

As to why Bordeaux mixture should have the effect of encouraging mealy bugs no positive reasons have yet been detected, but it is surmised that the mealy bugs have increased on sprayed vines because Bordeaux mixture kills certain Fungoid enemies of the bug which usually keep it under control. This supposition is strengthened by the experience of various observers in other countries as to an exactly similar effect on the increase of Scale insects by a spray of Bordeaux mixture. For instance, Withycombe in an article on "Recent progress with insecticides"—Tropical Agriculture. Vol. 1 No. 8 August 1924—makes the following remarks regarding Bordeaux mixture: "*Bordeaux mixture* is commonly considered as a sovereign remedy for all evil . . . The correct application is against rots, mildews and other Fungi. Against insects it has little or no killing power and it may sometimes even favour an increase of the pest. Such frequently appears when scale-infested trees are sprayed with this mixture. The scale insects increase instead of decreasing in number The probable reason of failure is not far to seek. Scale insects are controlled in nature to a large extent by certain insect-destroying fungi and especially in humid climates, are these beneficial fungi of importance. Bordeaux mixture by virtue of its fungicidal properties, arrests further spread of the insecticidal fungi and thus scale insects are allowed to multiply unmolested by their fungal enemies. . . ."

It is proposed to pursue the subject further during the coming season and devote some attention to find out how exactly the Bordeaux mixture favours the increase of the Mealy Bug.

Further progress in regard to control methods against the 'Pollu' Fleabeetle would thus appear to pivot on the question of the control of the Mealy Bug and the problem on hand serves to show how complicated the question of remedies really is and how interdependent the various factors in any problem are.

EXTRACTS.

Agriculture in Czechoslovakia.

BY DR. VLAD BRDLIK.

A 6 year old republic. The present country of Czechoslovakia was carved out of the old Anstro-Hungarian Empire when it broke up in 1918. This republic has an area of 54,240 square miles and contains a population of 13,612,172 souls. In the eastern provinces of Slovakia and Carpathian Ruthenia, 62 per cent of the population is agricultural while in the western industrialised provinces of

Bohemia, Moravia and Silesia, the agricultural population is only 31 per cent. Agricultural production per unit of area is lower in Slovakia than in the western provinces where agriculture is more extensive but per capita production is higher. On the other hand, Slovakia and Ruthenia are an important market for the industrial products of the other provinces. During the war, little Chili salt-petre or superphosphate was imported and supply of stable manure became short due to the military requisition of cattle. The biological potency of the soil and the animals was reduced, so much so that in 1918-19 the decline in agricultural production compared with the pre-war returns was estimated at 40 per cent. The Republic had to face enormous difficulties at the outset—inflated currency, necessity for protection against aggressive neighbours and for opening of new schools, budgetary deficits, disorganised financial administration, exhaustion of agriculture necessitating large borrowings abroad for purchase of food stuffs, loans for equipment of army, obligations imposed as the result of peace treaties, absence of a currency of its own.

But during the short five years since, a good deal has been achieved. The progress of the country was made possible not only by its natural resources but by the industry, thrift and sober sense of the people. The farmers, in spite of the eight-hour law, have continued to work from morning till sundown and the support which agriculture gave to the distressed industries after the war, was the salvation of the country.

Effect of decontrol. As soon as military requisition ceased the farmers enlarged their herds by raising or importing cattle which ensured the supply of stable manure and when the Government provided fertilisers at a low price and withdrew their control the situation was considerably improved.

The exchange value of the Crown in 1922 depressed agriculture in spite of which, however, the farming population very largely contributed to the consolidation of social and political conditions and with success, because more than four-fifths of the farming land is cultivated after the manner of family holdings by the members of the family. Healthy family life develops industry, thrift and firmness of character which are the agricultural virtues of the Czechoslovakian farmer.

