

RAPID SEMIAUTOMATIC FIRE AND THE ASSAULT RIFLE.

FIRING RATE VERSUS ACCURACY

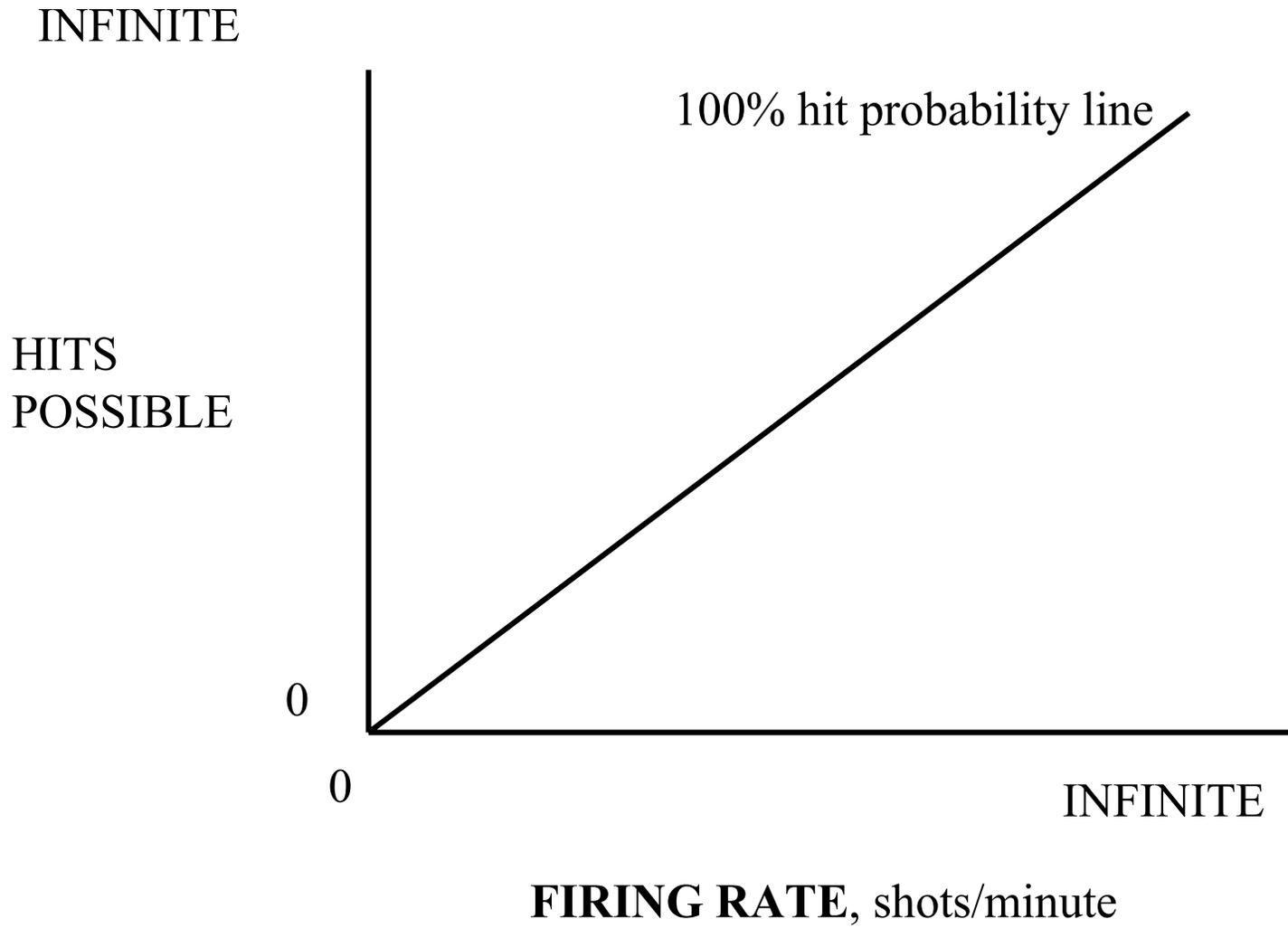
LIEUTENANT COLONEL MARK A. WESTROM USAR (RET)

