

Propagation of Growth: Agribusiness and the Seed Industry in Australia

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INTRODUCTION

The purpose of this paper is to place the current moves in Australia to introduce Plant Varietal Rights legislation firmly within the context of a transformation of the relations of production in the agricultural sector.

The manner in which this restructuring is being legitimized in the legal form is an important and necessary part of an analysis of relations of production and the transformation in the nature of capitalism. The legislation must be analyzed not only for the new form of property it will create, but also the manner in which these new forms of property serve the interests of monopoly capital and their inter-relationships with the current transformation in the relations of production in the agricultural sector.

The problematic and contradictory nature of monopoly capital's entry into agricultural production in Australia and the role of PUR legislation in facilitating their penetration makes this a fruitful area within which to analyse various Marxist theories of the law in the context of a specific social formation. Unfortunately this cannot be attempted in any detail but an attempt is made to lay the groundwork and spell out some of the difficulties for a more general and broader theory of the law. The limited view which sees the law as a tool - mechanical or ideological - in the hands of powerful interest groups must be incorporated into a broader understanding of the transformation in the nature of capitalism and the role law has played and does play in these transformations.

PLANT VARIETAL RIGHTS LEGISLATION

The Federal Government is currently considering the introduction of Plant Varietal Rights legislation.¹ Such legislation permits a plant breeder to patent varieties of seeds developed or marketed by him. Not only would such legislation make it an offence to sell such seeds contrary to patent, but it would also make it illegal to give away seeds subject to patent. This legislation seems innocuous enough in itself although it is notable for creating a new category of property under capitalism. When, however, tied to a number of other factors it can be seen as an integral factor in a restructuring of the agricultural sector.

First the introduction of such legislation creates the conditions for a preferential market for patented seeds. If you introduce regulations ancillary to the introduction of Plant Varietal Rights legislation which restrict the seeds which may be sold, grown or given away then the preconditions exist for a preferential market in patented seeds. Such introduction of regulations is not a hypothetical possibility but is in fact what has occurred in the E.E.C. On the 1st July 1980 regulations were introduced in Britain which make it a crime, punishable by a fine of £400, to sell or catalogue any variety of seed that is not on the National or E.E.C. lists. The immediate effect of these regulations was to withdraw 500 vegetable varieties from general availability. The costs of obtaining a listing for

a variety are prohibitive enough to effectively prevent all but the large international firm from obtaining approval for new varieties.² Other E.E.C. countries effectively operate the same constraints.

The mechanics for instituting such a system in Australia are already present in relation to some varieties of seed - for example the Wheat Board and the Barley Board provide controls over what seed is grown. It therefore would not be too hypothetical to imagine some form of National List introduced in Australia, though of course it may have some more restricted scope than that operation in the E.E.C.

A further factor when tied to the introduction of Plant Varietal Rights legislation which may be cause for apprehension is that of highly concentrated control by international firms of seed sales. Concentration of ownership in the seed industry has taken place in the U.S.A. and Europe concomitant to the introduction of P.V.R. legislation. In the U.S. acquisitions of seed companies were so extensive after the passage of the Plant Variety Protection Act in 1970 that the American Seed Trade Association devoted half of its general meeting to a special symposium entitled "How to Sell Your Seed Company".³ Similarly, in the United Kingdom in the same week in which P.V.R. legislation was passed one company - Ranks Hovis McDougall - bought out 84 country supply companies. Eventually this company went on to acquire over 100 small seed firms.⁴ The same pattern also occurred in Canada. Talking about the position in Canada in 1979 one commentator states:

"Such legislation was now in the works in Canada, and international firms were buying up Canadian seed houses in anticipation of its passage. The National Farmers' Union and other groups were waging a vigorous and sustained campaign against the proposed legislation".⁵

However, when P.V.R. legislation failed to be implemented in Canada the buy out of Canadian seed houses halted.