How the Czechoslovakian farmer has survived disaster. The Czechoslovakian farmer has strenuously preserved national culture. It was the isolated farming village that remained Bohemian with its tradition its songs, its customs, and costumes, though the nation lost its independence in 1621 i. e. 300 years ago.

The Czechoslovakian still holds that, no matter in what way the forms of the economic and social order of Government may change the land with its natural laws of eternal continuity will always be a safe basis of national existence. From the relation of his family to the land the farmer has derived the idea of a fatherland and the idea of the freedom of a nation. He thinks a nation is not free if its farmers are not free men and the nation will rise again and again as long as it remains essentially agricultural.

Physical conditions. The climate of this country is midway between the mild littoral and the severe continental climate. The average annual rainfall is only 25.2 inches (about the same as Coimbatore—Editor) but the rain falls at an opportune time nearly two thirds coming in spring and summer months, thus assuming the same advantage of a relative humidity as the littoral. This is partly due to the mountain ranges enclosing the country on the west, north and east, where the forests act as the natural reservoirs.

The soils are of four types, named according to their characteristic products. These are:—(1) The sugar beet region of fertile low lands of less than 1150 feet elevation (2) the region of cereals—1150-1500 feet elevation the largest area; (3) the region of cereals and potatoes 1500-2000 feet elevation; (4) the region of forage crops and pastures lands exceeding 2100 feet in altitude. Most of the soils are heavy. Certain districts owing to their possession of soils with special chemical and physical properties and of favourable climatic conditions, cultivate special plants noted for their quality as barley in the Hana valley, tobacco in South Slovakia, cucumbers in Znanu, horse-radish in Malin, fruits and grape vine in Bohemia and Slovakia. In the high elevations where field culture ends, the forest begins.

How are difficulties overcome. The elongated shape of the Republic has its disadvantages but the differences in climatic and natural conditions of the several regions make possible a variety of crops, save the republic from becoming a one crop country and make itself sufficient in good stuffs. The railways built in the administration of the Hapsburgs run north to south and transportation charges of articles between the easternmost and westernmost points which are as distant as between Chicago and New York swallow up a large part of the selling price. And the waterways are of little consequence for inland communications, though facilitating foreign trade. These disadvantages are counterbalanced by the conversion of the farm produce into commodities of higher value through agricultural industries

by the close connexion of the farms with these industries and by the intensive rearing of cattle. The annual field harvest amounts to 40 million tons but only 10 per cent is shipped to foreign markets. Nearly one fourth is taken by the industries, 60 per cent is fed to domestic animals, 4 per cent used for sowing and 3 per cent consumed by the producer. The intensive rearing of cattle is carried on chiefly on small and mediumsized farms (which form five-sixths of the farming land) and depends on the domestic market. And the manufacturing establishments have to depend on the farmer, as more than two-thirds of the industries in the former monarchy were constructed here and their ability to compete in the world market is affected by distance from the sea coast as well as by the necessity to import cotton, wool, ores, and other raw materials. Thus a closer economic union of the agrarian east with the industrial west is necessary and is hastened, leading to the political consolidation of the republic.

At present the implements of production which the farmer buys have increased in price from $\frac{1}{4}$ to one-third more than the produce he sells. Annually agriculture imports about half a million tons of raw materials and exports about 5 million tons of farm produce and products of agricultural industries.

According to the 1921 census, Czechoslovakia had only 7.02 per cent of illiterates and much less than France or the U. S. A.

The larger amount of illiteracy in Slovakia and Ruthenia is due to the policy of Magyarization and lack of schools under the old Hungarian regime and the "Zadruha" system of farming in vogue. Under this system the parents retain ownership of land and management for life, though the family may be increasing tending to the diminution of interest in the work on the part of other members.

One cause however was lack of land as most of the fertile lands were held by large landowners. The land could not support the natural increase of population and large numbers emigrated chiefly to the U. S. A.

(A summary of an article published in the "Young Men of India" September and October 1925.)

