GROWTH CONTROL IN TREES VOLUME II Literature Titles For Basic And Applied Research

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ONTARIO HYDRO FORESTRY DEPARTMENT





GROWTH CONTROL IN TREES

VOLUME II

LITERATURE TITLES FOR BASIC AND

APPLIED RESEARCH

by

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and

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INTRODUCTION

The field of growth regulation is one which must assume greater importance in the future approaches to chemical manipulation of our environment. Our ability to tailor plants to specific size requirements without causing their death will have considerable impact on the quality of our living space and thus our future way of life. No longer will it be acceptable to destroy our vegetation to the degree that affects the habitat of creatures, man and beast - or produce patterns which are unacceptable to the basic balances of nature. Moreover, as space requirements for agriculture become more pressing to meet the demand for the food that our rapidly growing world population needs, producers will have no alternative but to drastically revise some current agronomic practices. One such approach in this area will be to produce smaller plants which give greater yields. Although genetic improvement can accomplish this end, such breeding is a long and arduous task. A task which demand may overwhelm.

There is now however a new and formidable range of chemicals which, although in part similar to herbicides, give a much more extensive capability for the physiologist and agronomist to control the rate of growth, mature size, time of first maturation or in some cases the time of senescence in a number of crops. Thus the ultimate yield of some plants may be enhanced many times with more efficient harvesting with less wastage, or through greater production of the plant itself.

Although agriculture will surely be the greatest beneficiary of these new abilities of man ever striving to feed himself, there are other important potential uses for these materials. Their use on woody plants has been demonstrated by a number of researchers and the possible benefits in this area should not be neglected.

2.

It is for this reason that Ontario Hydro undertook an extensive examination of growth regulators as they may be used on large woody plants. Not only may they be used to control the formation of suckers from dormant and adventitious buds on trees which have been pruned, but they hold the potential for replacing some functions presently undertaken with herbicides.

Part of our study has been directed toward a complete review of the literature pertaining to the use of growth regulators on woody plants and also on grass. It will however be some time before this review is written and in the interim we felt that a monograph of literature titles would be of particular use to our co-workers. The list of titles also cover related subjects and are broken into three major parts; growth regulators and associated topics (woody plants), growth regulators and associated topics (grass) and finally wound healing (woody plants). In all some 84 major scientific publications have been reviewed while a number of other publications and private reports have been listed. Each section has been organized by author and space left in each part for the addition of new papers.

Although published papers are of greater use to the researcher since they contain their author's recent work in some depth, there are a number of valuable text books which it would be amiss not to mention. A short list of these to which we have referred from time to time is added after the major sections. It is not intended to be complete and it will be for the individual to add specific texts which he or she requires. A separate section detailing the work undertaken within Ontario Hydro by various workers is included since some research has been for internal use only and has not been published in outside journals.

Where it was found impossible to determine the date or original journal of publication for some papers the work has been noted by title and page numbers only and spaces left for the appropriate date to be added.

3.

If any obvious omissions have been made in any of the sections we apologize to the writers and hope that their contributions may be subsequently added to this monograph.

Much of the work for this publication was completed while the senior author was a member of the staff of the Hydro Electric Power Commission of Ontario and was completed in August of 1971.

> R. Gardner Edinburgh, May 1972.

JOURNALS REVIEWED FOR GROWTH RETARDATION

LITERATURE SURVEY 1971

The Australian Journal of Experimental Agriculture	
and Animal Husbandry	1961 on
Australian Journal of Biological Sciences	1969 on
American Fruit Grower	1965 on
Australian Journal of Botany	1960 on
American Society for Horticultural Science	1903 on
American Journal of Botany	1965 on
American Agronomy Journal	1960 on
American Journal of Agricultural Economics	1968 on
Annals of Applied Biology - Cambridge	1920 on
Annals of the Missouri Botanical Garden	1965 on
Annales des Sciences Naturelles Botanique - Paris	1958 on
Annals of Botany	1887 on
Agricultural Hortique Genetica - Reports of the Plant	
Breeding Institute Weibullsholm Landskrona	1965 on
Arborist's News	1939 on
American Horticultural Magazine	1960 on

Biological Journal of Linneon Society	1956 on
Bulletin of the Torrey Botanical Club	1920 on
Botanical Gazette - University of Chicago	1887 on
Botanical Review - New York Bot. Garden	1935 on

1065 on
190 01
1968 on
1965 on
1925 on

Down to Earth - Dow Chemical	1951 on
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Economic Bota	any				1947	on
Experimental	Agriculture	- Ca	ambridge		1965	on
East African	Agriculture	and	Forestry	Journal	1969	on

Forest Science Forestry - Canadian Institute of Forestry Florists Review	1964 on 1965 on
Farm Chemicals Forestry Abstracts	1970 on 1959 on
Horticultural Research - Oliver and Boyde -	
Great Britain	1961 on
Horticulture - Massachusetts Hort. Society	1961 on
Horticultural Abstracts	1968 on
Indian Journal of Experimental Biology	1969 on
Israel Journal of Agricultural Research	1965 on
Irish Journal of Agricultural Research	1969 on
Journal of the Japanese Forestry Society	1967 on
Journal of Forester	1900 01
Journal of Hort, Science	1902 on
Journal of the Imperial College of Tropical	1902 on
Agriculture	1054
Journal of Experimental Botany	1954 on
Journal of South African Botany	1950 on
Journal of the Science of Food and Acriculture - G.B.	1900 on
Journal of the Royal Agricultural Society of England	1969 01
Journal of the Royal Horticultural Society	1965 on
Journal of the Chinese Agricultural Chemical Society	1963 on
Journal of the American Society of Agronomy	1940-48
Journal of the Agricultural Society of Trinidad and	-240 40
Tobago	1963
Journal of the Royal Scottish Forestry Society	1964 on
Molecular Biology - USSR	1969 on
Netherlands Journal of Arricultural Saianas	1050
Nature	1959 on

Plant Physiology	1926 on
Proceedings of the Academy of Sciences of the USSR	
Botanical Science Section	1967
Planta	1965 on
Plant and Soul - The Netherlands	1969 on
Plant and Cell Physiology - Japan	1968 on
Plant Propagator	1968 on
Proceedings of the Royal Society of Botany	1934 on
Proceedings of the Northeastern Weed Science Society	1957 on
Proceedings of the International Shade Tree Conference	1960 on
Queensland Agricultural Journal - Australia	1965 on
Royal Agricultural Society of England Journal Rubber Chemistry and Technology	1969 on 1969 on
Science South Florida Nurserymen Scientific American Scientific Agriculture - Ontario Agric. College Soviet Plant Physiology	1957 on 1966 on 1957 on 1921 1965 on
Tropical Agriculturist - Ceylon Tokyo Journal of Agricultural Research	1967 on
and a second of a second and a second a	1965 on
Weed Science	1957 on
weed Abstracts	1968 on
wood Science and Technology	1967 on
wood Science	1968 on
wood and Fibre	1963 on
Weed Research - European Weed Research Council	1965 on

7.

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