The pattern of acquisition is clear. International firms have been unwilling to integrate their operations so as to incorporate plant breeding unless they operate under the protection of P.V.R. legislation. Once such legislation has been introduced the pace of concentration in the seed industry has been phenomenal. The upshot of the large scale acquisitions of seed companies in the U.S. and Europe has been that companies who a decade ago had no interest in the seed industry at all now control a large portion of the world's seed market. The world's largest plant breeder is now the Shell Oil Company.⁶ The industry is now dominated by the likes of Shell, Ciba-Geigy, Sandoz, Pfizer, Upjohn, Monsanto, Union Carbide and I.T.T.⁷

It would be expected, therefore, that in anticipation of the introduction of P.V.R. legislation in Australia there would be some involvement of these large international firms in the Australian seed industry but, as of yet, they have balked at obtaining a controlling interest in that industry. Whilst no detailed study has yet been published which details the concentration of ownership in the Australian seed industry, the pattern of ownership seems to be analogous to the pattern in Canada, Europe and the U.S. pending the introduction of P.V.R. legislation in these countries. Monsanto, Ciba-Geigy, Sandoz, I.T.T. and Shell have all already acquired some interest in the Australian seed industry but have not so far concentrated their control of the industry.⁸ Such concentration surely awaits the introduction of P.V.R. legislation.

The last factor which seems to tie P.V.R. legislation to the restructuring of agriculture is the basis on which plant breeding proceeds once a concentrated and preferential market has been created. The interlocking of plant breeding to

technologies controlled by the international firms who are acquiring control of the seed industry is a fruitful avenue of analysis. The firms which have been most interested in obtaining substantial interests in the seed industry have been chemical, petrochemical and oil companies. These are the firms that provide the inputs to modern agriculture predominantly in the form of fertilizers and pesticides. It is certainly not too far-fetched to suggest that the biases of these firms in their plant breeding programmes will be concentrated on 'improved' varieties dependant upon large scale chemical inputs:

"Because of their involvement in several phases of the total food system, agribusiness plant breeders look to profits from several sectors. This enables them to breed seed suitable to their chemical, processing or retail interests, but not necessarily suitable to the profitability of the ... (small or medium) farmer or the nutrition of the consumer".⁹

This process has already been occurring. An example of such a linkage between chemical and plant breeding research is the development of the Florida MH 1 tomato which has been bred so that it ripens only when off the vine and gassed by Union Carbides Ethrel spray.¹⁰ The questionability of this research is apparent when it can be shown that the utilisation of ethylene gas (Ethrel) in ripening leads to lower quality, with less vitamin A and C and inferior taste, colour, and firmness.¹¹ Another example is Monsanto's work on producing an alfalfa variety which is resistant to weedkiller. The basis of this resistance lies in an hundredfold amplification of the gene coding for an enzyme which inefficiently degrades the chemical. In the absence of selection for this amplification (i.e., in the absence of the herbicide), the copy number of the gene reverts back to wild type. What this means is that even in the absence of weeds the weedkiller must still be applied to the crop to maintain resistance.¹² The validity of these biases in research is certainly dubious.

Parallel to the tying of plant breeding to the development of chemical inputs is the single-minded emphasis in plant breeding research on the desirability of highly mechanised agriculture. This matter is also related to the linkages of the new seed barons with the suppliers of machine technology and the imperatives of food processors. The previously mentioned Florida MH 1 tomato is not only notable for its chemically dependent ripening but also for its extreme suitability for machine harvesting. This tomato is incredibly thick skinned so as to be able to withstand the vicissitudes of a mechanical harvester, the endless shocks of shipping and repacking and the dangers of display in the supermarket.¹³ The resilience of this tomato to heavy handling is illustrated by the following anecdote. A U.S. auto safety expert, Dr. William Hadden Jr., computed the comparative resistance to a motor car collision of an automobile bumper bar and an MH 1 tomato. The safety requirement for U.S. automobile bumper bars is that they must withstand a collision speed of 4.85 m.p.h. The MH 1 tomato was able to withstand a collision speed of 13.4 m.p.h. almost 3 times the safety level for bumper bars.¹⁴

With the recent intensification of control over plant breeding by international firms, intent on creating further markets for their inputs to agriculture, one can only wonder at the long-term effect on food quality and farm labour in the agricultural sector. One example at the consumer level is that of the much-vaunted high yielding variety (H.Y.V.'s) seeds foisted on the third world during the "Green Revolution". These seeds led to greater productivity in the agricultural sector when combined with fertilizers, herbicides, and water, but whilst productivity increased it is a little known fact that the protein concentration in grain produced from H.Y.V.'s decreased dramatically.

