

During the time it was under control, that expert showed a saving of 25 per cent. At the end of a year's working under these conditions they had a saving of about a penny per ton of sugar manufactured. They bought the oils specified by him. The great difficulty experienced prior to that was that the people selling oils were not very definite in their answers to the questions put to them. It would be a step in the right direction to have a control period for a specified time by given suppliers of oils. The trouble is that they have not got engineers with expert knowledge to give their experience here. There are one or two companies who have experts in lubrication, and if the millers could avail themselves of that expert experience it would show a considerable saving in the costs of lubrication.

Mr. W. P. Tucker stated that in the factory he was connected with they used grease in every part, with the exception of high-speed dynamo shafting.

Mr. H. Armstrong considered that it was not necessary to get the oil companies to send experts. It was the duty of the engineers. Each engineer should be competent to control the oiling. That system had been carried out at his factory, with the result that they had reduced the lubrication cost from  $2\frac{1}{2}d.$  to  $1\frac{3}{4}d.$ , due to the work of the engineers alone.

Mr. Malcolm stated that in the Old Country, where there is a considerable amount of lubrication required, they have a supervisor, a man who is responsible for the oiling of the plant. He sees that the quantity of oil is issued, and that it is properly applied. We may have cheap labour in the Indian,

but until we have Bowser tanks with a graduated gauge, there should be white supervision. It would pay the mills and refineries to appoint a white supervisor to look after the lubrication. The saving effected would more than pay for the wages of such supervisor.

Mr. Wilson, in congratulating Mr. M'Master, referred to the wastage of oils. During a voyage from Scotland to London, they passed a very palatial dwelling standing on the coast, and on enquiring from the chief engineer he was informed that it belonged to Colman of mustard fame. He remarked that there was evidently a lot of money in mustard, when the reply was made that it was not the money that was made from the mustard that is eaten, but what was left on the plate! The same thing applied to oil; it was not the money lost on the oil used, but on the oil wasted. At the refinery he was connected with, in 1920 they put in a filter to deal with waste oils. Their consumption was about 150 gallons of engine oil, 30 gallons of cylinder oil, and 100 lbs. of cup grease. After collecting the waste and filtering it, the consumption dropped in 1921 to 88 gallons of engine oil and 20 gallons of cylinder oil per month, which was a very big saving.

Mr. M'Master remarked that on the Windsor Castle, which has a colossal quantity of machinery, they had got the return system to such a fine art that the total quantity of oil used was somewhere about six gallons per day.

The Chairman thanked Mr. M'Master for his very interesting paper.

## Labour Rations from the Economical Aspect.

(Paper by Mr. S. B. EDWARDS, Buying Department, Messrs. David Fowler & Co., Ltd.)

The Natal Coast Labour Recruiting Corporation has recommended a food scale for natives, which has, I believe, been brought to the notice of everyone concerned. The question of rationing is one of the greatest importance, and one to which special attention should be given. Wrapped up with this is the economical side of the purchasing of the rations to be distributed. This necessitates advance knowledge of requirements, and careful watching of the markets, both here and overseas, as supply and demand are serious factors.

Under normal conditions contracts are recommended, but should be placed when the markets are easy and in full supply, not early or late in a

season. Export trade is growing and is commanding the serious attention of the farmers, and your costs here are mainly governed by this.

This season's crops are expected to be very large, and are some three or four weeks earlier than normally, and reaping of maize will be accelerated on account of the high prices ruling.

Outside of contracting, it is perfectly feasible to buy direct from the growers in bulk in the early and mid-season periods, but this entails storage facilities and some considerable outlay, as terms are cash against rail receipts; this is therefore more a question for the consideration of the big consumers. With forward purchases of this nature it

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is wise to remember transport, and railage delays, and the fact that a percentage of such purchases do not materialise. I do not advocate anyone buying against requirements, i.e., following the market for a decent average, unless they are prepared to jump in when the market is low, for quantities, and to store. The soundest method is, if you do not contract for your full requirements, to provide for 75 per cent. and take the risk for the balance.

