methods of curing, fermenting, and handling of the tobacco, and possibly also of breeding new varieties. Only in this way could the full value of the soil work of this Division be shown. As soon as it was definitely determined that the work could be undertaken, I requested the Chief of the Division of Vegetable Physiology and Pathology to detail an expert to investigate the curing and fermentation of tobacco, this work naturally pertaining to his Division. In accordance with this request Dr. Oscar Loew was detailed to carry on the investigations, and at once went to Quincy, Fla., where he spent some time during the fermentation season.

Other Divisions have also been asked to cooperate in a similar manner in other phases of the comprehensive investigation. In view of this extensive cooperation it is proposed to issue a series of reports on tobacco investigations, to which all the Divisions of the Department may contribute matter pertaining to the subject.

Dr. Loew's discovery of the real cause of the fermentation of cigar tobacco, as remarked by Mr. Galloway in submitting this report, can not fail to prove of great scientific interest and economic value, and will unquestionably modify the methods of curing and fermenting when the investigation has been carried further and the conditions and principles of the process are better understood.

This treatise, which is more or less technical, will be followed by a more popular one giving the substance of Dr. Loew's investigations in connection with some temperature studies which have been made in the fermenting piles of tobacco in Florida and Connecticut. I respectfully recommend that the manuscript herewith submitted be published as Report No. 59 of the Department.

Respectfully,

MILTON WHITNEY,
*Chief of Division,
In Charge of Tobacco Investigations.*

HON. JAMES WILSON,
Secretary of Agriculture.

LETTER OF SUBMITTAL.

U. S. DEPARTMENT OF AGRICULTURE,
DIVISION OF VEGETABLE PHYSIOLOGY AND PATHOLOGY,
Washington, D. C., February 19, 1899.

SIR: I respectfully submit herewith the manuscript of a bulletin prepared by Dr. Oscar Loew, of this Division, on The Curing and Fermentation of Cigar Leaf Tobacco. The work on tobacco has been carried on in accordance with the plan of cooperation recommended in your report to the honorable Secretary of Agriculture for 1898. The investigations have involved bacteriological, chemical, and chemico-physiological studies, and the interesting results obtained will, it is believed, open the way for further work along important lines.

The chemical work has been carried on in the laboratory of the Division of Chemistry, and we are greatly indebted to Dr. H. W. Wiley, the Chief of that Division, for facilities furnished. At Quincy, Fla., Dr. Loew received much information and valuable assistance from Mr. Henry Storm and Mr. W. M. Corry, second vice-president and general manager, respectively, of the Owl Commercial Company, which has a very large tobacco plantation at that place and which has done more than any other agency in developing the tobacco industry in Florida. We wish to express our thanks to these gentlemen for their kindness.

Respectfully,

B. T. GALLOWAY,
Chief of Division.

Prof. MILTON WHITNEY,
*Chief, Division of Soils,
In Charge of Tobacco Investigations.*

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