

### RAIN-MAKING.

TO THE EDITOR.

Sir,—In your issue of Empire Day you state in your summary of news that "Professor David states that he believes Mr. Balsillie's scheme for making rain by wireless will prove successful." On page 5 of the same issue you state that "the committee (for investigating Mr. Balsillie's device for rain-making) is of opinion that the inventor has so far succeeded in his preliminary experiments that the committee feels justified in itself experimenting on a small scale preparatory to carrying out larger experiments."

As chairman of the committee, I wish emphatically to state that the first paragraph quoted above does not by any means represent the present view of my committee and of myself, it being altogether too optimistic. Your second quotation giving the reason why we have asked the Government for the sum of £50, which it has recently granted, is correct. Briefly, our position is this: We are satisfied that Mr. Balsillie has experimented in this very important matter of rain-making on up-to-date lines, which promise success in the laboratory but so far we are not satisfied that he has been successful outside the laboratory, though it is premature to speak of this outdoor experimenting until further tests are made. Even in the laboratory his experiments have been qualitative rather than quantitative. The device which he has patented is on these lines:—In the laboratory experiments he finds that if he fills a room with steam, and then discharges high tension direct-current electricity into the steam-laden air, and simultaneously passes the rays from a Rontgen ray tube through the same air, the whole of the air is cleared of steam in one and a half seconds, the floor of the room being at once covered with large water drops. In other words, the combination of the two processes causes the minute water drops of the steam to coalesce into much larger drops, which then fall to the floor, like rain drops in a thunderstorm. Mr. Balsillie thinks this process can be applied on a large scale to the clouds by means of a captive balloon coated with metallic paint, from which high tension electricity can be discharged, simultaneously with the rays from a powerful Rontgen ray tube, suspended just below the balloon. It is well known that over the driest parts of Australia dense clouds drift overhead for many days, in summer time particularly, without a drop of rain falling.

Mr. Balsillie hopes that his captive balloon, as described, if allowed to ascend to the level of the clouds, will, by means of the Rontgen rays and the high tension electric discharge (like that from the mast of a powerful wireless apparatus) cause the tiny water particles of the cloud to cohere and form large raindrops, and hence a shower of rain. It is very probable that this effect will result, just around the balloon, in a local shower of rain, but the whole crux of the question is, will the effect spread automatically for some distance away from the balloon? Mr. Balsillie thinks it will, as a slight fall of temperature he considers will result from the constant removal of the water drops near the balloon, as they fall to the ground under gravity.

The committee at present are not sanguine about this spreading of the rain-making effect beyond the immediate neighborhood of the balloon, but admit that it is within the bounds of scientific possibility. It is probably along lines such as these that rain-making will be eventually, if ever, brought within the control of man. The committee think that this being the case, and the question of rain being a matter of such vital importance to Australia, and Mr. Balsillie's laboratory experiments being apparently of a distinctly encouraging nature, and he having had on one occasion, at Hobart, a possible successful outdoor rain-making experiment, that it is quite justified in asking the Government for the £50 for preliminary laboratory experiments. If these are successful, we will then ask for a sufficient sum to enable the experiment to be tried out of doors by means of the captive balloon.

It will thus be seen that the case for rain-making by the Balsillie process is by no means proved, though it may yet succeed, but it is quite premature, in my opinion, to say that it has actually succeeded. I am, etc.,  
T. W. EDGEWORTH DAVENPORT.

### COMPOSITION OF WHEAT.

The Washington Agricultural Experimental Station has just issued a bulletin dealing with the chemical composition of wheat. The influence both of environment and breeding on the chemical composition of wheat was examined.

With regard to various environmental factor the conclusions were reached (1) that the composition of the soil has very little influence upon the composition of the crop grown upon it; (2) that the moisture supply is a very potent factor in determining the composition of the wheat grown in any given locality or season; (3) that the exclusion of direct sunlight causes an increase in the proportion of mineral and nitrogenous matter and a decrease in the proportion of carbohydrates; (4) that the longer the growing season the smaller the proportion

of protein in the grain (whether the season is prolonged by earlier seeding or later harvesting); and that the determining cause is the length of the period during which the kernel of the grain is being formed and not the whole period during which growth is taking place.

The smaller proportion of protein in autumn-sown wheat is explained by the fact that it matures earlier than spring wheat and has consequently a longer period for kernel formation; and (5) that the composition of the seed grain has no effect whatever upon the composition of the resultant crop and that change of seed has no effect so far as composition of the grain is concerned.

The results of the selection work at the station are taken as proving that high or low nitrogen content is not a property of wheat which can be "fixed" by selection, i.e., the chemical composition of wheat is not a hereditary character but is entirely a matter of environmental influence.

D. Telegraph 11/9/15.

**FAIR MOTOR TRACTORS.**

It is hardly too much to predict that an early development of interest to farmers will be in the adoption of light agricultural motor tractors, to meet their needs for a tractor that is at once light on the land, easy to manage, and has plenty of tractive power. Attention is directed upon this desideratum by the heavy wastage of draught horses which the war is causing. Inventive genius in America is also apparently concentrated upon the same objective, for the announcement is authoritatively made that Henry Ford, the designer and manufacturer of the Ford car, which is being turned out at the rate of over 1000 a day, has practically perfected a motor tractor, upon which he has been working for a long time, and that he expects to develop an immense new plant at Dearborn, Michigan, where these machines will be built. Nothing in the way of details has yet been given out, but the inventor says that it will be of world-wide importance in reducing the labor of tilling the soil and doing the heavy work on

the farm, with a corresponding effect in reducing the cost of food. Mr. Ford has acquired over 2000 acres of land at the new site, and of this the new works will occupy about 600 acres, or nearly one square mile. On a portion of the remaining property a new town will be provided for, to accommodate the employees.

# THE SOIL.

## WOODLANDS WHEAT AREA. 29/10/15

### LESSONS OF FAILURE.

#### THE GAMBLE AND THE COST.

(BY OUR SPECIAL REPORTER.)

II.

In the first article on the Government wheat area at Woodlands, reference was made to bad ploughing, in alluding to the unsatisfactory manner in which the crops were put in. It is only fair to say that much of this bad work, in the beginning, was due to misadventure, or perhaps want of forethought, not on the part of those engaged in the work itself, but of some person, or persons, in Sydney. Criticisms have been published to the effect that clearing was so badly done that stumps were left inches above the surface, so that plough discs and parts were constantly broken. This may be politely described as a fairy tale. The area now under fallow—several thousands of acres—does not show even the usual quantity of up-ploughed roots one is accustomed to see on new ground. This is evidence of a good burn-off, and the cropped areas show the same evidence. The writer did not see a protruding stump throughout the cleared area traversed by him. Certain breakages and initial difficulties were admitted by the management, but these were explained in a few words. The caterpillar tractors—a new thing in agriculture here—were sent up from Sydney—and, indeed, appear to have come from America—without providing for the supply of duplicate parts. Consequently, whenever anything went wrong with a tractor it had to be laid up indefinitely. Now there is an efficiently-equipped repair shop on the farm—built of empty benzine cases certainly, but none the less efficient—where Mr. Hart, who is a thoroughly capable and practical engineer, and a man of adaptive genius, with the assistance of a turning lathe and other appliances, is able to make his own duplicates and effect any repairs necessary to either engines or machines. With regard to breakages of plough discs or parts the explanation is this: At the outset—each caterpillar tractor draws two 11-furrow ploughs—the second plough was coupled rigidly to the tail of the first, with the result that when a "blind" or submerged stump was struck by the front plough it was held so that the spring "jump" device could not do its work properly, and the effect was either a broken disc, a broken bearing or spring, or else the tail was wrenched off. Mr. Hart has now coupled the ploughs with a sort of compensating balance that has got over all this difficulty. But, in any case, the total cost of the material on the scrap heap, including breakages and worn-out parts, does not exceed £40. This is not out of the way when it is remembered that over 18,000 acres of new land have been broken up, and 11,265 acres of it put under crop. The breakages and difficulties do not seem to have been more than might reasonably have been expected in the initial stages of a scheme of such magnitude.

The superintendent is thoroughly satisfied with the caterpillar tractors as a ploughing power. "I look upon the caterpillar," he said, "as an ideal ploughing proposition. It is, of course, new to Australia, and at the beginning we had some trouble in wear and tear and stoppages, but we have now our own turning lathe and drilling machine on the spot, and the engineer can do everything necessary to keep them in going order, and this at a mere fraction of the cost of getting things done outside. For the last six or eight weeks they have been going without a hitch, and I am convinced the caterpillar is the coming power for ploughing here on a large scale." The farm plant proper includes three caterpillar tractors; the first machine put into work having been sent up merely for demonstration purposes, and is to be returned. Each draws two 11-furrow disc ploughs covering about 13ft., and averages 2¼ acres per hour, or 18 acres per day of eight hours, the actual cost for fuel and labor since the machines have been in good order working out at 3s 10d per acre. There are also three steam tractors of 6, 8, and 16 horse-power respectively, but they have not proved so successful as the caterpillars, being too heavy for the soil. On hard ground, however, they quite held their own, and when the ground is too hard for anything else, Mr. Williams says, the 16 h.p. McLaren "walks along comfortably with 44 furrows, covering 26 feet." The ploughs in use include eight of 11-furrows and six 7-furrows, all stump-jump disc ploughs. There are also 12 4-furrow disc horse ploughs, but these have been little used.