Report Documentation Page

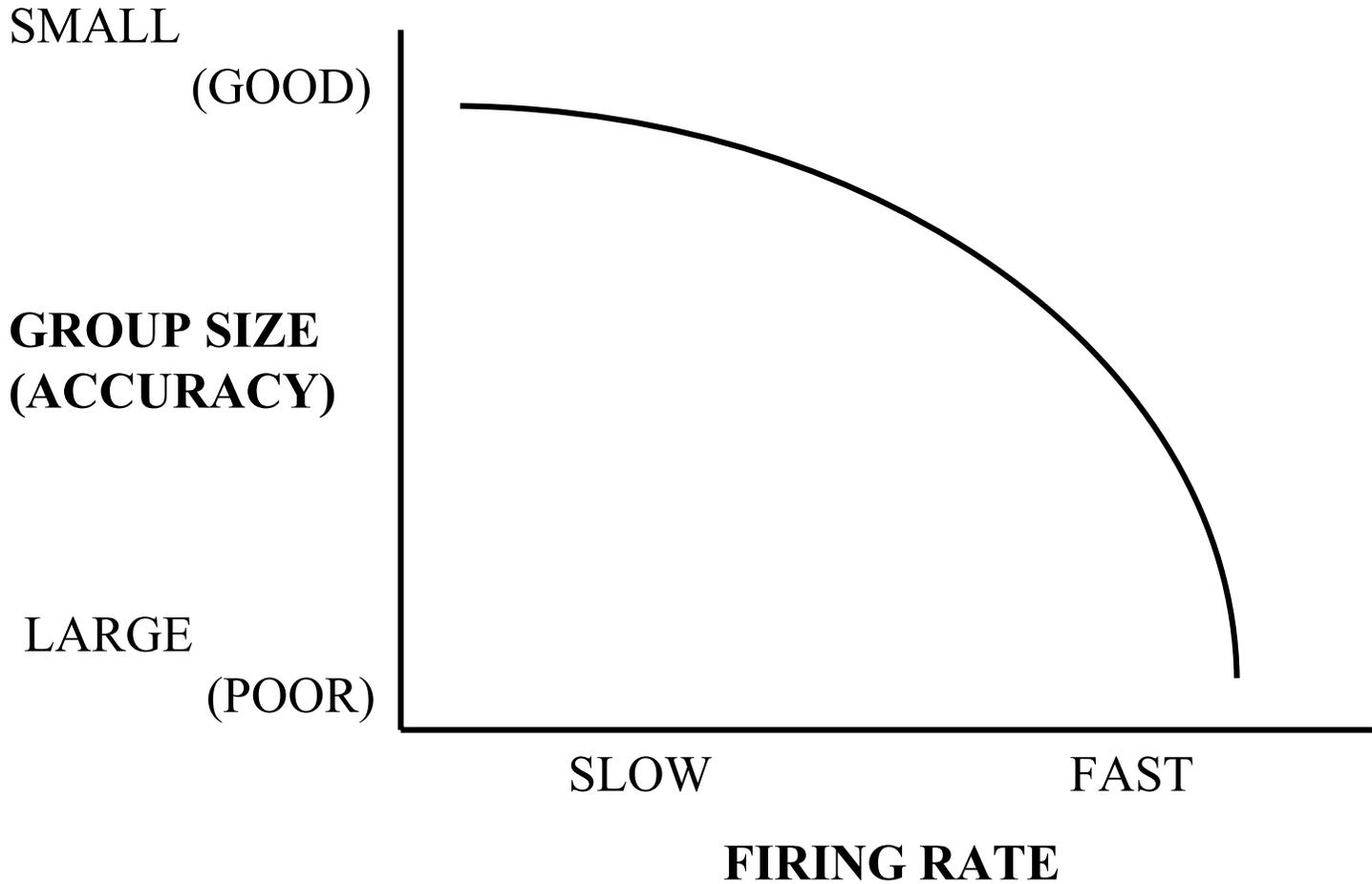
Report Date 13Aug2001	Report Type N/A	Dates Covered (from... to) -
Title and Subtitle Rapid Semiautomatic Fire and the Assault Rifle. Firing Rate Versus Accuracy	Contract Number	
	Grant Number	
	Program Element Number	
Author(s) Westrom, Mark A.	Project Number	
	Task Number	
	Work Unit Number	
Performing Organization Name(s) and Address(es) USAR	Performing Organization Report Number	
Sponsoring/Monitoring Agency Name(s) and Address(es) NDIA (National Defense Industrial Association) 211 Wilson Blvd, STE. 400 Arlington, VA 22201-3061	Sponsor/Monitor's Acronym(s)	
	Sponsor/Monitor's Report Number(s)	
Distribution/Availability Statement Approved for public release, distribution unlimited		
Supplementary Notes Proceedings from the 2001 Joint Services Small Arms Symposium, Exhibition & Firing Demonstration 13-16 August 2001 Sponsored by NDIA		
Abstract		
Subject Terms		
Report Classification unclassified	Classification of this page unclassified	
Classification of Abstract unclassified	Limitation of Abstract UU	
Number of Pages 16		

