

As the existing set of standard weighing and measuring instruments of New Zealand has been in use for many years and requires renewal, a complete set has been ordered from England and should reach New Zealand before the new Act comes into force in January next. An idea of the extreme accuracy and delicacy of the departmental instruments may be gauged from the fact that a postage-stamp placed on one side of the 56 lb. balance will immediately bear that side down. The value of the complete equipment of New Zealand standards is probably about £1,400. In addition to these each branch of the Department has its working standards and field equipment.

The reciprocal arrangement with other countries has been continued during the year. A regular exchange of notes regarding new legislation or new appliances or devices is maintained, and is most useful in that it tends to bring about uniformity of administration, and in preventing the dumping into any country of weighing or measuring appliances that have been condemned by any of the authorities.

LEAD POISONING.

Regulations for the protection of persons employed in New Zealand in the mixing of lead for paints and in the painting trade were gazetted in August last. These regulations had been agreed to by a conference comprising officers of the Health and Labour Departments, and representatives of manufacturers, importers, master painters, and workers employed in painting as well as in paint-mixing factories. The administration is in the hands of this Department in conjunction with the Health Department.

Although the subject of lead poisoning has again received much attention in several European countries during the year no great move forward has been made in regard to restricting or prohibiting the use of white-lead. A White-lead Poisoning Bill was introduced in the British Parliament during the year, but has not been passed. This proposed the control of the use of lead by regulations. The Home Secretary stated in the course of the discussion that the advisability of prohibiting the use of white-lead was in doubt because the substitutes found were not very satisfactory, and British experts had advised that the danger could be largely overcome by regulations. He recommended that regulations should therefore be given a trial.

It is generally agreed that the chief danger of lead poisoning is due to lead-dust in both the mixing of paint and in its use on buildings. The regulations adopted in New Zealand aim at removing this danger by providing for efficient exhaust ventilation in mixing-factories, and for washing-facilities, suitable overalls, and general cleanliness. In addition, the dry rubbing-down of paint on buildings is not now permitted. The measures to be taken when poisoning by lead is suspected are also prescribed. The Medical Officer of Health may require an employer to cause any person employed by him in the use of lead to submit himself for medical examination, and where the danger of lead poisoning is considered to exist the Medical Officer may suspend the person concerned from employment. The Health Department is at present carrying out interesting diagnostic tests by examining the blood of workers engaged in lead processes. Experience shows that changes in the blood may be seen long before the usual externally recognizable symptoms of disease show themselves. This method has the advantage of being easily carried out and involves no interruption in the day's work while a test is being made.

The question of finding suitable substitutes for white-lead has continued to receive attention in England, France, Austria, and other countries. The matter is, however, intimately tied up with economic conditions and international trade policies, and consequently little headway has been made. Whilst the question has not been definitely answered the present tendency of opinion shown in the reports is that, for interior work at any rate, zinc paints are as good as lead paints. Meanwhile the tests instituted by the Department in New Zealand as mentioned in last year's report have been continued. It was then stated that at the end of the fifteen months since the dwellings were painted the zinc compound had shown greater durability than ordinary white-lead. This result has not, however, continued through the second year, a further examination having disclosed that the lead paint is proving more durable—see particulars below. These comparative tests were instituted for the express purpose of testing the values of the two kinds of paint; they were carried out on several houses adjoining one another, and therefore subject to the same climatic and other conditions. Further examinations will be made from time to time.

House No.	Painted with	Condition.		Cost of Painting.
		June, 1925.	July, 1926.	
1	Three coats white-lead (carbonate of lead)	End of twelve months, good, slightly inclined to rub off	The paint is chalking, but is not cracked or peeling; colour good	£ s. d. 13 1 3
2	One coat compound zinc upon two coats carbonate of lead	Good	Paint cracking and colour fading	15 8 6
3	Three coats zinc compound	Good	Bad condition; paint cracking, also rubbing off; colour fading	16 1 10

The method of applying paints containing soluble lead and other poisonous substances by means of spray-pumps is also receiving the attention of this Department, together with the Department of Health. Spray-pumps are used largely in the motor-body and coach-building trades, and it is hoped that the attendant risks may be largely overcome by confining the work to special rooms set apart for the purpose and by providing proper ventilation.