Given that the major food problem of the Third World is protein deficiency, one is led to question how valuable the introduction of H.Y.V.'s were as the central strategy of the Green Revolution.¹⁵ Another example is that of the newer varieties of tomato. Using these new varieties American producers were able to increase their yield by an average of 10% by weight between 1960 and 1970. This increase is accounted for solely by additional water content in the tomatoes. The predominant destination for the U.S. tomato crop is processing firms, in fact, 86% of the tomatoes are processed. As the first step in processing is water removal the increase in 'productivity' due to the introduction of the new varieties is an exercise in absurdity as it has actually added to the cost of drying out the tomatoes for processing which cost is inevitably passed on to the consumer.¹⁶

The effect of recent research in plant breeding on the employment of agricultural labour has been quite drastic; due to the introduction of new technologies which make manual labour redundant the migration of farm labour from the rural to the urban areas has intensified dramatically in the last few decades. In the U.S. almost one million farmworkers migrated from the rural to urban areas in the period 1950-1970.¹⁷ This rate of migration has intensified rather than lessened in the past ten years.¹⁸ Those that have remained in the rural sector have the most depressed wages of any employed group.¹⁹ In the U.S. mechanisation and ultimately plant breeding geared to facilitate its rapid introduction, accounts for these migratory patterns more than any other single factor.²⁰ Similar migratory patterns to those observed in the U.S. have been taking place in Australia. Whilst in 1940 about 25% of the Australian work force was directly involved in agriculture only 6.5% of the work force were so involved in 1974.²¹ These patterns can again largely be accounted for by the acceleration of mechanisation in agriculture in the last few decades.²² Sight should not be lost of the fact that mechanisation can only occur within the parameters dictated to it by plant breeding.

One is almost inevitably drawn to the conclusion that:

"The criteria around which new technologies are developed are political as well as technical criteria".²³

It remains for us to define what those political criteria are and what their implications are for the agricultural sector.

AGRIBUSINESS AND THE RESTRUCTURING OF THE AGRICULTURAL SECTOR

As indicated in the preceding section the linkage of number of factors related to plant breeding can be seen as an integral facet in the transformation of the agricultural sector. The combination of patent protection for seeds with the creation of preferential markets for such seeds, a high concentration of control within the seed industry, and an emphasis in plant breeding research on the demands of large scale, high-input and intensely mechanised agriculture will lead to a situation where mechanisation and chemically dependent crops are not presented to the farmer as an alternative, but rather as an imperative.

The inability of small and medium farmers to survive in this climate is usually cited as an example of the inefficiency of such farmers. The notion of inefficiency in this context is, however, highly questionable as several studies on the optimally efficient size of farms have not tended to support the notion that "big is better":

"Numerous U.S.D.A. and university studies show that enormous acreage is not needed to farm efficiently. For example, maximum cost-saving

production efficiency is generally reached at about 1,500 acres for cotton, less than 1,000 acres for corn and wheat, 110 acres for peaches".²⁴

However, profitability appears to be unrelated to efficiency in the agricultural sector. Whilst the small and medium farmer may far exceed the agribusiness concern in efficient management of the land they have not the same ability to utilise the taxation system so that even losses can be turned to advantage in the overall corporate network. As an example of this, Tenneco in 1969, with a gross oil income of \$464 million, and a taxable oil income of \$88.7 million, utilised a number of tax provisions relating to agricultural production to produce a result whereby it not only paid no taxes, but had a credit of \$13.3 million.²⁵

The integrated nature of the large firms interested in agriculture and the benefits this produces are not the only comparative disadvantages under which the small or medium farmer labours. The fact that the large firms which are involved in agriculture produce the inputs necessary for "productive" farming and also are increasingly involved in the seed industry means that the smaller farmer will be put in a position whereby he must purchase these inputs and seeds at competitive rates in the market place whilst the agribusiness concerns are obtaining the same items internally at a discount.