**Maize, Maize Meal and Products.**—Leaving No. 1 out as a show grade, the staple is No. 2. No. 3 differentiates only 5 per cent. in the matter of defective grain from No. 2, and as most No. 2 meal is made from Standard 2 and 3 grade maize, those who crush for their own requirements would do well to remember that threes rule 6d. less than twos. If you buy a truck of twos, you will almost certainly get some bags of threes, and unless you have them graded at your own expense you cannot claim the allowance. It has been common to feed with twos, but it is a proved fact that sixes (round yellows) are the best for this purpose, with fives and threes not very far below, and feeding with these admittedly better grades gives a relative saving in cost of from 1s. to 6d. a bag. It is of interest to note that last year sixes ruled considerably higher than twos overseas, and this year twos are about 7s. higher than sixes locally. Your early maize comes from the Southern Transvaal (Coast maize is not a grade). Natal is rather later, and is usually the first sold out, carrying a preference of 6d. per bag as against Transvaal grain. The Free State crop mainly finds its way into the traders' hands, and is usually held up. Requirements can always be bought cheaper for immediate railing compared with a contract average, for in contracting suppliers have to cover forward and bear interest and storage charges, which items are reflected in the price.

Undoubtedly the worst periods for supplies lie between November and May. All enquiries for supplies should be made competitive, and this competition secures the consumer a very fair price when above-mentioned items are taken into consideration.

Another point to be considered with reference to contracts is, whether you require the same quantity every month throughout a given period, or is there not a time when your labour, and your feeding decrease; if so, do you allow for this change? Other maize products I need not touch on.

**Bran.**—Wheat bran is made from the tailings of the flour mill, and is a very good food. There is, however, a mealie bran on the market of poor feeding value, and it would be as well, when ordering, to define your exact requirements.

**Ration Flour.**—This is made from wheat, and ranks roughly as a third-grade flour.

**Rice.**—Opinions vary on this question. When Nagra (the Calcutta rice) ceased to be available in October, 1919, the Indians did not at first take too kindly to Saigon white rice, which was introduced in replacement. It came to a set standard, which was well maintained. This year it has been somewhat damaged owing to floods, and is rather yellow.

Rangoon parboiled appeared in 1921, and from its first shipment gave satisfaction; it kept a good standard and was rather cheaper, but supplies finished early.

Last year Nagra again became available, and although price was high Calcutta shippers secured orders, but a large proportion of the shipments was dirty, mixed and badly broken.

Last year there also appeared a so-called Singapore rice, parboiled and somewhat smelly; this, it is believed, is a field Siam rice of varied age, left over probably after the repatriation of the coolies from the rubber plantations, or is a newly worked-up trade. It is quite acceptable when free from smell. This season Rangoon parboiled is excellent, and has ruled the cheapest (outside of a mixed ration rice), with Nagra and Singapore next, and Saigon the dearest. It is advisable, therefore, to stick to Rangoon quality until Calcutta sets a standard for Nagra, and brings down its price considerably.

Madagascar rice, with its difficulties of shipping facilities, variation in quality and irregular packings, is not comparable with the Indian-grown products. I emphasise to importers that it is advisable to conclude their importations for the season, at latest, by August/September shipments.

**Dholl.**—This line now requires a little more attention, as there is an inclination to mix in with Arhar dholl a very low-grade quality known as kasari, which does not cook up well.

**Beans.**—Natal produces a small early crop of reds and yellows in February, and a main one April/May, with Canadian wonders May/June. Transvaal, small whites and jugo; and Free State, large whites June/August, with cowpeas and peas April/June.

Last year the large white beans were the most expensive, but this season have been the cheapest. Canadian wonders always command the best price. You will see from the position of the seasons, that after August the country relies on stocks, and usually the supply has run far short of the demand, with prices always on the increase. This season, however, some estates agreed that a limit had been reached at 32s. to 35s., and orders were placed for Rangoon hand-picked beans; the first shipment showed a saving of 10s. 4d., and the last 9s. 9d. a bag.