The drilling was done with horse teams, 22 drills being in use on an average out of 26 machines available. These are 4-disc drills.

been profitable and would have proved the district to be suitable for wheat. There is no doubt the soil is good enough, and the subsoil is retentive. The sub-surface is perhaps a little porous, but this will doubtless tend to consolidate under cultivation or with the use of the sub-surface packer. But—and here is the lesson of the failure, an object lesson demonstrating the teaching of the department—slipshod methods will not bring a crop except under favorable natural conditions. It is no good scratching the soil, throwing the wheat on, and leaving the rest to chance. Fallow is indispensable. In this instance the department, knowing thoroughly what it was doing, plunged into the gamble, hoping that chance might favor it—and lost. It is probably the best thing that could have happened in the country's interests, and in the interests of prosperous and permanent settlement. Had it chanced that the season was favorable, or had Providence seen fit to bless the area with suitable rains during the critical time in September, and a bumper yield had been the result, there is no reason to doubt that the area would have been thrown open for settlement, and land-hungry balloters would have rushed in the surveyed blocks of 800 acres, to go smash as a certainty, following, as they would have been bound to follow, the methods adopted this year. This catastrophe has happily been avoided, for no one with this object lesson before him would risk his future on so small a block as 800 acres. With a block twice the size—or two of the surveyed blocks—he might be safe, but certainly upon no smaller area, for besides, say, 500 acres under crop, and the same under fallow, each year he wants room for his homestead, his horse paddocks, and sheep, which he must have as a stand-by against the drought time that will sooner or later cause his wheat to fail, or partially fail, notwithstanding his fallow. The department is not going to take the same risk of failure a second time on Woodlands. Before many weeks have gone by there will be 12,000 acres under fallow ready for next seeding time, while the original cropped area will be fallowed next winter. Neither is any risk going to be taken with the adjacent area of Orange Plains, which is now in process of clearing. None of this will be cropped next year. The intention is to fallow it for the following year. In the light of the Woodlands experience, it is reasonable to hope that the Government will abandon its idea that 800 acres in this district will be a living area, and will at the very least throw two blocks into one. If this result is achieved the failure will be well worth what it has cost.

D. Telegraph 11/9/15

#### BRITAIN'S BURDEN.

MELBOURNE, Wednesday.—With the coming of the New Year the burden borne by the Imperial Government in regard to the purchase of Australian wheat is likely to heavily increase owing to the conditions under which the wheat was bought. Of the 3,000,000 tons of wheat which has been sold to Britain, only about one-fifth has been actually removed from the Commonwealth owing to the shortage of shipping space, the remaining four-fifths being still stored here. From December 21 the full cost of storage of this wheat is paid by the Imperial authorities, and a very large monthly sum is involved in addition. A further burden which falls to the share of the Imperial Government from the beginning of this year is the bearing of any loss due to deterioration of the wheat thus stored from damage by weevils or any other similar cause. With regard to the new crop now coming no announcement has been made of any sale, and at present these burdens will not apply as far as this wheat is concerned.

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P. Telegraph

3/1/17

Sydney SRS Journal

3/2/16

## Bulk Handling.

ON THE FARM.

AN AUSTRALIAN INVENTION.

Mr. F. A. Nuske, of Bendigo, is the inventor of a scheme for storing the wheat in bulk on the farm. Let it be said at once that the scheme can be applied practically only when the system of bulk handling is introduced on our railways. But we all hope that that time is not far distant. Bulk handling is coming! It will hardly arrive in time for next harvest, but it should be here for 1917. The working out of all details will involve a tremendous amount of work, for it is a mighty big scheme. So that it is time to be thinking about it.

This scheme evolved by Mr. Nuske, who has been mixed up with farming and farmers most of his life, comes in at the farm end. That is peculiarly the farmer's business, and therefore we commend its consideration to our readers.

### THE SCHEME.

The scheme was described in the "Australasian" some little time ago, from which we quote the following:—

"The main feature of this safe storage for grain, chaff, or other agricultural products is a circular, corrugated iron structure, which can be readily built up to the required size in the field or at the railway station, and dismantled without the aid of skilled labor. One great advantage of this system is that the grain stored on the farm can be easily transferred to safe storage at the railway station with little extra expense. In this case an extra bottom must be provided. As the grain is emptied from the silo into the waggon, the top sheets can be unbolted, taken along with the load, and a tier of the silo rebuilt on the spare bottom, ready for the first load of grain, and so on as each load is brought in. The sheets are numbered in each tier for convenience in bolting together, and a door and chute for emptying are provided. The discharge door and chute may have a hopper head, in which the door swings when opened, which is designed to prevent loss of grain. More doors may be provided, and the detachable chute can then be fixed about each opening. A cover may be provided if the silo is not built in a shed. By this means grain can be kept safe from mice, wet, and fire, and, being safely stored, the issue of negotiable certificates to farmers can easily be arranged for."

### ADVANTAGE.

The advantages of such a contrivance are obvious. There is the great saving in the cost of bags. Mr. Nuske, who was in Sydney this week, told us that a silo capable of accommodating 400 bags could be built for £39. With bags at 9/- per dozen, 400 would cost £15. In three seasons you would more than save the cost, counting on bags alone. And the silo once put in lasts a lifetime.

Further, there would be a very considerable saving in the cost of labor—bags to handle, etc. Every bushel harvested would be saved, for there could be no loss from wet or fire. Thus the two great enemies of stacked wheat would be removed.

Another advantage is that immediately the field is stripped, stock can be let loose without any fear of damage

to wheat or stock. This argument should count particularly where mixed farming is the rule. And mixed farming is the thing.

Altogether, the Nuske Patent Bulk Grain Silo is well worth a hearing. And we feel sure farmers will be ready to hear any scheme that promises to help. Whether the Nuske system is the best or not, the fact remains that it is suggestive, and shows that some men are applying their brains to the surmounting of the difficulties that will arise with bulk handling.

### A GREAT LOAD.

SEVENTEEN TONS ON EIGHT HORSES.

Mr. W. E. Staniforth carted 177 bags of wheat from "Kurrajong Park" station to Mirrool railway station, a distance of 12 miles, on eight horses.

The gross weight was 17 tons 1 cwt. This is the biggest weight per horse that ever crossed Mirrool Creek. Great horses!

SRS Journal

25/2/16

## MEAT CURING.

A RECIPE.

Mr. C. B. King, of Kingsleigh, Con-dobolin, kindly supplies the following recipe for keeping meat in the hot weather. Readers' experience in such matters is always very welcome for publication. He writes:—

As a serious loss, as well as inconvenience occurs to the man on the land in keeping meat during the hot months of the year, I would be glad if you would publish the method which is used by a great many owners in this district. Probably many of your readers know the formula, but I am writing this for the benefit of those who do not know.

Put 4lbs. salt, 2lbs. sugar, and one tablespoonful of saltpetre (ground) in half a kerosene tin full of water. Put on fire and when the water comes to a boil put in your mutton, cut into convenient size, leave on the fire, and after the liquid again comes to a boil let it simmer for ten minutes; then hang it in a cool place. See that the meat is covered. It is advisable that the meat be treated not later than the day after killed.

This formula is not my own, but given me by a friend, and I have found it such a success that I would like to give it to others to know.

## Fighting Together.

### LIBERALS AND PROGRESSIVES.

#### PROPOSED NEW PLATFORM.

Mr. Wade states that as a result of several consultations with Mr. Beeby, he intends to submit to the coming Liberal Conference the following platform for the coming elections. He has no doubt that the conference will accept the proposal, and that both Liberals and Progressives will have advantage of being in accord on it, if not all of the important issues before the electors, as well as in avoiding the clashing of their candidates in any electorate.

With few exceptions the Progressives' programme comprises principles already on the Liberal platform, and the important matters of social interest, including liquor reform, will be dealt with by the ensuing Liberal Conference in July.

This is not to be taken as the maximum of issues to be submitted to the electors, but as an enumeration of matters in respect of which Mr. Wade and Mr. Beeby are at present in accord.

#### NATIONAL.

1. Rearrangement of the functions of the Federal and State Governments to—

- (a) Enable the Commonwealth to effectively carry out national functions.
- (b) Prevent conflict between Commonwealth and State industrial laws and awards.
- (c) Prevent duplication of taxation.
- (d) Prevent the overlapping of administration.

2. The making of ample provision for the future of returned soldiers and their dependents.

3. The full encouragement of all in-

dustries which the war has shown to be essential to national existence.

#### STATE.

##### PARLIAMENTARY.

Modification of party government

Adoption of the referendum.

3. Proportional representation.

4. Abolition of life tenure in the Legislative Council.

##### FINANCIAL.

1. The full encouragement of all forms of private as against state enterprise.

2. Limitation of State enterprise to developmental works and general public utilities.

3. Restoration of the right of Parliament to initiate and control expenditure of public funds.

4. The complete separation of the finances of all State enterprises from general revenue.

##### ECONOMIC.

1. Maintenance of the living wage and a fair minimum standard of comfort for all classes.

2. The removal from industrial and social legislation of all provisions which lessen efficiency or restrict output.

3. The encouragement of payment by results.

4. The full recognition of, and encouragement of non-political trade-unionism.

5. The encouragement of co-operation as against class warfare.

##### PRIMARY PRODUCERS.

1. Guaranteeing to primary producers the full product of their labor.

2. The limitation of all interference with commerce and the prices of commodities to the operations of trusts, combines, and trade rings which are detrimental to the general public.

3. Decentralisation.

4. Improved facilities for transport, including bulk handling of wheat.

5. Developmental railways to new ports.

6. The maintenance of non-political control of the railway system.

7. Maintenance of the living area principle, with a right to the freehold.

8. Extension of advances to settlers.

9. Liberalising of the present conditions of residence attached to Crown lands, with such restrictions as are necessary to prevent lands being taken up for speculative purposes.

Mr. Beeby states that he also intends to recommend to the Progressives the adoption of the same fighting platform on the subjects covered.

The platform, he added, so nearly approximated to that of the Progressives as adopted at their last conference that he felt confident of its acceptance. Unity of purpose of the two parties on vital issues was a valuable achievement, which would greatly assist in the consolidation of the anti-Government forces.