OVERVIEW

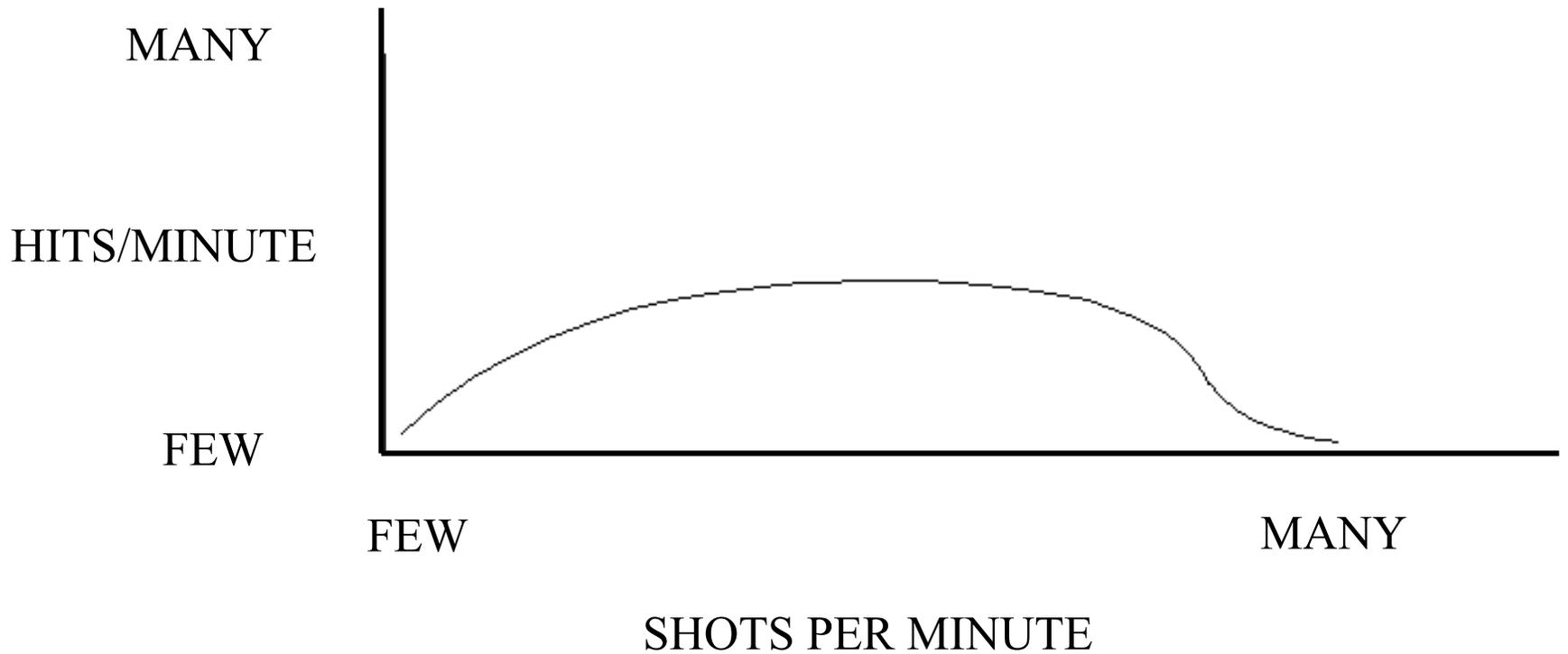
- **THE CLASSIC CONTROVERSY: SPEED VS ACCURACY**
- **MARKSMANSHIP DOCTRINE: FORCES OF CHANGE**
- **A MODEL OF FIRING SPEED**
- **THE IMPLICATIONS OF RAPID SEMIAUTOMATIC FIRE**
- **CONCLUSIONS AND RECOMMENDATIONS**