To be continued.

The Real Secret.

In an editorial in the June issue of *Sugar* entitled ; "The Labor Problem," the following statement was made : "In whatever other respect the problems of the sugar industry in various parts of the world differ, there is one universal problem. that of labour." The suggestion was made that the problem might be worked out by meeting the necessities of the workman : namely, provision for steady employment the year round and the establishment of conditions which would make life at least bearable for him. This month a concrete example of the successful working out of this problem is given. In the article entitled "Hacienda Elpotrero Celebrates," on page 333, is given an account of the fiesta held on the Mexican sugar plantation on the occasion of the completion of the harvesting and grinding of the annual crop of sugar cane. A Photograph is reproduced showing the last car of cane, decorated with flowers, and taking its place as the center of gala day of festivities which bring master and servant, employer and employee together in a real holiday. This is the secret, this is life.

Modern industrial relations have multiplied the artificial factors in living conditions until the human being is swamped in the mire of conformity with certain necessities which exclude all spontaneous outbursts and tie him down to conformity with certain established rules and regulations fixed as inexorably for employee. In many respects the life of the slave on old Southern plantations of the U.S.A. before the civil war was ideal. He had few cares or responsibilities. All his wants were foreseen and provided for by the master. He had abundance of leisure and could cultivate his little garden patch and play the banjo for the pickaninnies to dance in the sunset glow. The Master rode over his broad acres, made his contracts for the sale of his crops, hunted and danced and liked the care free life of the rural gentleman. The great scourge of slavery was the blot on the escutcheon however and when this was removed the worker, freed from the bondage which had restrained him and his ancestor immediately sought other fields and broke the ties which had bound him to his master. So also the Russian millions when freed from the iron rule of the Czarist regime broke all bonds and sought a wild freedom. No artificial compulsory restraint such as existed in the cases cited is satisfactory. A relation must be produced in which employer and employee are bound together in a mutual self-interest which is more than work performed and wages paid. Such a condition is said to prevail at Hacienda El Potrero. Payment of wages is supplemented by a kindly interest of employer which provides good living conditions, supplies at reasonable prices, good housing quarters, recreation, and the opportunity for those social activities which are a necessary part of the life of every normal human being.

In the accomplishment of this result, no substitute can be found for a sincere feeling of interest on the part of the employer for the welfare of those who are performing the necessary tasks without which his sugar plantation enterprise would be a failure. The worker will respond to this kindly sentiment, always provided that it be not too paternalistic. It is the genuine feeling of friendship on both sides which counts the most, and this seems to have been achieved at Hacienda El Potrero.

The history of the sugar industry is full of romance and adventure of great projects and of human interest. In the disorganization incident to the great war, however, industrial conditions have grown more and more unsatisfactory. Workers have become restless, employers have been so engrossed in profit getting that they have overlooked the essential factor into gaining success of their enterprise. Would it not be well for labourer and employer alike to follow the example at Hacienda El Potrero and start over again on the old road of mutual respect and friendship?

S. S. P. (from the Journal 'SUGAR' Volume 26, No. 7)

Progress of the Raw Sugar Industry.

By W. VAN DUKER.

Thirtythree years ago the world's sugar production was 600,000 tons. Cuba's production was 675,000 tons: Java's-370,000 Philippines' 160,000; and Hawaii's 130,000. For the crop 1923-24 (the nearest estimate at this time) the world's production is 20,000,000 tons. Cuba's sugar production is 4,200,000 tons; Java's 1,830,000; Philippines' 525,000; and Hawaii's 678,000. In addition to this, I submit the following statistics, while I would venture to remind those who doubt if we make progress at all, that a developing industry has much in common with that of a human life; a child's weight and height double themselves every six months, a year, two or three years in the first years of its life. while, an adult stops growing or grows so slowly as to be hardly aware that he is doing so. Would you deduce from this that a boy of 6 years of age is superior to a man of forty?