#### "OBJECTIONABLE PLANKS."

Mr. A. E. Hunt, president of the Farmers and Settlers' Association, referred last night to a report in Tuesday's "Daily Telegraph" of a Liberal meeting at Wagga, at which the abolition of the Upper House and the initiative planks of the Progressive platform were condemned. The following telegram was also read at the meeting from Mr. Wade:—"Without doubt the two objectionable planks will be removed."

Mr. Hunt explained that the only body which had power to make and alter the platform of the Progressive party was the Farmers and Settlers' Association at its annual conference. He had communicated with Mr. Wade in regard to his telegram, and the leader of the Liberal party had assured him that the matter contained in the telegram was his (Mr. Wade's) personal opinion only. He did not make the statement positively.

## WHEAT FOR BRITAIN.

### LOW GRADES ACCEPTED.

Two large cleaning machines for the destruction of weevils are undergoing trial at the Enfield wheat stacks. Some adjustments have been found necessary, and it is expected that they will be in full working order next month.

Farmers will regard it as significant that the whole of the Enfield stacks have been taken over by the British Wheat Commission. It was though quiet recently that a great deal of this wheat would have had to be disposed of for stock feeding at from 3s per bushel, as much of the grain was thin and light and weevil infested. Poultry farmers had been promised unlimited supplies from these stocks by Mr. E. S. Drummond, manager of the State Wheat Office. The British Wheat Commissioner, however, upon inspection, decided that it could be cleaned and made acceptable as part of the Imperial Government's purchase at 4s 9d per bushel f.o.b. In a word, while it could be used for bread it should not be fed to poultry. Local millers would not look at such grain.

It is noteworthy that in experiments conducted by Professor Lefroy in collaboration with the Department of Agriculture, dirty, repulsive, weevil-riddled wheat has been cleaned after the destruction of the weevils and brought up to a fairly bright acceptable sample. Bread made from this has turned out a first-class article.

The wheat as it comes from the weevil-destructor cleaners at Enfield will be trucked direct to Darling Island, where it will be stacked on cleaned sites to await shipment.

## NEW HARVESTING DEVICE.

WARRIALDA.—Great interest is being evinced by farmers in a new device for picking up crops laid flat by wind and rain, in the shape of a false comb for attachment to any stripper, harvester, or reaper thresher. The inventor is Mr. H. E. Lockwood, of Delungra, and the merit of the design lies in a wonderful flexibility and free movement of the prongs forming the comb, and the fact that any prong broken or bent can be replaced by a "spare" in less than a minute.

The invention has had a severe trial on a crop of barley grown by Mr. S. Hutchings, at Delungra. The paddock of barley contained 40 acres, from which a yield of 500 bags was originally expected. On New Year's Day a gale and 3 inches of rain laid it completely flat. When the weather dried an attempt to recover the crop failed; and it was abandoned and an attempt made to burn it, and then stock were allowed into the paddock. Finally, there was no more sign of crop to the casual observer than on a stock route; but plenty burrs, thistles, "bare poles," "fat hen," milk thistle, and other vines and weeds. Spectators who went to see the machine at work passed through the paddock without knowing that there was a crop there at all. Into this tangle of rubbish Mr. Lockwood drove his machine with its six prongs, and a medley of apparent rubbish was gathered up, passing along the carrier into the drums; but the final result was a fine sample of barley, slightly discolored, which would make a good "third." Sometimes there was a choking of the point of a prong, and the horses had to be stopped. Mr. Lockwood has recovered 110 bags from half the paddock, and on one afternoon he secured 80 bags.

These are very serious and pregnant questions. Upon the answer to them depends the peace of the world. But, whatever the results of the parleys at Brest-Litovsk, whatever the conclusions of counsel and of purpose in the utterances of the spokesman of the Central Empires, they have again attempted to acquaint the world with their objects in the war and have again challenged their adversaries to say what their objects are and what sort of settlement they would deem just and satisfactory.

#### CHALLENGE ACCEPTED.

There is no good reason why that challenge should not be responded to, and responded to with the utmost candor. We did not wait for it. Not once, but again and again, we have laid our whole thought and purpose before the world, not in general terms only, but each time with sufficient definition to make it clear what sort of definite terms of settlement must necessarily spring out of them. Within the last week Mr. Lloyd George has spoken with admirable candor, and in admirable spirit, for the people and Government of Great Britain.

There is no confusion of counsel among the adversaries of the Central Powers, no uncertainty of principle, no vagueness of detail. The only secrecy of counsel, the only lack of fearless frankness, the only failure to make definite statement of the objects of the war, lies with Germany and her allies. The issues of life and death hang upon these definitions. No statesman who has the least conception of his responsibility ought for a moment to permit himself to continue this tragical and unending outpouring of blood and treasure unless he is sure, beyond a peradventure, that the objects of the vital sacrifice are part and parcel of the very life of society, and that the people for whom he speaks think them right and imperative as he does.

#### VOICE OF THE RUSSIAN PEOPLE

There is, moreover, a voice calling for these definitions of principle and of purpose, which is, it seems to me, more thrilling and more compelling than any of the many moving voices with which the troubled air of the world is filled. It is the voice of the Russian people. They are prostrate and all but hopeless, it would seem, before the grim power of Germany, which has hitherto known no relenting and no pity. Their power, apparently, is shattered.

And yet their soul is not subservient. They will not yield either in principle or in action. Their conception of what is right, of what is human and honorable for them to accept, has been stated with a frankness, a largeness of view, a generosity of spirit, and a universal human sympathy which must challenge the admiration of every friend of mankind; and they have refused to compound their ideals or desert others that they themselves may be safe.

They call to us to say what it is that we desire, in what, if in anything, our purpose and our spirit differ from theirs; and I believe that the people of the United States would wish me to respond with utter simplicity and frankness.

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Sydney Daily Telegraph  
Jan 10<sup>th</sup> 1918

### THE CONDITIONS.

All the peoples of the world are in effect partners in this interest, and for our own part we see very clearly that unless justice be done to others it will not be done to us.

The programme of the world's peace, therefore, is our programme; and that programme, the only possible programme, as we see it, is this:

(1) Open covenants of peace, openly arrived at, after which there shall be no private international understandings of any kind, but diplomacy shall proceed always frankly and in the public view.

(2) Absolute freedom of navigation upon the seas, outside territorial waters, alike in peace and in war, except as the seas may be closed in whole or in part by international action for enforcement of international covenants.

(3) The removal, so far as possible, of all economic barriers and the establishment of an equality of trade conditions among all the nations consenting to the peace and associating themselves for its maintenance.

(4) Adequate guarantees given and taken that national armaments will be reduced to the lowest point consistent with domestic safety.

(5) A free, open-minded, and absolutely impartial adjustment of all colonial claims, based upon a strict observance of the principle that in determining all such questions of sovereignty the interests of the populations concerned must have equal weight with the equitable claims of the Government whose title is to be determined.

### RUSSIAN TERRITORY.

(6) The evacuation of all Russian territory and such a settlement of all questions affecting Russia as will secure the best and freest co-operation of the other nations of the world in obtaining for her an unhampered and unembarrassed opportunity for the independent determination of her own political development and national policy and assure her of a sincere welcome into the society of free nations under institutions of her own choosing; and, more than a welcome, assistance also of every kind that she may need and may herself desire. The treatment accorded Russia by her sister nations in the months to come will be the acid test of their good will, of their comprehension of her needs as distinguished from their own interests, and of their intelligent and unselfish sympathy.

### BELGIUM'S CASE.

(7) Belgium, the whole world will agree, must be evacuated and restored, without any attempt to limit the sovereignty which she enjoys in common with all other free nations. No other act will serve as this will serve to restore confidence among the nations in the laws which they have themselves set and determined for the government of their relations with one another. Without this healing act the whole structure and validity of international law is forever impaired.

### FRANCE.

(8) All French territory should be freed, and the invaded portions restored, and the wrong done to France by Prussia in 1871 in the matter of Alsace-Lorraine, which has unsettled the peace of the world for nearly fifty years, should be righted, in order that peace may once more be made secure in the interest of all.

### THE BALKAN POWERS.

(9) A readjustment of the frontiers of Italy should be effected along clearly recognisable lines of nationality.

(10) People of Austria-Hungary, whose place among the nations we wish to see safeguarded and assured, should be accorded the freest opportunity of autonomous development.

(11) Roumania, Servia, and Montenegro should be evacuated; occupied territories restored; Servia accorded free and secure access to the sea; and the relations of the several Balkan States to one another determined by friendly council along historically established lines of allegiance and nationality, and international guarantees of the political and economic independence and territorial integrity of the several Balkan States should be entered into.

(12) The Turkish portions of the present Ottoman Empire should be assured of a secure sovereignty, but the other nationalities which are now under Turkish rule should be assured an undoubted security of life and an absolutely unmolested opportunity of autonomous developments, and the Dardanelles should be permanently opened as a free passage to the ships and commerce of all nations, under international guarantees.

(13) An independent Polish State should be erected which should include the territories inhabited by indisputably Polish populations, which should be assured a free and secure access to the sea, and whose political and economic independence and territorial integrity should be guaranteed by international covenant.

### LEAGUE OF NATIONS.

(14) A general association of nations must be formed under specific covenants for the purpose of affording mutual guarantees of political independence and territorial integrity to great and small States alike.

In regard to these essential rectifications of wrong and assertions of right we feel ourselves to be intimate partners of all the Governments and peoples associated together against the imperialists. We cannot be separated in interest or divided in purpose. We stand together until the end.

For such arrangements and covenants we are willing to fight and to continue to fight until they are achieved; but only because we wish the right to prevail and desire a just and stable peace such as can be secured only by removing the chief provocations to war, which this programme does remove.

We have no jealousy of German greatness, and there is nothing in this programme that impairs it. We grudge her no achievement or distinction of learning or of pacific enterprises such as have made her record very bright and very enviable. We do not wish to injure her or to block in any way her legitimate influence or power. We do not wish to fight her either with arms or with hostile arrangements of trade if she is willing to associate herself with us and the other peace-loving nations of the world in covenants of justice and law and fair dealing. We wish her only to accept a place of equality among the peoples of the world—the new world in which we now live—instead of a place of mastery.