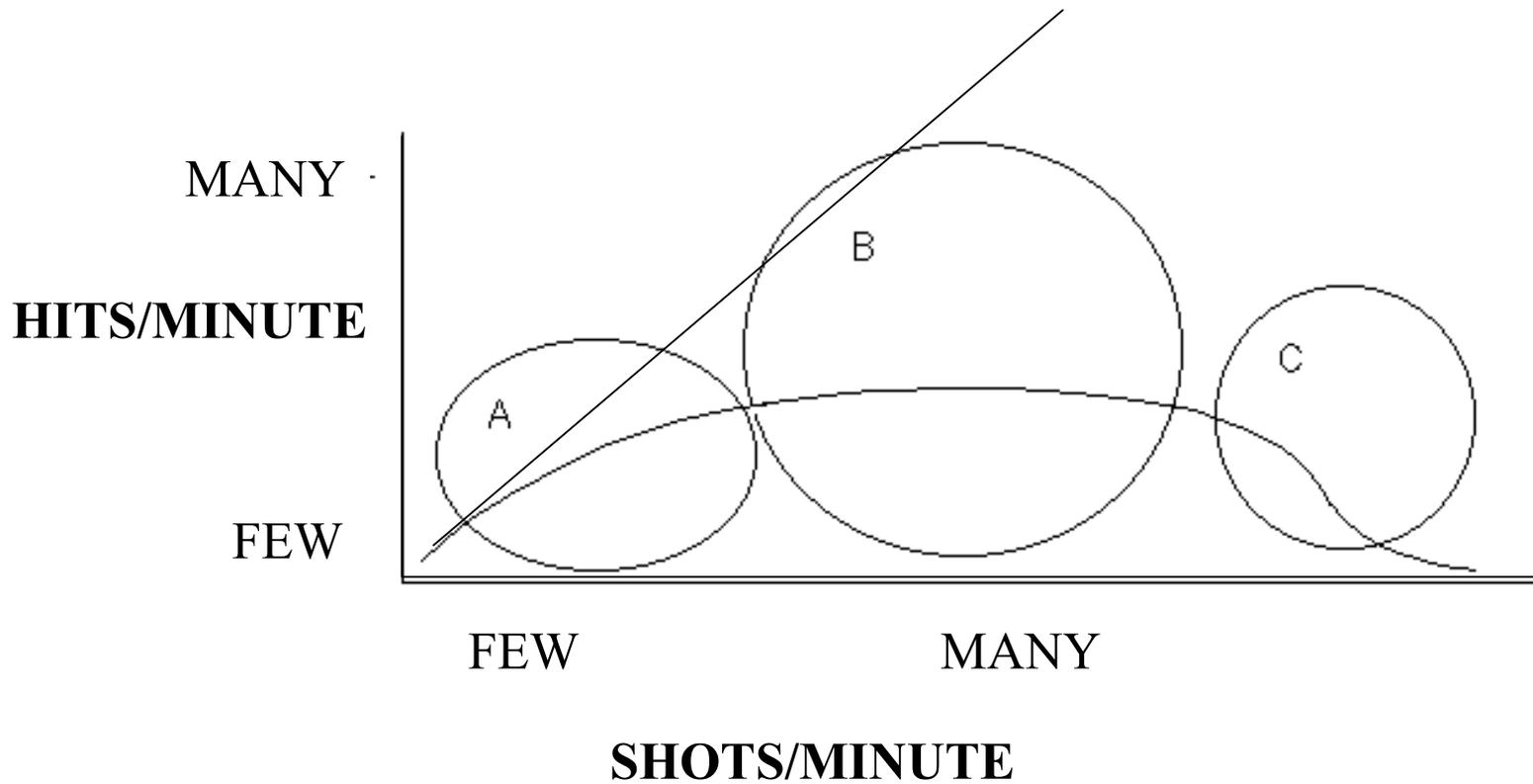
HITS POSSIBLE VERSUS SHOTS FIRED



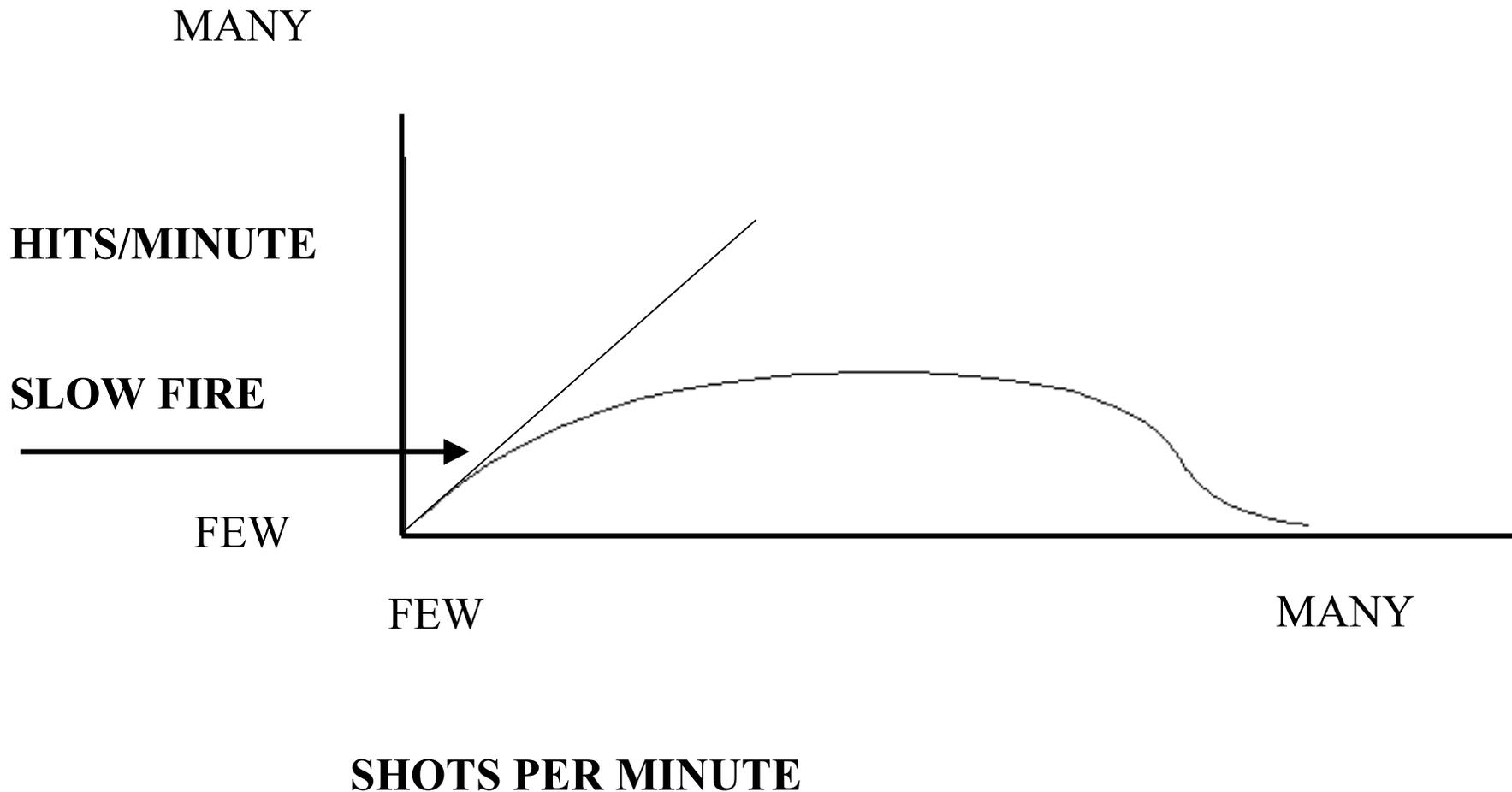