The increasing concentration and centralisation of capital in the agricultural sector which has been occurring in Australia since the early 1960's²⁶ has been, up to now, confined to a relatively narrow spectrum of that sector. Large agribusiness firms have been reticent to move into agricultural production. Agriculture in Australia is still overwhelmingly in the hands of family farmers.²⁷ The main discernable trend has been for international firms to move into the converting and agricultural supply industries upon which the farmer depends for his markets and agricultural inputs. As the farmer becomes more and more dependent upon these firms he effectively relinquishes control over his productive resources.²⁸

The proposed introduction of P.V.R. legislation to Australia augurs a new phase in the penetration of the agricultural sector by large transnational corporations. Whilst initially this legislation may have no more impact than to provide various international firms with a further source of profitable revenue, by means of royalties on seed sales, ultimately it is an integral factor in the continuing penetration of these firms into the agricultural sector. With plant breeding research designed around the imperatives of high input, high technology farming, the displacement of the independent petty-bourgeois producer from agriculture becomes an inevitability:

"Because of their involvement in several phases of the total food system, agribusiness plant breeders look to profits from several sectors. This enables them to breed seed suitable to their chemical, processing and retail interests, but not necessarily suitable to the profitability of the farmer or the nutrition of the consumer".²⁹

Such legislation, when combined with the factors outlined in the preceding section, will effectively impose dependence upon large agribusiness, not only for markets and inputs, but also for seeds.

The only manner in which the small or medium farmer can remain viable in a situation where he is not only dependent on agribusiness concerns for his markets and inputs but also for seeds, which are the product of plant breeding research designed around the agriculture of the richest farming concerns (i.e. agribusiness),

is to concentrate and centralise capital and thereby cater his farming operations to the inevitability of mechanisation and chemical dependence. The only other alternative is to leave farming. As indicated by Lawrence in his analysis of agribusiness in Australia this involves either a move from being an independent producer to an employer of labour - that is from petty bourgeois producer to capitalist or, alternatively, being employed to labour on another's farm or moving to the urban areas - that is, absorption into the proletariat.³⁰ Control of plant breeding by agribusiness through P.V.R. legislation can, therefore, be seen as a leverage point whereby such concerns can consolidate their control of the agricultural sector.

The manner in which this penetration of agriculture will proceed is somewhat contradictory in nature, for monopoly capitals' growing involvement in agriculture may be antithetical to the interests of capital as a whole:

"Monopoly capital may not wish to challenge, or may not have the capacity to challenge, the hegemony of competitive capital in Australian agriculture production".³¹

The specificity of different social formations must not be lost when assessing the impact of P.V.R. legislation in Australia, or even, for that matter, whether such legislation will ultimately be introduced at all and if so in what form. The pattern of control in agriculture which has been pursued by agribusiness concerns may not reflect the manner in which penetration of this sector will occur in Australia.

"It is ... necessary to stress that historically different forces have operated to create different rural formations within each country. So, while it can be assumed that economic processes similar to those occurring in the U.S. are also underway in Australia, it is important to note that socio-political factors have had, and will continue to have, a determining influence on the form of monopoly capital expansion".³²

It is useful to examine the manner in which legal channels have been utilised to mount a challenge to the restructuring of agriculture in the U.S. and the implications this may have for mounting a short-term strategy in Australia.

Various interested sections of the population in the U.S. have mounted attacks on P.V.R. legislation and the interlocking of plant breeding research with mechanised, chemically dependent agriculture. Foremost amongst these groups have been the environmentalists who have seen the solution as centred around the enlightenment of governments. They see government action as the only solution to the travails of agriculture and that governments will act rationally if presented with a reasoned case for preventing agribusiness control of the agricultural sector. This view is reflected in Mooney's otherwise excellent analysis of the seed industry:

"... Knowledgeable governments can act to protect public breeding programmes and curtail the expansion of the global seed industry into their own territory".³³

Such a programme for political action displays an inordinate level of naivety in respect to the nature of the struggle going on at present in regard to control of the agricultural sector:

"It may be possible to stop the monopolisation of food production, but it will not be a result of actions by enlightened governments.

