plied to the plants in two drums, leaving three checks. Because of the smaller size of the plants, the rate of herbicidal action was increased over that of previous experiments with larger plants. The roots did not die and decompose as rapidly as the stem portion, yet they appeared to have lost the power to produce offshoots. As the result of this study, the form of the 2,4-D preparation used seemed to make no difference in herbicidal action provided the leaves were well moistened and the 2,4-D spray allowed to dry and penetrate into the leaves.

The possibility that important waterways might be cleared of the water hyacinth by means of 2,4-D invites trial on a larger scale. The "Water Buffalo" amphibian tractor might be useful in this connection.

References

1. GOWANDLOCH, J. N. *La. Conservationist,* 1944, **2**(9), 3, 6, 8.
2. HAMNER, C. L., and TUKEY, H. B. *Science,* 1944, **100**, 154–155.
3. HILDEBRAND, E. M., and PALMITER, D. H. *Proc. N. Y. St. hort. Soc.* (87th annual meeting), 1942, 34–40.
4. MARTH, P. C., and MITCHELL, J. W. *Bot. Gaz.,* 1944, **106**, 224–232.
5. MITCHELL, J. W., DAVIS, F. F., and MARTH, P. C. *Turfdom,* October 1944.
6. ZIMMERMAN, P. W., and HITCHCOCK, A. E. *Contr. Boyce Thompson Inst.,* 1942, **12**, 321–343.

Science Legislation

Selective Service and Student Personnel

Howard A. Meyerhoff

Executive Secretary, AAAS, Washington, D.C.

The recruitment of scientific and engineering students has just been dealt another blow by Selective Service and the Army—and perhaps by Congress, which may approve the extension of Selective Service for another nine months before this issue of *Science* reaches its readers. The bill extending Selective Service, by providing for the deferment of farm hands, will lay an especially heavy hand upon the students in our colleges and universities. If it passes in its present form, any hope that engineers and scientists may have had to recoup some of the losses incurred through the draft during the war will be gone for another year.

As every engineer and scientist knows, considerably more than 100,000 potential scientists were sacrificed during the war years, thanks to a military policy which made no provision whatever for the replacement of expendable scientific personnel. Neither our allies nor our enemies in the late war were as shortsighted as this, for most of them provided deferment for students who were specializing in scientific and engineering studies, and some of them encouraged new students of draft age to enter these professions. In dismal contrast to other nations, we not only drafted our prospective scientists and engineers, but also assigned them to military duties quite unrelated to the training which most of them had acquired. The Navy seems to have taken into account the special ability of students in so far as their training might prove useful, but the Army quite commonly showed a complete disregard of any background which even advanced students in specialized fields had acquired. This statement can be supported by the citation of any number of examples, but a quotation from one of several letters from young scientists will demonstrate the flagrant waste of scientific personnel, for which the Army must assume responsibility:

> So, with ten years of scientific training in biology, I was turned back to menial work (in an army hospital laboratory), most of which could be performed by a janitor. What with floor-mopping, latrine-cleaning (barracks and laboratory), window-cleaning, and scouring of glassware, three-fourths of one's time was spent on the sort of tasks for which any rookie chosen at random could be trained in one week.

There is in Army and Selective Service circles the bland assumption that returning veterans are filling in the gaps created by war, and letters from General Hershey addressed to the office of the Permanent Secretary reveal the lack of a factual basis for such an assumption. On 20 February he wrote:

> I am fully aware of the importance of the student group in which your Association has a vital interest. The technical, scientific and professional fields should be given due credit for their important contributions in the winning of the war and for the part they will play in the future.
>
> Veterans and other students are now entering college and university in very large numbers. They are studying at all levels ranging from the freshman class through graduate work. There is reason to believe that the rapid upward trend in enrollment will continue for some time. Engineering, scientific and professional study occupy a

prominent place in a very large number of colleges and universities, and these fields of study are now attracting many veterans.

Large numbers of colleges of all types, located in various sections of the country, report they already have capacity enrollments and that their ability to take care of additional students is limited by housing, staff, laboratory and classroom shortages. Many of these institutions are deeply concerned about the students who cannot be admitted because of the limited facilities. Temporary expedients are under wide discussion and some emergency arrangements have already been developed.

The situation is so critical that many special conferences are being called to consider the problem. State officials as well as colleges and university associations are urging that immediate steps be taken to provide educational opportunities for veterans and others now desiring admission.

In view of the present conditions, the problem seems to be that of accommodating the available and qualified students. If those entering are not pursuing the proper fields of study or courses, it would appear to be a matter of channelling them into the critical fields of study and where the best vocational opportunities exist.

The facts of the situation hardly warrant General Hershey's optimistic statement that "these (scientific) fields of study are now attracting many veterans." The statistics of enrollment for 110 enginering schools and colleges as of December, shown in Table 1, are eloquent.

TABLE 1

	Freshmen		Sophomores		Juniors		Seniors	
	N	%	N	%	N	%	N	%
Prewar norm	34	100	24	100	20	100	15	100
December 1945	32	94	12	50	7	35	4	27
Nonveteran	23	67	8	33	5	25	3	20
Veteran	9	27	4	17	2	10	1	7

Totals for all four years of engineering training may be summarized as shown in Table 2.

TABLE 2

	N	%	Veteran %
Prewar norm	93	100	...
December 1945	55	59	100
Nonveteran	39	42	71
Veteran	16	17	29

As of April 1946, the ratio of veterans to nonveterans has changed, but not for the reason that General Hershey thinks. Deferment was granted to civilian students until the end of the fall semester and was then withdrawn. The net result was to increase the proportion of veterans but to reduce the total of engineering students.

Probably the most interesting statement in the letter quoted is the concluding sentence. One wonders how veterans recently discharged from military disipline can be "channeled" into the critical fields of study, or why nonveterans who have chosen to enter these same "critical fields" should be "channeled" out, especially when they are far more critical to national security than the recruitment of approximately 20,000 men for military service.

Surely, it is not too much to ask military authorities to keep a vital long-range need in mind while solving two very temporary, if acute, problems. Or, if military authorities are incapable of dealing with so many problems simultaneously, it is not unreasonable to demand that the solution be placed in the hands of some authority able to effect it. Competence in engineering and science requires years of study and more years of experience. The war has cut our roster of scientific and technological manpower at least 12 per cent, and it is now proposed, not merely to prevent recovery, but also to cut the percentage farther.

As this article goes to press, the House is debating the bill. Representative May, chairman of the House Military Affairs Committee, introduced an amendment in Committee providing some protection for students, but it was voted down. Representatives Clason and Martin (of Iowa) introduced and supported a similar amendment on the floor of the House, but its fate is at the moment unknown. The chances of defeat are better than even.

Do engineers and scientists propose to sit by and take another beating?

U. S. News and Notes

Henry K. Townes, Kenneth L. Sherman, and *Robert Simha* were honored by the Washington Academy of Sciences at a meeting on 21 March 1946 for their respective contributions to the biological, engineering, and physical sciences.

The citations read: Henry K. Townes, Bureau of Entomology and Plant Quarantine, Beltsville, Maryland, in recognition of his distinguished service in the morphology and taxonomy of the insect superfamily Ichneumonoidea; Kenneth L. Sherman, Department of Terrestrial Magnetism, Carnegie Institution of Washington, Washington, D. C., in recognition of his distinguished service in advancing the technique of atmospheric electric measurements; Robert Simha,