ACCURACY VERSUS FIRING RATE



HITS VERSUS SHOTS FIRED IN A GIVEN TIME PERIOD
A DEGRADING SYSTEM

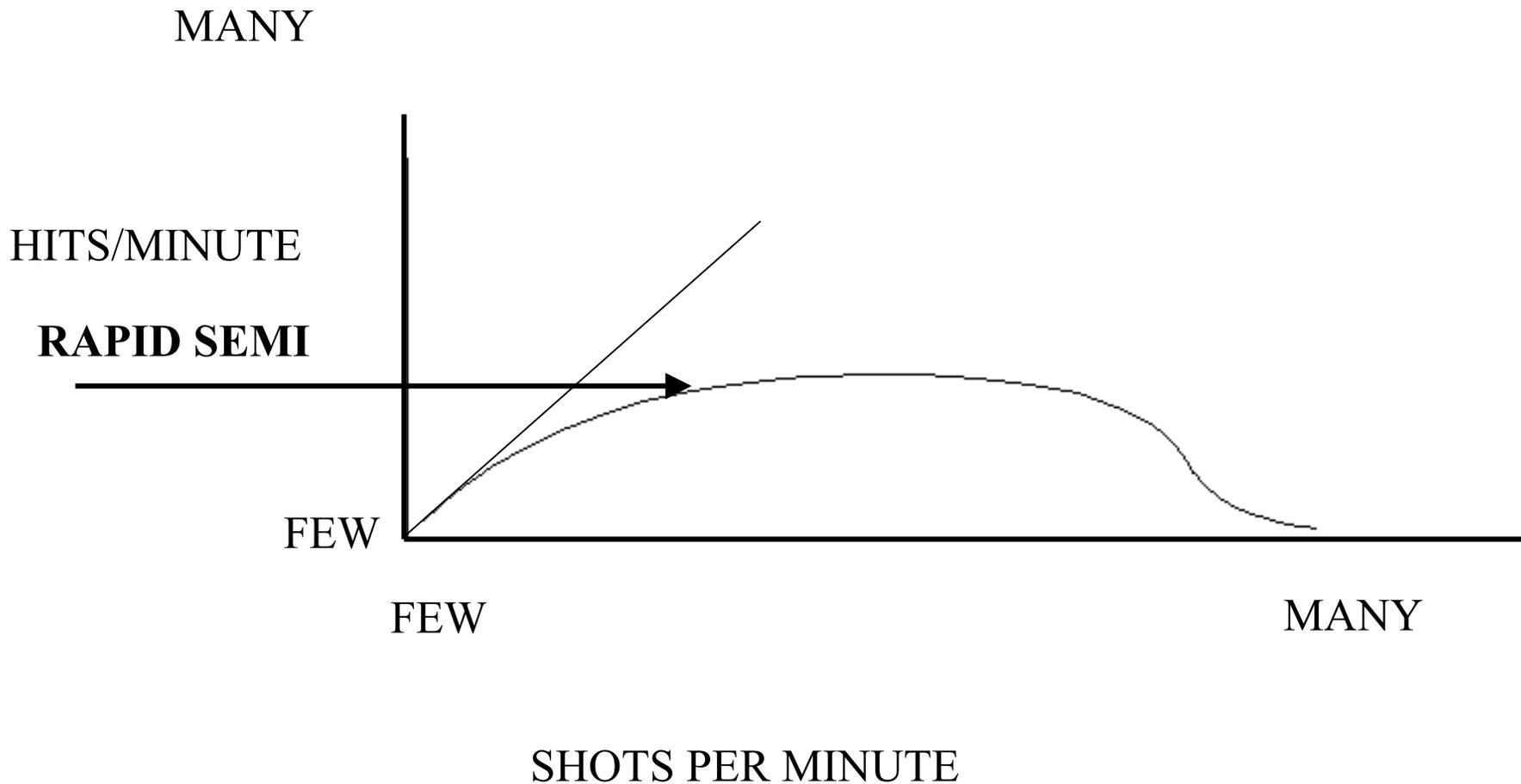


AREAS OF INTEREST



