

confirm the fatigue curve as a measure of Production and Application. Average Production has been noted in sequence by innings above. Pulse rates as an index of condition were taken before the production of the fatigue curves, immediately afterwards, after two, four, and six minutes rest. The average sum of pulse rates per curve are listed below with the average Production of each day. They could be plotted into a curve of improvement with Production up 62.72% and Costs down 5.52%.

	1/20	1/21	1/22	1/23	1/26	1/27	1/28	1/29	2/1	2/2	
Production up	279	339	366	372	380	410	426	433	438	454	—62.72%
Costs—Pulse rate down	471	473	498	500	481	494	489	493	464	445	— 5.52%

3. Graduate Students Series of Fatigue Curves

June 15 to June 24, 1942

Thirty individuals, male and female, seventeen up to sixty years of age, each one curve daily for ten days—300 curves demonstrate

1. Decline of efforts because of fatigue.
2. Increased Production with better training.
3. Better conditioning with fewer heart beats and shorter recovery time.

Below is found listed the average repetitions of 300 curves inning by inning.

Inning	1	2	3	4	5	6	7	8	9	10	Average	Curve
1. Average	30.3	28.9	27.5	26.0	24.9	24.2	23.3	22.4	21.4	20.5	249.4	100%
	June 15	16	17	18	19	22	23	24	25	26		
2. Production up	220	235	238	252	246	250	254	263	258	271	up	23.36%
3. Heartbeats down	562	555	553	541	538	540	535	545	548	526	down	6.41%

4. University of Pittsburgh Engineers—

Tested Weekly—Ten Weeks

The tests in the physical conditioning course for 570 Pitt Engineers during the summer session followed the established patterns. After the first two weeks the students were enthusiastic about the benefits. To get actual figures, the Tuesday afternoon group, with fifty four participants, was given the fatigue curve tests for ten different weeks. This could be considered a good cross section of all participants. Two factors, Production and Costs, were plotted into the curves of improvement shown in Figures 5 and 6. Each student produced his fatigue curve in each test for Production.