Neither do we presume to suggest to her any alteration or modification of her institutions. But it is necessary, we must frankly say, and necessary as a preliminary to any intelligent dealings with her on our part, that we should know whom her spokesmen speak for when they speak to us, whether for the Reichstag majority or for the Military party and the men whose creed is Imperial domination. We have spoken now, curtly, in terms too concrete to admit of any further doubt or question.

### JUSTICE TO ALL PEOPLES.

An evident principle runs through the whole programme I have outlined. It is the principle of justice to all peoples and nationalities, and their right to live on equal terms of liberty and safety with one another, whether they be strong or weak. Unless this principle be made its foundation no part of the struggle of international justice can stand.

The people of the United States could act upon no other principle; and to the vindication of this principle they are ready to devote their lives, their honor, and everything that they possess. The moral climax of this, the culminating and final war for human liberty, has come, and they are ready to put their own strength, their own highest purposes, their own integrity and devotion, to the test.

### STATEMENT APPROVED.

The Washington correspondent of the United Press Agency writes:—

"There is enthusiastic approval of President Wilson's statement of war aims. Officials of Congress believe that it will eventually work for a basis of peace. There are differences of opinion as to whether the statement will materially hasten peace. Congressmen consider that its importance lies in the appeals which the message makes to Russia."

### SUPPORT FOR WAR AIMS.

Congressmen and Government officials agree that the main purpose of President Wilson's message was to bind Russia to the Allies.

August 1918

# THE PROGRESSIVES AND THEIR AIMS

## A Nationalist Replies to Mr. Trethowan's Comments

Nationalist Branch Member writes:—  
In your issue last Sunday Mr. Trethowan states that the National Party was formed to "merge three elements in politics—the Liberals, the Progressive Party, and those members of the Labor Party who hold moderate views and are loyal to the Empire during the present war crisis."

He goes on to say in a later portion of his interview that his organisation (the Farmers and Settlers) has determined to preserve their "separate entity." As the latter is well known to have been the attitude of the Farmers and Settlers' Association for several years past, the question to most reasonable people is how can the farmers and settlers maintain their "separate entity" and at the same time "blend" with the old Liberals and Laborites in the formation of the National Party. It would appear that Mr. Trethowan and the Farmers and Settlers want to be considered an important, and, in fact, dominant part of the National Party, whilst declining to become part of it.

In further proof of the unreasonableness of their attitude, it is only necessary to point out that they have put forward the claim that they, the Farmers and Settlers' Associations, not necessarily representative of the farming and rural interests in the electorate, should be permitted to exclusively select a Progressive candidate, and then call upon the other sections of the National Party—the old Liberals and Laborites—to fall in behind, organise, and return their candidates.

### National and Liberal

Mr. Trethowan's further statement that "the National Party has reverted to the old Liberal Party, and that the democratic wing of the Labor Party has been lost sight of," is nothing more nor less than a mischievous suggestion which would appear to have been put forward with no other object than to cause friction and trouble.

Further, when some definite steps are taken, as they must be taken by the National Party, to prevent profiteering, in, say, such matters as the purchase of wire netting, galvanised iron, bags, farming implements, etc., and which can only be done by the extension of Government action and control, then it will be found, as has been the case in the past, that it is Mr. Trethowan and his friends that prevent the democratic intentions of the Government carrying these much-needed matters into effect.

The statement that the old Liberal constitution has been adopted by the National organisation, and that the method of choosing delegates to the recent National Conference was irregular, and with the object of registering the wishes of the central organisation, is just as untruthful as the previous statement.

I, as a member of one of the Nationalist branches, know that the constitution adopted by the National Party is different in a number of vital aspects from that which governed the old Liberal movement. Further, I know that the branches throughout the State were asked in each official communication to appoint delegates, and no pressure or suggestion was put forward as to what delegates should be appointed. We were left entirely to our own freedom of choice in this matter, as were all other branches in my district, and from whom I have taken the trouble to inquire. The suggestion that delegates from the Farmers and Settlers should have been invited to the National Conference, Mr. Trethowan knows when he put it forward, is not only untrue, but would be strongly opposed by his association.

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Bench, HE Kaleski tip-waggon (a working model of which was, last week, shown at the Assembly-room in the Department of Public Instruction) is built with the weight so balanced that the floor of a ten-ton waggon is tipped like a tip-dray—only on a much easier cant—without any difficulty, by using a screw-jack. The wheels are locked with special brakes, and the undercarriage of the waggon is rigid, apart from the turntable. The front of the undercarriage is attached to the deck of the waggon by two arms, working on a swivel at each side, which fold up when the waggon is not tipped. The top of the waggon is movable, and can be adjusted or made for an ordinary "top-decker." At the end is an escape hole, and when the waggon is tipped a flap door is opened, and the wheat allowed to run out. In active practice the farmer would load his waggon on the farm, either from the bags or from his silo, and then bring it in bulk to the railway siding or elevator. Here a ramp, built high enough to allow wheat to be run into a truck on the adjacent railway line, would contain a weighbridge with a chute near the end. The waggon would be driven up the ramp and on to the weighbridge, and weighed. The wheels, back and front, being locked with a patent brake, the floor of the waggon would be tipped, the door at the end opened, and the wheat allowed to pour out into the railway truck.

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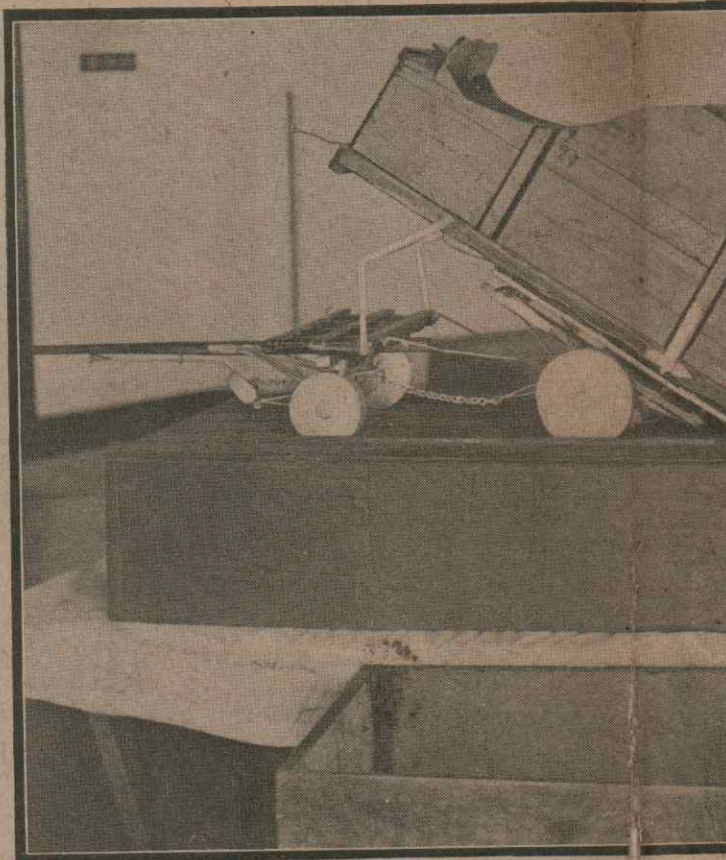
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# WHEAT SILOS IN AND OTHER LAND



A DRAUGHT-EQUALISING TIP

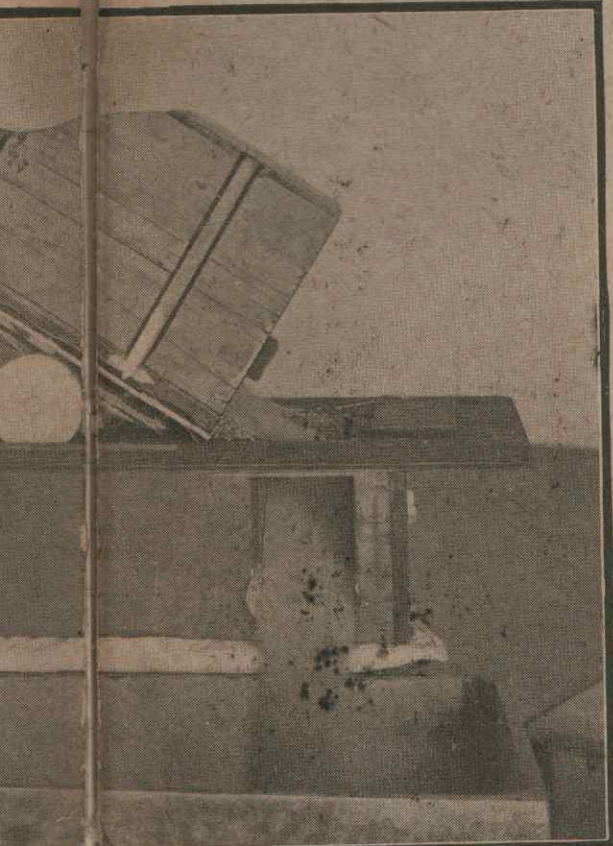
Invented by Mr. R. Kaleski, it is expected that this waggon will prove a most valuable addition to the handling of the wheat on the farm, and its transport to the railway siding or elevator. The inventor believes he can put the system to a practical test, while the attachment for an ordinary waggon can be provided, he estimates, for £100. The Farmers and Settlers' Association has approved of the waggon. If so this should be a sound investment, and one which would be a benefit to the farmer. It is offered to the Minister for Agriculture upon certain conditions, with the understanding that it will be controlled by the Government.