These beans are very similar to our small whites, but of a fatter type, and, being hand-picked, are all good grain; the fair average quality was even considerably better than the average here. This source

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of supply is open throughout the year. Madagascar large flat whites were also imported and resulted in a saving, but here again one has to contend with shipping difficulties, and no standards or regular weights.

This, I think, covers your main requirements; samples of all ration and feeding lines are here for inspection.

Storage.—I think that this has not received the full attention of everyone. Good dry and airy storage is essential if rations are to be kept sweet. Concrete floors attract damp, and dunnage should always be laid down. All rations should be used strictly in rotation; it is hopeless to expect them to keep in the best condition unless this is done. Consumers are strongly advised, where such a course is possible, to ask for fortnightly, and not monthly,

railings of their requirements, and this applies particularly to meal. The railway rate leaves this quite easy of attainment, as over two bag lots travel at the per ton rate. There is a term in use, "By urgent goods." There are no urgent goods trains; small lots are held until truckloads are made up for that particular area.

In conclusion I would say to the planters, who are not naturally as big buyers as the estates or millers, that there should be some way in which, by co-operation and centralising your requirements, you can purchase your produce far more economically than you do. Quantity always induces a keener price; and so I suggest you consider this suggestion most seriously, for situated as you are at a distance, it is not possible to watch the markets or feel their tendencies so closely as one in constant touch on the spot.

## Labour Losses and Unscientific Rationing.

(Paper by G. A. Park Ross, M.D.; D.P.H., Asst. Health Officer for the Union.)

I have to thank your Secretary for an invitation to take a small part in this Congress, and it seems to me fitting that notwithstanding the obvious medical bearing of my subject I should endeavour to emphasise its economic side.

Commerce and farming seem to an outsider, like myself, to consist largely in an effort to squeeze the biggest margin of profit out of one's undertakings, or when there is no profit to be squeezed out, to try at least to make ends meet.

You give the most careful consideration to that side of your business which concerns machinery, manures, diseases of cane, etc. But what about the biggest bill of all—the labour bill? Have you gone properly into the question of effecting economy there? I think not. I will be perfectly blunt, and state that the sugar industry lies far behind the mines when it comes to an intelligent consideration of the factors which make for economical labour.

Your native should be doing one of three things. He should either be at work, on leave, or ill. Whether he is at work or whether he is ill you have to pay him, and payment during illness is loss. Do you know what your monthly loss by illness is? I have not yet been on one estate where information as to the number of days laid off by illness in a given month was forthcoming at the office, and the actual loss in figures. In other words, no one has taken the trouble to find out and tabulate what his gross monthly loss by illness is.

Hospital bills are shown me either as an illustration of what illness has cost, or as often to demonstrate how solicitous the employer is for the welfare of his labourers. They leave me cold, and for either purpose they are quite useless. The illness costs I want to see must include those days lost by natives lying about barracks getting bad enough to justify hospital treatment. Further, when hospital treatment is afforded, it often seems to take an extraordinarily long time, and the result is heavy bills which you have to pay.

Now I am not going into the question of lack of prompt treatment at your barracks. Your trouble in a great many cases goes further back, and is concerned with rations, and your present rationing, considered from my point of view, is hopelessly uneconomical.

You are driven to employ recruited labour mostly from Pondoland and the Transkei. Much of the labour you recruit is human trash, being mine medical rejects and derelicts you know would never pass a medical man. If you think you save money by taking on recruits who would not pass a medical examination we agree to differ, and you find yourselves committed to treat invalids whom you should never have employed.

There is a further difficulty. Many of the Pondoland and Transkei boys will not leave home until driven out by starvation. The great bulk of such labour, if not actually suffering from scurvy, has a scorbutic tendency.