On the contrary, it will only be stopped through struggles which force governments to act to avert serious disruptions of economic and political processes".³⁴

The response of farmworkers in the U.S. has been somewhat more realistic. An unusual law suit has been filed in California against the University of California (U.C.L.A.) by California Rural Legal Assistance. This action demands that the University cease all research on any agricultural mechanisation process which conveys "a special economic benefit to narrow private agribusiness interests at the expense of farmworkers, small family farms, consumers, taxpayers and the quality of rural life".³⁵

U.C.L.A. has been involved in the development of automatic tomato pickers and sorters and in the breeding of thick-skinned square tomatoes to complement the mechanization of handling. Implications of this research for farmworkers are immense. As an example, in one unsuccessful United Farmworkers Union campaign the issue was over the reduction of one tomato grower's labour force from 100 to 28 as a consequence of the introduction of an automatic tomato picker and harvester. U.C.L.A. prides itself on having developed a machine which "won't strike, it will work when the owners want it to work".³⁶ The action against U.C.L.A. is remarkable for the fact that it is an action about the inability of science to be neutral. It is an action about the organisation of new technologies around the imperatives of monopoly capital. The efficacy of such short-term strategy is, however, again questionable and specific to the social formation in which it is being pursued (e.g. in action like that against U.C.L.A. could not be pursued in Australia due to the unavailability of class actions). One of the limitations imposed on such strategies is the level of organisation of the rural workforce:

"A challenge to a technology at its point of origination cannot however be realistically made by a few highly motivated workers in a research institute. Only when the labour movement is prepared to challenge new technology at its origin can any progress be made".³⁷

A further group which have been involved in the struggle over the restructuring of agriculture have been the small and medium farmers. This sector of the agricultural economy were crucial in the postponement and potential abandonment of P.V.R. legislation in Canada. Their "radicalisation" in the U.S. has been exponential to the imposition of the imperatives of agribusiness upon them, but they certainly haven't been a major factor in the opposition to agribusiness penetration of agricultural production. The involvement of small and medium farmers in the struggle over the restructuring of the agricultural sectors in Australia is certainly problematic. The rural petty bourgeoisie in Australia has traditionally been a reactionary force which has worked against the interests of the proletariat. The entry of agribusiness into agricultural production may present this group with the dilemma of either making bedfellows with their traditional antagonist, or facing extinction if they align with agribusiness interests.

"The progressive absorption of the petty bourgeoisie into capitalist relations of production may swing class alliances of the small farmers away from the conservative parties to the labour-oriented parties. The increasingly proletarianised farmer may have a good deal to gain by supporting rural labour rather than by maintaining traditional links with the conservative forces..."³⁸

CONCLUSION

There are a number of contradictions and problems which present themselves and question the value of a simple instrumentalist or ideological³⁹ view of law as an explanatory model of the legislative changes occurring in the agricultural sector in Australia. A major problem is the inability of such a theory to come to terms with the nature of the ruling class in Australia and the significant conflicts which exist between manufacturing capital and rural interests.⁴⁰ The penetration of monopoly capital into the agricultural sector itself is giving rise to a new set of conflicts between monopoly capital and petty bourgeois producers.⁴¹

For example, whilst the Livestock and Grain Producers Association voted in favour of the introduction of P.V.R. legislation in Australia it also considered that the cereal industry should be exempted from inclusion in those segments of the seed industry affected by the legislation. Given that the cereal industry is one of the key segments of Australian agriculture this resolution is quite revealing. The rationale for exempting the cereal industry is indicative of the conflicts imminent to the introduction of such legislation. The main fear of the Association was that:

"seed from private enterprise may be more expensive".⁴²

Whilst the National Country Party is in favour of the introduction of such legislation the uncertainty which the N.C.P. may feel in regard to alienating their traditional electorate may be reflected in the hasty removal of the P.V.R. legislation from consideration in the current session of Parliament.⁴³ The legislation will not be considered now until after the forthcoming elections. It is also interesting to note the opposition to the introduction of the legislation by the Western Australian government.⁴⁴

The recognition of the existence of these conflicts is important for strategic action:

"The working class should ... try to win small producers over by utilizing the contradictions that exist between small producers and the rest of capital - and in particular monopoly capital..."⁴⁵