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The Sun  
Tuesday  
Aug 27<sup>th</sup> 1918

# S IN RIVERINA LAND TOPICS.



ALISING TIP WAGGON.

will prove a most valuable factor in the efficient and economical work-  
ed. It has been recognised that, for a time at least, a drawback to  
and its transport to the railway elevator or siding. The Kaleski wag-  
ieves he put the vehicle (ten-ton capacity) on the market for £70,  
led, he estimates, for £12. We are informed that the Master Carriers'  
be a sound proof of its practical value. The patent rights have been  
with the Government that it would be to the interest of farmers if it was con-  
oy the Government.

**I**N addition to being used for carrying and tipping wheat in bulk, by utilising another top the waggon can be used for spreading gravel, lime, manure, etc. In this case the working principle is the same, but the back of the top of the waggon can be adjusted to allow different fixed quantities of the material to escape. As the waggon moves along the road or paddock the gravel, or lime, or manure slides out of the tipped top of the waggon, and is spread evenly by the steel-edged bottom of the adjusted back of the waggon. The latter is opened according to the depth it is desired to lay the material. In this respect, as in the unloading of wheat, the model waggon worked splendidly, and in the making of roads especially this waggon should prove an enormous labour-saver. In addition to the equipment for tipping, the waggon includes several other ingenious patents. The wheels are hollow, and are made of half-inch steel, with solid sides. The tyres are seven inches wide, and may be made as wide as desired. The wheels are wider at the box than at the top, to eliminate any danger of bogging in soft ground. An even pull on the back wheels is secured by a chain attached to a block beneath the pole. Two sets of cones or rollers in the box are designed to equalise the draught, and cut out the friction, and Mr. Kaleski claims that they make the running 50 per cent. lighter.

## ONE BIG UNION

### Local Autonomy Question

Mr. P. Adler, secretary of the Blacksmiths' Union, referring to the One Big Union proposal, this morning said:—

In the issue of "The Sun," 14/8/18, Mr. Garden, secretary of the One Big Union (or, to give it the proper title which is now available, "Workers' Industrial Union of Australia"), denied a statement made by me to the effect that the grand council would govern the union. I now have a printed draft of the scheme as adopted at the congress, and issued by the authority of Mr. Garden, and clause 3, dealing with the government, sets out in sub-clause (i) the following:—

"Local Autonomy.—Local autonomy shall be exercised only on the following conditions: No section, mixed section, division, department, or council shall take any action involving any portion of the union without having first consulted the supreme governing body of the union, and received the approval thereof. No section, division, or department, or provincial council shall take any action involving members of the union without first consulting those affected or likely to be affected and receiving their assent, and the approval of the next higher governing body of the organisation."

For reasons best known to himself, Mr. Garden failed to quote the whole sub-clause when attempting to contradict my statement, but after having carefully perused the wording I can only say that while the clause is ridiculous because of its ambiguity, and conflicts with previous sub-clauses regarding "councils," it leaves me more confirmed in my belief that the Grand Council would be the body to govern actions from whatever centre it was located in, and that the unions have no "local autonomy" provided the council wishes to exercise the power given to them. However, the sub-clause quoted is only in keeping with the whole of the constitution as set out, and if we are to judge the future of the organisation by the results already achieved by the committee, then I am afraid the day is far distant when the "wage-plug" will be non-existent, and all human kind is made in the same mould and living under similar conditions. And there may even be an Australian scheme of reorganisation required before the unions, as at present organised, will agree to forsake all they have won, and trust themselves to the tender mercies of the visionaries. If it is necessary to resort to misrepresentation, then the case must be very weak indeed.

### Miners' Board Accepts



# THE WORLD'S PEACE

## AMERICA'S POLICY DEFINED

### DAYS OF CONQUEST GONE

#### THE PROCESS OF PEACE.

Whether their present leaders believe it or not, it is our heartfelt desire and hope that some way may be opened whereby we may be privileged to assist the people of Russia attain their utmost hope of liberty and order and peace.

It will be our wish and purpose that the processes of peace when they are begun shall be absolutely open, and that they shall invite and permit henceforth no secret understandings of any kind.

The day of conquest and aggrandisement is gone by; so is also the day of secret covenants entered into in the interests of particular Governments and likely at some unlooked-for moment to upset the peace of the world.

It is this happy fact, now clear to the view of every public man whose thoughts do not still linger in an age that is past and gone, which makes it possible for every nation whose purposes are consistent with justice and the peace of the world to avow now or at any other time the object it has in view.

We have entered this war because violations of right had occurred which forced us to the quick and made the life of our own people impossible unless they were corrected and the world secured once and for all against their recurrence.

What we demand in this war, therefore, is nothing peculiar to ourselves. It is that the world be made fit and safe to live in; that particularly that it be made safe for the peace-loving nation which, like our own, wishes to live its own life, determine its own

WASHINGTON, Wednesday.

President Wilson to-day delivered the following message to Congress:—

Once more, as repeatedly before, the spokesmen of the Central Empires have indicated their desire to discuss the objects of the war and the possible basis of a general peace. Parleys have been in progress at Brest-Litovsk between representatives of the Central Powers, to which the attention of all the belligerents has been invited for the purpose of ascertaining whether it may be possible to extend those parleys into a general conference with regard to terms of peace and settlement.

The Russian representatives presented not only a perfectly definite statement of the principles upon which they would be willing to conclude peace, but also an equally definite programme of the concrete application of those principles. The representatives of the Central Powers, on their part, presented an outline of settlement which, if much less definite, seems susceptible of liberal interpretation until their specific programme of practical terms is added.

That programme proposed no concessions at all, either to the sovereignty of Russia or the preference of the populations with whose fortunes it dealt, but means, in a word, that the Central Empires were to keep every foot of territory their armed forces had occupied—every province, every city, every point of vantage—as a permanent addition to their territories and their power.

#### PRINCIPLES OF SETTLEMENT.

It is a reasonable conjecture that the central principles of settlement which they at first suggested originated with the more liberal statesmen of Germany and Austria, the men who have begun to feel the forces of their own people's thought and purpose, while the concrete terms of actual settlement came from the military leaders, who have no thought but to keep what they have got. The negotiations have been broken off. The Russian representatives were sincere and in earnest. They cannot entertain such proposals of conquest and domination.

The whole incident is full of significance. It is also full of perplexity. With whom are the Russian representatives dealing? For whom are the representatives of the Central Empires speaking? Are they speaking for the majorities of their respective Parliaments, for the minority parties, or the Imperialistic minority, which has so far dominated their whole policy and controlled the affairs of Turkey and of the Balkan States, which have felt obliged to become their associates in this war?

#### WHO SPEAKS FOR GERMANY?

The Russian representatives have insisted, very justly, very wisely, and in the true spirit of modern democracy, that the conferences they have been holding with the Teutonic and Turkish statesmen should be held within open, not closed, doors, and all the world has been the audience, as was desired. To whom have we been listening? To those who speak the spirit and intention of the resolutions of the German Reichstag of July 9 last, the spirit and intention of the Liberal leaders and parties of Germany, or to those who resist and defy that spirit and intention, and insist upon conquest and subjugation? Or are we listening, in fact, to both, unreconciled, and in open and hopeless contradictions?

## Ogg's Forecast.

A REVOLUTIONARY CHANGE

(By "Gossip.")

John Cumming Ogg has given up the sun-spot theory. The maximum of sun-spots does not mean the maximum of storms, floods, famines, robberies, wars, rebellions and delusions. And there were (and are) people who swore by the sun-spot theory. And J. C. O. has given it up, because it misled him. Poor old sun-spot theory. And now the forecasts are going to be quite correct. J. C. O. says, in a long and involved series of "Seasonal Remarks":—

"It might be as well to now inform my many patrons that the Sun-spot theory has been entirely discarded, and this latest discovery fully inculcated in the framing of the detailed forecasts contained in this issue, covering the probable weather for the period dating from 24th January to 7th August next."

Good-bye Sun-spots! But he is right about January to February. He says ("Seasonal Remarks") that the first month of 1919 is the precursor of an elemental upheaval in February, and it has started that way in Queensland. The eastern part of Australia is to receive "substantial relief" between January and April, and—we need it. Then he goes on to tell what is going to happen up till 1922. If he turns out to be right, we'll say he's in league with the devil.

Let me quote his opinion about weather forecasting. He says ("Seasonal Remarks")

"And because of these conflicting anomalies most folk are too prone to exclaim that the cycle theories are exploded long ago. So is the system of forecasting the weather for only half a day in advance by means of the daily synoptic chart exploded for that matter of fact. At times the inaccuracy of the forecasts issued by the Federal Weather Bureau amounts to 85 per cent., while on other occasions this is exceeded by a further 10 per cent.—a shocking record indeed."

"Rather than declare either is exploded, I would prefer viewing it that it lies wholly with the competency of the interpreter to investigate deeper into data, and in the right direction."

That's up against somebody, what? We're going to have a good deal of rain and flood, hail and tornadoes this month, and we can stand it all. The price of the Forecast for six months is 1/1, post free, from this office.

#### THE WHEAT POOL.

##### PROBABLE 4/2 NET TO FARMERS.

In referring to the operations of the State Wheat Board the Minister for Agriculture (Mr. W. C. Grahame) states that there is every prospect of a net return to the farmer on the 1915-16 crop of 4s 2d clear of all expenses. This portion of the department's work has been carried out by a separate branch, which it was necessary to inaugurate to deal with the enormous business which resulted from the operations of the pool. Approximately 60,000,000 bushels were delivered to the pool, and so far 15,600,000 bushels have been shipped away and a similar quantity used locally, leaving approximately half the crop in hand at the end of the year. This, however, has already been sold to the British Government, and will be shipped early during the coming year in vessels provided by the Imperial authorities.

The financial operations of the State Wheat Office have been on a gigantic scale; the cash receipts during the year totalling close upon £6,000,000, while shipments which had been made, but which have not been drawn for, amount to another £2,000,000. The shipments not drawn for will be realised in London and set off against the advance made by the Imperial Government earlier in the year. The net indebtedness of the pool to the banks and Imperial Government, in respect of advances made to enable payments to be made to farmers, amounts to £2,000,000. The amount paid to the farmers at the rate of 3s per bushel represents a sum of £10,000,000.

