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in the M₃ though the scale of their variation was not large. Barley and wheat had a different response than soybean. Certain sectors of spikes were sterile. Plants grown out of these sectors developed seeds again showing sterile sectors.

In soybean morphological and physiological differences observed exceeded the variation encountered in hybrid populations and in populations of plants obtained under the effect of other mutagens. A final description will be made on M₄ lines. Continuation of the studies is necessary. Results will be published in "Genetica Polonica".

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Performance of induced mutant derived rice varieties in California

In 1988, 63% (or 265,800 acres) of the rice grown in California stem from rice varieties which have induced mutants as ancestors. In 1989, the figure increased to 77% (or 316,443 acres). The table gives details:

	Total rice acreage	Short grain varieties			Medium grain varieties	
		S-101 (1988)	S-201 (1980)	Calmochi-101 (1985)	M-202 (1985)	M-401 (1981)
1988	420,000	20,000	35,000	4,200	180,000	26,600
1989	410,000	13,575	38,473	4,327	235,534	24,534

In addition, the induced mutant derived varieties M-102, M-103, M-203, Calpearl and Valencia are grown on several thousand acres.

Source: Rice Journal 93, No. 3, March 1990, p. 36.

Performance of disease resistant peppermint mutants in the USA

The mutant varieties of Mitcham peppermint "Todd's Mitcham" and "Murray Mitcham", developed by field selection for Verticillium resistance following irradiation of stolons with thermal neutrons [1, 2, 3, 4] being cultivated since 1971 (TM) and 1976 (MM) are still going strong. This can best be shown by the peppermint acreage in 1989:

Producing district	Total acres	Peppermint varieties		
		Regular Mitcham	Todd's Mitcham	Murray Mitcham
Midwest	28,740	11,740	5,500	11,500
Willamette	24,660	2,660	22,000	0
Madras	19,938	1,938	18,000	0
Idaho etc.	20,122	20,122	0	0
Yakima Valley	17,561	17,561	0	0
Total	111,021	54,021	45,500	11,500

"Todd's Mitcham" has been an extremely useful variety in the Oregon districts of Willamette and Madras. In the Midwest district both varieties are useful, but some growers find that, in the absence of the disease, "Regular Mitcham" has a better vigour. Idaho does not have a wilt problem. The Yakima Valley would require a wilt resistant variety, but neither "Todd's Mitcham" nor "Murray Mitcham" have worked well in this district, perhaps because of a high alkali content of the soils.

The total value of the 1989 peppermint crop is estimated to be about 90 Million US\$ of which 40 Million could be ascribed to "Todd's Mitcham" and 7 Million to "Murray Mitcham".

The Mint Industry Research Council continues to sponsor research using the late Dr. Murray's techniques in the search for improved varieties of peppermint and spearmint [5].

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- [4] Mutation Breeding Newsletter, No. 11, February 1978, p. 18.
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