The utilization of such a strategy in Canada over the key issue of P.V.R. legislation was able to produce an alliance between farm workers and farmers to defeat the introduction of the legislation.⁴⁶ If the legislation were merely seen as an instrument of ruling class power then the possibility of pinpointing the contradictions amongst the ruling class on this issue and defeating the legislation in alliance with rural capital would never have presented itself as an option. The discernable trend in agricultural relations in the U.S.A. in recent times has also been towards a common front between rural labour and small producers in opposing mechanisation and the further encroachment of monopoly capital into the agricultural sector. Small farmers have already turned their backs on the Farm Bureau and other traditional farm organizations.⁴⁷

An analysis of the role of law in protecting ruling class interests must also take into account the exacerbation of conflict amongst fractions of the ruling class. Consequently, a more complex model of legal theory needs to be utilized than that provided by an instrumentalist/ideological approach.

FOOTNOTES

1. For a recent report on the progress of the legislation see "Seeds of Disaster", Food News, No.1, July 1980.
2. Hills, Lawrence, D., "Seeds of Destruction", The Guardian Weekly, Vol.122, No.26.
3. Mooney, P.R., Seeds of the Earth, p.55.
4. Ibid.
5. Black, E., "Seeds of Destruction", Monthly Review, April 1980, p.16.
6. Doyle, B., "Seeds of Disaster", Melbourne Times, April 16, 1980.
7. Mooney, op.cit., p.56.
8. "Countrywide", July 25th, A.B.C. Television.
9. Food News, op.cit.
10. Hightower, J., "Hard Tomatoes, Hard Times", in Merrill, R., Radical Agriculture, at p.93.
11. Ibid., p.96.
12. Jones, J., "Plant Breeding Under Capitalism", Science for People, No.43/44, p.29.
13. Whiteside, T., "Tomatoes", The New Yorker, 1977.
14. Mooney, P.R., op.cit., p.83.
15. Jones, J., op.cit., p.27.
16. Perelman, M., "Efficiency in Agriculture: The Economics of Energy", in Merrill, R., op.cit., pp.80-81.
17. Hightower, J., op.cit., p.94.
18. Baker, G.L., "The Invisible Workers: Labour Organisation on American Farms", in Merrill, R., op.cit., p.165.
19. Hightower, J., loc.cit.
20. Jones, J., op.cit., p.28.
21. Industries Assistance Commission, "Financing Rural Research", A.G.P.S., 1976, p.39.
22. Lawrence, G., "Agribusiness and the American Example and its Implications for Australia", J.A.P.E., No.7, p.57.
23. Jones, J., loc.cit.

24. Kotz, N., "Agribusiness", in Merrill, R., op.cit., p.44.
25. Ibid., p.43.
26. Nankivell, P., "Australian Agribusiness: Structure, Ownership and Control", J.A.P.E., No.5, p.3.
27. Nelson, J.S., "Rural Australia", in Davies, A.F., Encel, S. and Berry, M.J., Australian Society, p.305.
28. Lawrence, G., Agribusiness, op.cit., p.45.
29. Mooney, P.R., op.cit., p.102.
30. Lawrence, G., op.cit., p.44.
31. Ibid., p.58.
32. Ibid.
33. Mooney, P.R., op.cit., p.103.
34. Black, E., op.cit., p.23.
35. Nature, no.278, p.768, April, 1979.
36. Jones, J., loc.cit.
37. Ibid., p.30.
38. Ibid.
39. Fine, B., "Law and Class" in Fine, G., Kinsey, R. et.al., Capitalism and the Rule of Law. Or Summer, C., Reading Ideologies.
40. For discussion of this see: Nowicki, H. and Tsokhas, K., "Finance Capital and the Australian Ruling Class", Intervention, No.13, pp.19-38.
41. Lawrence, G., op.cit., p.58.
42. The Land, July 12, 1979.
43. August, 1980.
44. Rollason, R., "Seeds of a Revolution", Nation Review, March, 1980, p.15.
45. O'Shaughnessy, T., "Conflicts in the Ruling Class", Intervention, 10/11, p.56.
46. Mollison, B., "Save the Seeds", Maggie's Farm, March 1980, p.2.
47. See generally on the question of the growing militancy of small farmers in the U.S., Kotz, J., op.cit., pp.41-51.

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