# WAR MADE UPON PEST

# FRIGHTFULNESS MET WITH FRIGHTFULNESS

Bill

## MOUSE-KILLING METHODS ARE DESCRIBED BY EXPERT

### GAS SLAYS ITS MILLIONS

How in two months 36,000,000 mice were destroyed under his direction is told by Mr R. G. England, agricultural chemist, attached to the firm of Messrs Cuming, Smith and Company Proprietary Limited, who organised a campaign of mouse destruction on behalf of the Victorian Wheat Commission.

"It was in February last that I was invited to a conference of advisory agents to the Wheat Commission, held for the purpose of discussing measures to cope with the mouse plague," said Mr England when seen today. "The conference decided to try the experiment of fumigating the wheat stacks with bisulphide of carbon, which had been found successful in all parts of Australia in destroying rabbits. With this method the great thing was to make the stacks air-tight. I conducted trials at Minyip, and it soon became apparent that the scheme was impracticable. When applied to the mice the gas was deadly, but the difficulty was to confine the fumes sufficiently within the stack. It was found, too, that the mice could not be driven out of the stacks as we had hoped.

### THE DINKUM MIDNIGHT OIL

"I stayed up several nights until midnight studying the habits of the mice, and endeavoring to evolve another scheme for their destruction. For a time I tried the idea of fumigating bundles of old bags and pieces of hessian, about which the mice in the railway yards congregate, but this scheme, too, was only a partial success. I also fumigated sheets of iron and pieces of boards under which the mice crawled, and by stuffing up the spaces between these sheets or boards and the ground we succeeded in killing many hundreds of mice. But they were so numerous that it soon became evident that to cope successfully with them it would be necessary to kill them, not by hundreds, but by tons.

"One night when walking around the stacks of wheat near the railway lines, the sleepers and the track being carpeted with mice, I found that the animals could be driven ahead between the rails for a fairly long distance before they would scatter in all directions, despite the fact that they were so numerous that walking between the rails, it was difficult to avoid treading on them. It was through observing this that I conceived the idea of the system of double-fencing stacks from which we have obtained such remarkable results.

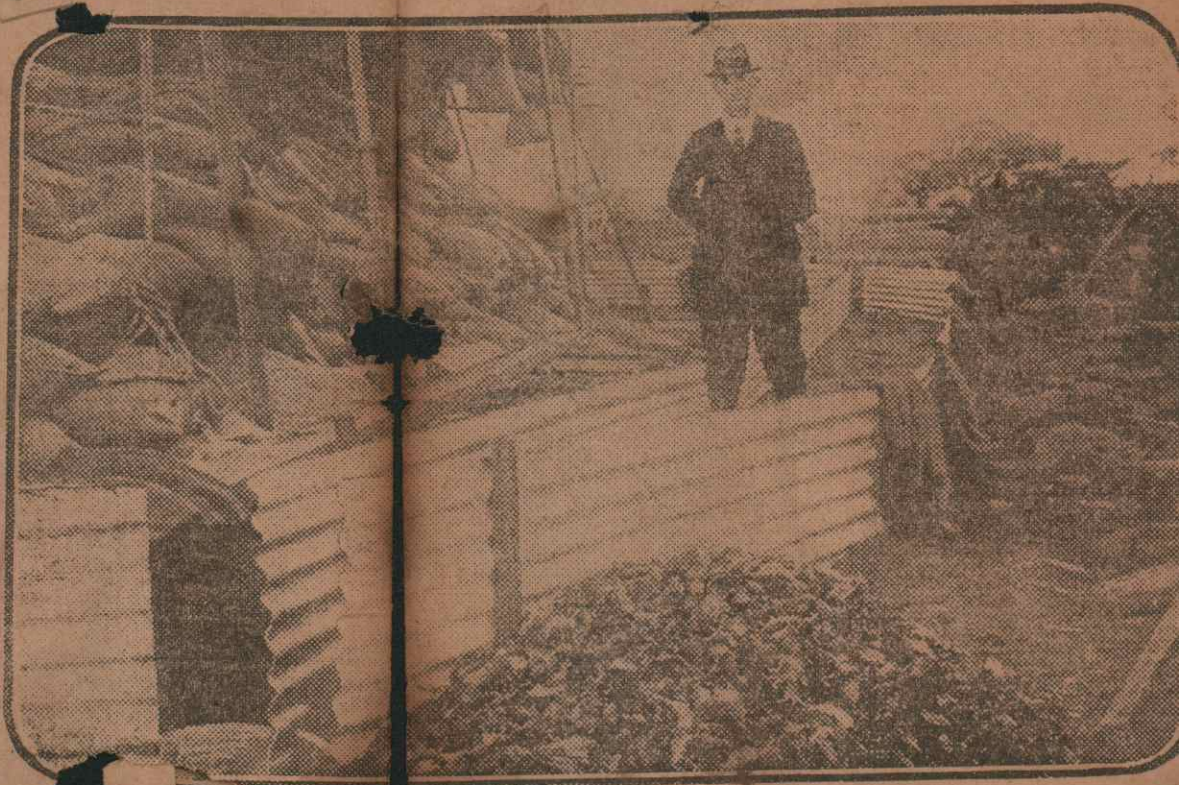
### SYSTEM DESCRIBED

"The system which I have patented is this. Two parallel fences formed of sheets of corrugated iron laid on edge are erected, thus constructing a race around the stack. The space between the fences forms an effective mouse-trap. This is because the wooden supports which hold up the fences are in each case on the outside. On the outside of the fences old bags are tacked, and by means of these the mice, in their eagerness to get at the wheat stack, climb up the outside of the fence and into the race. Once in the race they are trapped, for although it is easy for them to climb up the outside with the aid of the old bags or pieces of timber which we so thoughtfully provide for them, it is altogether a different matter when they endeavor to scale the corrugated iron fence from the inside without such aids.

"It was once popularly supposed by the farmers that the mice could not possibly be imprisoned by such insignificant-looking fences; but the rodents do not really possess the acrobatic powers with which they are credited. The fence is three feet high and I was told that there was a mouse born that could leap this height. As a matter of fact, when the race, 15 inches in width, is provided with the jumping capacity of their jumping capacity, thousands of them are lured inside, desperate efforts can be seen making which are not able to reach the bags which are suspended a few inches over the top of the fence, but the majority of mice are not able to spring even 12 inches.

### "THE PIT" THAT WAS DIGGED

At each of the four corners of a stack a pit, about 2ft. in diameter and 2ft. 6in. deep, is dug and either with sheets of galvanised iron or with the sides of kerosene tins are rivetted together. The race converge and over the pit, and when tens of thousands are imprisoned they are killed by the gas and asphyxiated by carbon.



IGANTIC TRAP SET FOR MILLIONS OF MICE

Illustration shows double fence erected around a wheat stack to trap the mice. The heap in foreground represents mice that were asphyxiated and caught inside the double fence.

in the wheat stacks have to come out for water and the chances of luring them into the race are then greater. An advantage of this system is that it cleanses the stacks by preventing the mice dying among wheat, which is to be used in the making of food for human consumption. Also that dead mice can be taken away and disposed of, which could not be done if poison were used, as the task of collecting the rodents would be a gigantic one.

"When the Victorian Wheat Commission decided to try my scheme the co-operation of the Vermin Destruction Department was sought. Under my control inspectors from the department got to work at over 100 stations toward the end of May, and in six weeks we captured 600 tons of the rodents—roughly 36,000,000 mice. It has been ascertained that a kerosene tin will hold 800 wet mice, swollen with water, or 1100 dry mice which have been gassed. This knowledge enables us to make our calculations regarding the numbers destroyed."

## BULK HANDLING.

### RUSHING THE SCHEME.

#### DIFFICULT TENDERING CONDITIONS.

The inauguration of bulk handling of wheat, which has been dangled before farmers by various political parties for a decade or more, has reached the stage that the Government has called for tenders for the complete erection and installation, including all machinery, of a bulk-handling system for wheat, of a terminal elevator of a capacity of 3,000,000 bushels at Sydney, another of 800,000 bushels' capacity at Newcastle, and country elevators at selected stations having a total capacity of not less than 12,000,000 bushels.

It has been frequently stated that the cost of this installation will amount to something in the vicinity of £2,000,000. The Government, having obtained legislative authority to proceed with this work, seems bent upon losing no further time.

Tenders are only invited from Australian contractors, but they must be on hand by February 12. This is an extremely short notice for getting out the necessary estimates, and prospective tenderers claim that sufficient time is not being allowed for the preparation of bona fide tenders. Such conditions, it is complained, tend to choke off competition, and while not intentionally playing into the hands of anyone who may have all the information at his fingers' end, certainly give to anyone so advantaged a big pull over other tenderers. One possible tenderer has not yet been able to see the plans and specifications, as apparently the only copy was otherwise in use.

Complaint is made that the required deposit of £5000 with each tender is very substantial, while the £100,000 guarantee of good faith is one that probably few firms could arrange at short notice. Added to this, it is a condition that "payment will be made in Treasury Bills at current rates." Arrangements have therefore to be made not only to raise a sum of £5,000 in cash, but to dispose of Treasury Bills, as these may be received by way of progress payments.

It is asked, therefore, does the rush in calling in tenders, under the extraordinary conditions imposed, give the State a fair chance of making the best terms for the carrying out of this great and costly undertaking?

## SOUTH AFRICA'S GREETINGS.

MELEOURNE, Friday.—The Governor-General of South Africa has forwarded the following reply to the Prime Minister's New Year greetings to the Dominions:—

"I am requested to convey the thanks of the Government of the Union of South Africa to the Government and people of the Commonwealth for their kind greetings which are heartily reciprocated."