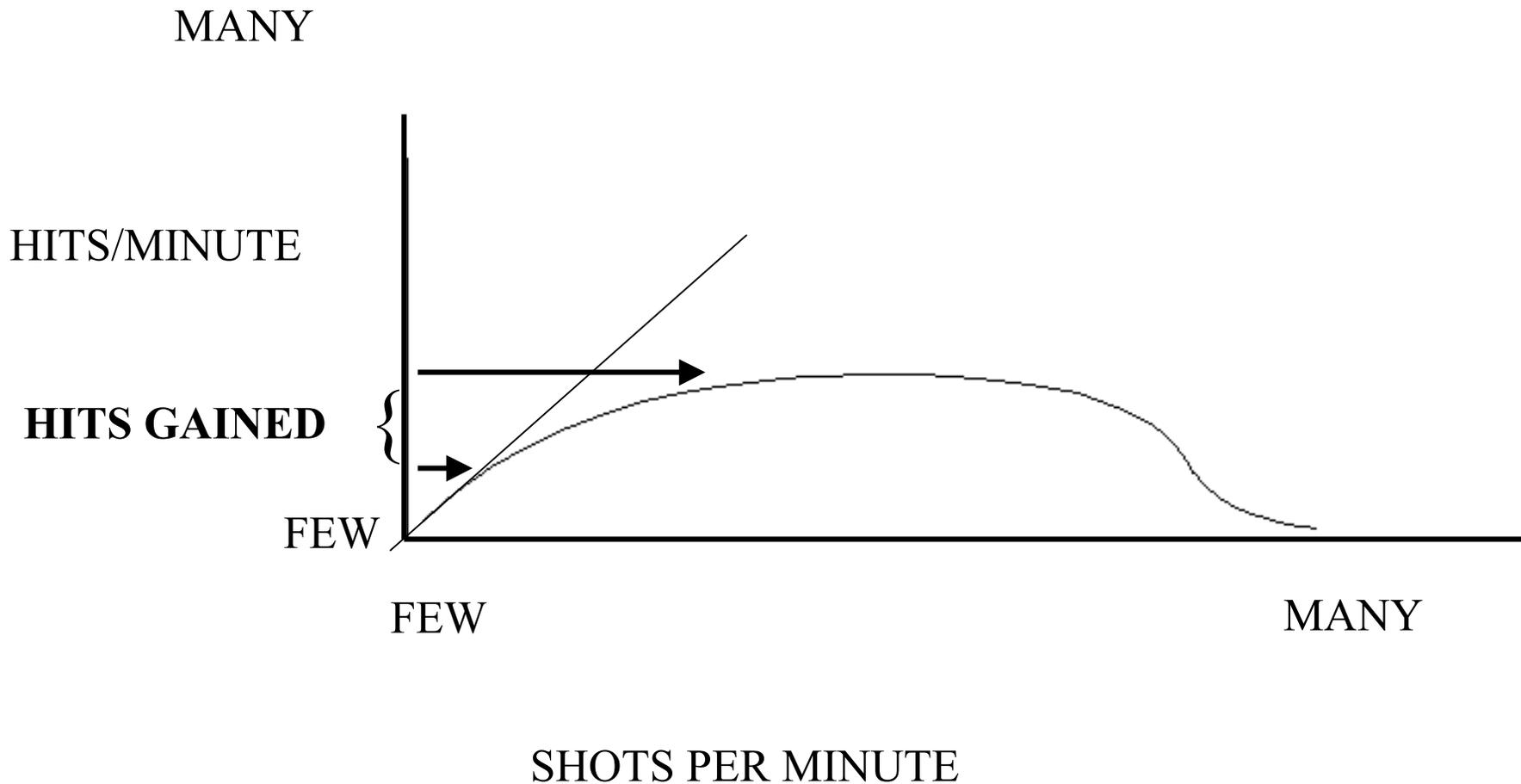
THE SNIPER OR TARGET SHOOTER'S SHOT RATE CURVE

"ONE SHOT, ONE HIT"