## FINE FATTENING FEED.

The United States Department of Agriculture, after careful experiments with rape, recently issued the following statement:—

"Rape is unrivalled as a pasture for sheep in autumn, where it can be successfully grown. As a fattening feed in the field it is without a rival in point of cheapness or effectiveness. The sheep that pasture upon it do the harvesting in a most effective manner, and with but little cost to the owner; and the manure from it is distributed over the field which produced the crop, and in a form which is readily available for the plants of the succeeding crops.

"While rape, thus grown and fed, does not add fertility to the soil, unless in the plant food it brings up from the subsoil, it does not detract from the fertility when the sheep which eat it off are enclosed upon it. When rape can be successfully grown as a pasture,

## FINANCIAL.

### THE STATE ACCOUNTS FOR THE PAST HALF-YEAR.

The New South Wales revenue would certainly have expanded considerably in the past six months but for the strike, which in the two months of August and September caused a shrinkage of a great deal more than the decrease of £534,000 then indicated. But for the strike there would have been a substantial increase. As it is, the railways on the six months show an increase in receipts of £20,599, that increase would probably have been £300,000 if the strike had not occurred, for the charges had been considerably reduced. The tramway revenue has felt the strike longer, and is still nearly £125,000 the less on the half-year. Beyond that, there has

## PAYS TO ROLL WHEAT.

In view of the fact that the Nebraska experiment station has found that rolling wheat increases the yield over five bushels an acre when roots are exposed through surface cracking farmers are considering this a profitable practice this spring. The experiment station has found that harrowing after rolling was not as good as rolling alone and that rolling alone may profitably be done after the frost is out.

The country agricultural agents have found but very little difference in yield where spring rains have been regular and timely enough to pack the soil and prevent checking. Where the ground is dry and the surface left checked and no timely rains have come to pack the soil, however, the usual increase in yield has followed from rolling. The agronomists caution against rolling ground when it is wet. If the soil is dry, rolling aids in forming a surface mulch and does not compact the surface.—American.

## NEW MACHINE FOR SOWING.

A demonstration of sowing wheat by what is called a "tillerer" was given at Nottingham, in England, recently. The machine is designed as an improvement on the ordinary seed rill, with a view to assisting wheat plants to make more stems above ground and to produce heavier crops. In front of the seed coulters are small moulders which make small furrows. The seed is dropped into the bottom of these furrows at wider intervals than usual, and the soil drops into the furrows to cover the seed.

The rows of plants can be made by a set of forks takes the place of the seed coulters, and the machine works like a horse-hoe, the forks scattering the soil into the furrows. Later on another set of forks is used, until the ground is levelled and the furrows filled. Finally, the moulders are placed in position again; and working half way between the rows, they earth up the plants in little ridges, one or two inches higher than the old level of the ground, and allow them ample space for artificially developed roots three or four inches above the original seed bed.

Hors, six Martins, and four Meadowlarks, each 15-disc. The cost of drilling worked out at about 1s 9d per acre, but this cost was inflated by the abnormal price of horse feed, and in normal times the superintendent estimates it to cost 1s per acre. These figures, with a little calculation, show that the actual cost of the crop—ploughing, drilling, seed, and fertilizer—to date has been slightly over 11s per acre. Other charges, such as rent, supervision, interest, and depreciation, have, of course, to be added, and allowance made also for the cost of harvesting, so that a two-bag average, roughly speaking, may be regarded as essential to cover expenses. There have been items of expense this year, too, which might have been avoided, and which are evidence of slackness on the part of someone. For instance, a dozen teams were recently seen in Tullamore carting back to the railway seed wheat which had been over-supplied to the farm. Double freight and cartage has been paid on this wheat, an expense that might have been avoided with ordinary care. Chaff bags by the ton have also, it is said, been sent to the area and carted back again, and there are now, in a great stack on the farm, about 150 bales of wheat sacks, totalling some 45,000 bags, only about one-sixth of which can be filled with the realisation of the most sanguine expectations. These bags, ordered when an average crop of four bags to the acre was confidently expected, appear to have arrived before any intimation was received at the farm that they were about to be sent. Yet the department in Sydney—and everyone else as a matter of fact—knew a month ago that the crops were failing. This is the sort of thing that should not have been allowed to happen, and which has piled up expense at a time when economy was most necessary.

For harvesting operations eight Massey-Harris binders, four 6ft. and four 8ft. cut, are now being built on the ground, and 23 8ft. Sunshine stripper harvesters are there all ready for work. These, with a few odds and ends such as fire fighters, harrows, etc., complete the plant on the area, the value being probably in the neighborhood of £15,000. This machinery is not, as has been stated, lying about all over the area, rotting in the weather. An immense shed, 100ft. long by 60ft. wide, covers the drills, ploughs, etc., not now in use, and another is in course of construction to receive the binders and harvesters when their work is done. Each of these sheds cost £200, even with iron obtained at the contract rate before the rise. The disposal of these will form a problem to be met when the area comes to be thrown open for selection, but they had to be built.

To minimise the loss accruing on the year's operations, the superintendent, when he saw the crops burning off so rapidly last month, recommended the purchase of some store sheep, in order to turn the wilted wheat into mutton. As a result of his recommendation there are now some 3000 sheep on the place, and after the binders have "patched out" for hay the crops, over an area of about 3600 acres, which will not pay to run the harvesters over, the sheep will be turned on to these. It is hoped to fatten them by January and turn them into a tidy profit which will reduce the debit balance to that extent. In the effort to induce efficiency and economy, the present farm management has introduced a system under which the outdoor work is done by gangs of ten men each, one of whom is appointed working foreman at an increased wage of 1s per day in recognition of the responsibility cast upon him. This system has worked well, as the cost of the work shows, for although good wages are paid for only eight hours' work per day the cost of the various operations has been kept within the recognised limit. This is due, of course, to the large area cultivated and the labor-saving machinery in use. For instance, the ploughing with the caterpillar tractors cost 3s 10d per acre, as against 8s, which was the lowest at which it could be done by horse traction during the past winter. The comparison may perhaps suffer when the cost of cutting and stripping is tallied up, for with this work each man has his team of horses. In any case it is thoroughly recognised that the system could not be applied on a small area. There are just about 100 men employed on the area, and the looking after of the affairs of these men keeps busy—sometimes to the border of perplexity—an office staff of four. Early in the year there were 400 men on the area. Everything on the area is carried out according to a system. Perhaps there is a little too much red tape, but this is inseparable from a Government institution.

But while admitting the efficiency and capability of the management, one cannot get away from the fact that the year's operations bear the brand of failure. This, however, does not prove the scheme itself to have failed. Rather the contrary. The experience of this year points to the assumption that under more favorable conditions—either natural or induced by better cultivation—the crops would have

## A FAIRFIELD EXPERIENCE.

"Old Hand from the Bush," Fairfield, writes as follows in reference to the feeding value of Old Man saltbush:—

Some years ago I received a parcel of seeds of Old Man saltbush from the Lower Macquarie River, which I scattered about my garden, just scratching the surface with a rake. Nearly all the seed sprang up (the fowls destroying a lot), and I have about one dozen shrubs of it left, on which I have been feeding from 20 to 30 ducks since September last. The ducks eat the saltbush greedily, and require very little grain. Some years ago my father turned a stallion, scarcely able to walk, into a dried-up paddock with plenty of Old Man saltbush in it, and in six weeks time the stallion was very fat. Saltbush should be more generally cultivated.

## AUSTRALIAN SALT-BUSH.

### ITS PASTORAL VALUE.

(BY F. TURNER, F.L.S.)

Since I described, as to their pastoral value, thirty-seven of the best species of Australian salt-bush, under instructions from the Government of New South Wales, and widely distributed seeds of these important plants in the hotter and drier parts of the globe, stock-owners in those countries have been greatly interested in this vegetation, and regard it as valuable auxiliary feed for stock. Many of my original figures and all of my original descriptions of these valuable pasture plants have been republished in America and other countries for the information of those settled upon the land. In recently issued publications in the United States prominence is given to the feeding value of Australian salt-bushes and to American stockowners' appreciation of them. The "American Sheepbreeder," inter alia, says: "Australian salt-bush will turn out to be a great blessing to American farmers, and particularly sheep-raisers. It seems to thrive anywhere. . . We have it on our place in California. Stock are crazy for it. It isn't half so woody as sweet clover, and it grows thick in clumps. It seems to stand the hottest kind of weather, and . . . thrives on light soils with little or no rain. The college folk say it is stronger in protein than alfalfa (lucerne)."

As the economic importance of saltbush is not generally known to the man on the land in Australia, I may be allowed to give a few particulars regarding this valuable indigenous vegetation. Chemical analyses of Australian salt-bushes made in this country and in California agree in assigning to them a high feeding value. Though different species vary considerably, it may be generally stated that the best kinds, when freshly cut, contain about 75 per cent. of water, 4 to 6 per cent. of fats, about 2.3 per cent. of albuminoids, 10 per cent. of digestible carbohydrates, 3 to 4 per cent. of woody fibre, with a very high percentage of ash, of which half is common salt, ranging from 5 to 10. In comparison with other forage plants, salt-bushes are richer than barley, maize, oats, or sorghum fodder, weight for weight, and are nearly equal to lucerne and the best meadow hay. Their nutritive ratio is 1 to 4, proving that they are a rich food, as they contain one part of flesh-forming substances to four of heat-giving materials, and thus furnish a well-balanced ration for fattening pasture animals.

Saltbushes, in addition to being valuable as feed for stock, are the most important indigenous vegetation to plant as fire-breaks for the protection of forests, homesteads, and crops. Several years ago I noted that where a fair percentage of saltbush grew in the pastures on the droughty inland grass fires were not nearly as disastrous as they were on country where the saltbush had been eaten out. Moreover, the grasses and other pasture herbage recuperated more quickly after a fire where the saltbush was growing fairly plentifully, so from this circumstance alone it would be wise policy to conserve it systematically, and disseminate the seeds on those areas from which it has disappeared.

## MOLASSES FOR STOCK

### MIX WITH SALTS

"Drought" writes from the West:—

"Would you kindly let me know through the columns of your journal about how much molasses gives the best results when using it with Epsom salt for sheep and cattle? I have been giving salt, just in the ordinary way out in the paddock. I have been using crude Epsom Salts at about 1 lb. to 100 lbs. Liverpool Salt. Would you advise using Epsom Salts as well as molasses with the Liverpool Salt? I just use the ordinary troughs. My feed is very dry."

Mr. S. T. D. Symons, M.R.C.S., Chief Inspector of Stock, says that the ordinary way molasses is fed to stock by being mixed with either bran or maize, etc., but it has been fed to sheep and stock with good results by many stockowners in the following proportions:—Molasses 10 lbs., Epsom Salts 10 lbs., and (Liverpool) 10 lbs."

## WILD OATS.

The Wild Oat belongs to the family of grasses called "Avenae" which includes some 50 varieties of cultivated oats, but as to what country it originally came from I'm unable to say, except that it is known in every land where cereals are grown, and at all times has been a menace and source of trouble to farmers. The, about 50 varieties of cultivated oats are sprung chiefly from black oats and "Avena Fatua" is the species now demanding our attention. It matures quickly and usually sheds the bulk of its seed before the sown crop of wheat or grain is harvested, thus re sowing its own crop for the following and often for succeeding years.

Once it gets thoroughly established in a cultivation paddock its complete eradication is a matter of hard work for many years, and requires a study of the plants history to effectively cope with it. The wild oat is covered with a thick velvety oily coat, which if examined under a glass can be seen very plainly, this coat keeps out any small amount of moisture that would sprout and germinate any other varieties of seed at unfavourable times to themselves and thus destroy them.

The two things most essential to its germination are moisture and warmth thus an oat buried say 5 or 6 inches below the surface may not germinate for years even though heavy rains fall, should ~~be~~ sufficient warmth of the sun be lacking at that particular period.

Its twin brother may perhaps be buried an inch below the surface which with the same amount of moisture would naturally receive more sun and probably start, while the third brother lying on the surface may calmly wait for years until it receives just the amount of covering moisture and warmth necessary to penetrate his oily coat.

Once oats are firmly established in your paddocks, your two best friends are sheep and cultivation, in fact, I doubt if in this country any man can be a successful farmer without sheep, as they prevent oats from seeding, and being cud chewing animals destroy all seeds when eaten, even if ripe, while horses will often pass them through the stomach without injuring the oat. By cultivation I do not mean fallow alone.

It is now becoming an accepted fact that fallow alone in many instances is apt to bury the oats too deeply and as previously stated perhaps protect some of them for years, for this reason many farmers are now adopting the method of cultivating or scarifying their land as soon after harvest as possible, thus lightly covering the oats and other weeds and inducing them as far as possible to germinate with the first rains. Later on the land is fallowed and all growing oats are turned down.

Some may say this entails too much work, but the first cultivation is done with an implement which works up to 12 or 18 acres in a day, and besides covering the oats it opens up the soil permitting it to absorb early rains and thus making your fallowing easier and more beneficial to your self. Some competent authorities say that under favourable circumstances wild oats will remain in the ground from one up to ten years, and I am inclined to think this is correct.

I know of one instance on the road from Borellan to Leeton. In 1907 or 1908 this road was widened and some two chains were taken off an old cultivation paddock for this purpose and so far as my recollection goes no oats appeared on this road till 1916 which you will recollect was a very wet, warm year and most favourable to wild oats germinating. In this year they grew in profusion along the line of old cultivation on the road, showing just what land had comprised the old paddock. Prior to that the road was included in a sheep paddock so that any oats which may have grown between 1907/8 and 1916 were eaten off by the stock.

Under some circumstances they grew to a great height, last year in our district a farmer sowed wheat on a fallow paddock which was very oaty, he had fallowed deeply and turned the ungerminated oats down early the previous year, and when sowing his fallow it appeared to be perfection, a heavy early storm fell just prior to seeding which with the Autumn sun no doubt had an effect on the oats buried far down in the ground but they being deeply covered it took some time to stir them.

Allittle later the farmer sowed his wheat, more rain followed, and in a few days the wheat came up, just then a swarm of grass hoppers happened along eating the wheat down just as the oats appeared, the latter quickly overcame the wheat and by harvest time stood in places to a height of from 5 to 6 feet, scarcely a head of wheat was discernable in the whole paddock of some 60 to 70 acres.

Now had this farmer the previous year lightly cultivated his paddock to germinate those oats prior to turning them down deeply in the ground he would probably have had a moderately clean crop. But even fallow and a previous light cultivation may not start all your oats.

Some will come up during the Winter and Spring, sheep can deal with these if turned on the ground. Those that trouble you most are the ones that do not germinate the first Winter and Spring after fallowing, but appear in your paddock the following year just as you are about to sow.

For this reason if early rains fall on your fallow, it should be harrowed at once to conserve the moisture and thus start as many oats as possible before seeding time. These should be carefully worked down with a disc or other implement before you sow.

Observant officers in our agricultural department say I think truly too, that the reason why our country is becoming so oaty is because of our combined harvesters etc, blowing the chaff out over our paddocks.

With the chaff most of the ~~washed~~ oats being light are blown out and evenly distributed to appear later on. In countries particularly Canada and The United States, machines such as ours are not used, nearly all their harvesting being done with the reaper and binder and the straw mostly carted off the ground. As a proof of spreading oats by machinery on Mr Barbers farm on Binya, there is a 40 acre section, which was cleared in 1870 some 52 years ago.

It was used as a hay paddock by the station and as agricultural machinery progressed, was probably first harvested with the reap hook and scythe, later on by an old mower and back delivery and so on till the reaper and binder came into use, the remains of the old implements I mention are still in existence, anyway, it was never harvested by modern harvesters and to-day it is a cleaner paddock than many of those in this district that were not cleared till so late as 1912 only 10 years ago.

Wild oats in N. S. W. are worst in the North West but it is roughly estimated that one third of N. S. W. is affected, I do not mean that we are losing one third of our crop by oats but I say this that on this one third if we lose half our crop, and I do not think that is an over estimate to say, we would on the average price of wheat for the last two years lose quite a £1,000,000 yearly.

Now just ~~think wofwold~~ we would say if any government deliberately robbed us of £1,000,000 per year, we are robbing ourselves and many of us make no effort to stem the tide. I would strongly urge you all to grade your seed taking out all black oats, keep sheep, cultivate your land first and fallow it afterwards, if only a few oats appear in your crop pick them out by hand as they mature quickly, they mostly show up early in your crop of wheat. Where a paddock is only lightly affected 30 or 40 acres per day can be picked by hand, in some instances more.

Our district is to-day one of the cleanest in the State, but I notice it becomes dirtier every year, thus reducing the average yield and value of your land.

Apart from cultivation, fallow, clean seed and sheep the best methods of being free from wild oats are to see that after you fallow no large clods are left on the surface, these often hold oats and unless melted by heavy rains, the oats which remain in these dry clods do not sprout.

Keep as few dry trees in your paddock as possible, I know one paddock with many dry trees in it, the farmer cannot plow very close to these and even though the rest of his crop is moderately clean there is always a fringe of oats round these trees, I notice they are yearly increasing away from them, and getting a hold of his paddock.

Do not at any time put in half your paddock and leave one half out for fallow, better put it all in, you cannot keep sheep in the half that is left and even though you may make up your mind to constantly work it, you will find that oats will grow and seed in spite of you.

If you have a good strong stubble and a good hot burn can be got early, you will kill a large number of oats lying on the surface, this however does not always come off.

Referring to seed again the writer after 1919 drought saw a farmer sowing his crop, and having a habit of always looking at what a man is sowing he opened the box and found that 10% of the seed being sown was wild oats. I observed the paddock the following year and noted a large number of oats in the wheat, again last year, I looked and found that so prolific and pugnacious had these oats become that they were then half the crop in two years, they had claimed half his land. *he made no protest*

I asked the farmer why he did not winnow his seed and take as many oats as possible out. I knew he had a good winnower but he said he had not time to do so, but he had time to lose half his crop in two yeras. A grader is very essential to good clean farming, it will pay for itself in from one to two years in the cracked and small grain you sow which is of no value to you, quite apart from taking your wild oats out. I note with pleasure that in many instances two or three farmers have banded together in keeping graders, this is a step in the right direction. Failing a grader, hand pick the crop you are going to keep for seed, it wont take you long to do so. I noted in our district last year that several farmers cut their wild oats and stacked them for feed, this is very undesirable indeed and is only building up further trouble, never use wild oaty hay. Apart from that they are not good nutritious feed compared with other hay. Of course it is only fair to the wild oat to admit it has some virtues, but its very warmest friend must admit they are very much out weighed by its bad qualities. To the man with early lambs the dirty oaty stubbles after March rains is a god send indeed, and to the wild oat being crossed with the cultivated oat we have recently derived the Sunrise oat. Some say that sheep spread wild oats by carrying them in their wool. This could only happen were oats are allowed to become dead ripe before stocking, but I seriously doubt it all the time, they have nothing to hook on to the wool like a thistle or burr has. If they were in a high ripening crop with a full fleece which is unlikely, they certinally might carry some in their backs. Now these are my impressions of wild oats from personal observations and if wrong to your way of thinking in a any particular I welcome information. In final conclusion I might say there is an old saying that a man sows his wild oats he is right, well I can only say it must be a different variety to the one we have under review, because once you sow these you will be many years getting rid of them, your troubles are only starting instead of ending, and to my mind it should be classed as a noxious weed.

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George Gow

Dear Jeff  
Woulddy in mind passing this on  
to Bill Raymond or anyone else who might care  
to read it, possibly someone may gain  
information from it  
yours truly  
George Gow