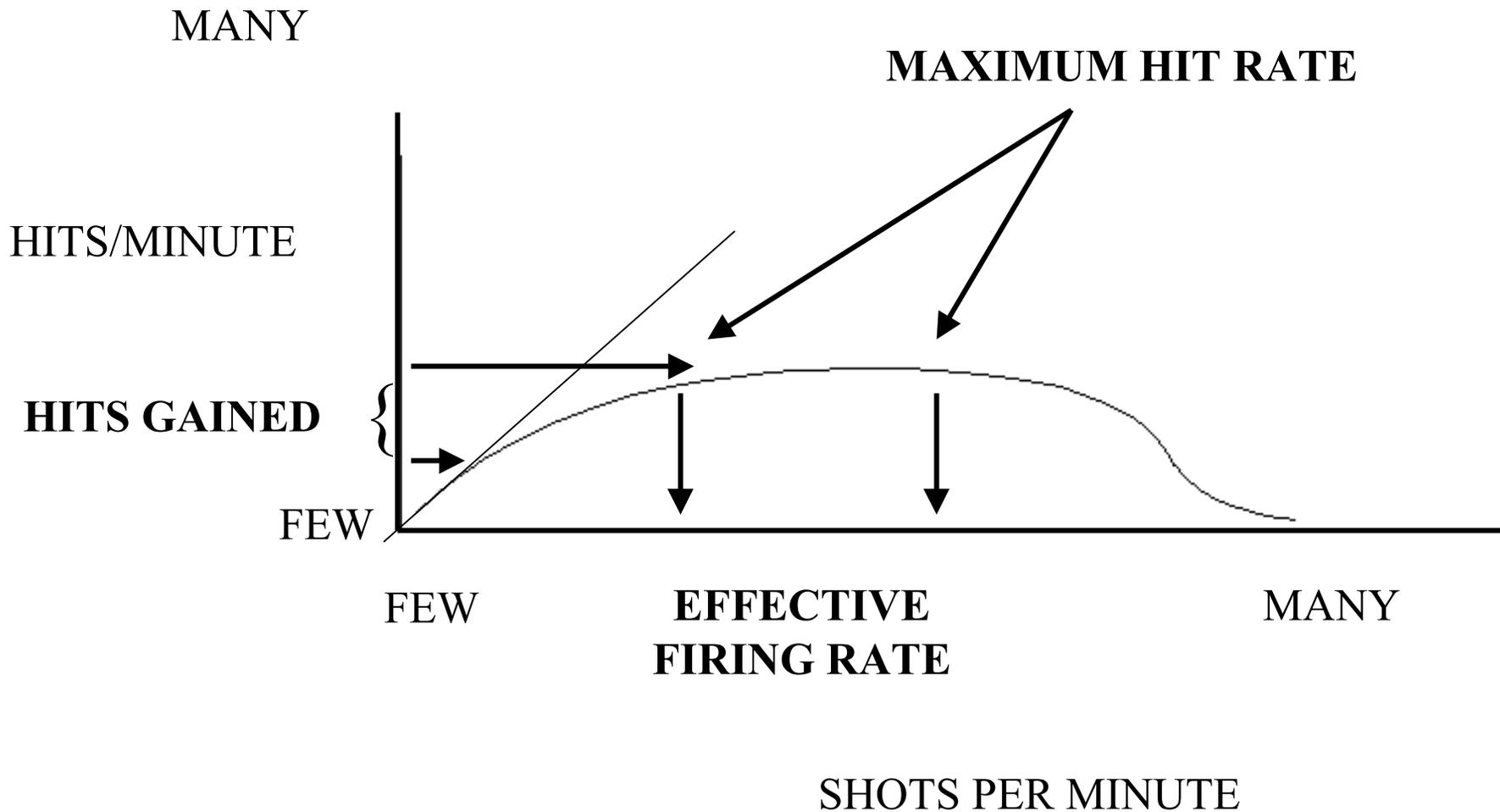


THE RAPID SAMIAUTOMATIC SHOT RATE CURVE

“SEVERAL SHOTS, MORE HITS”

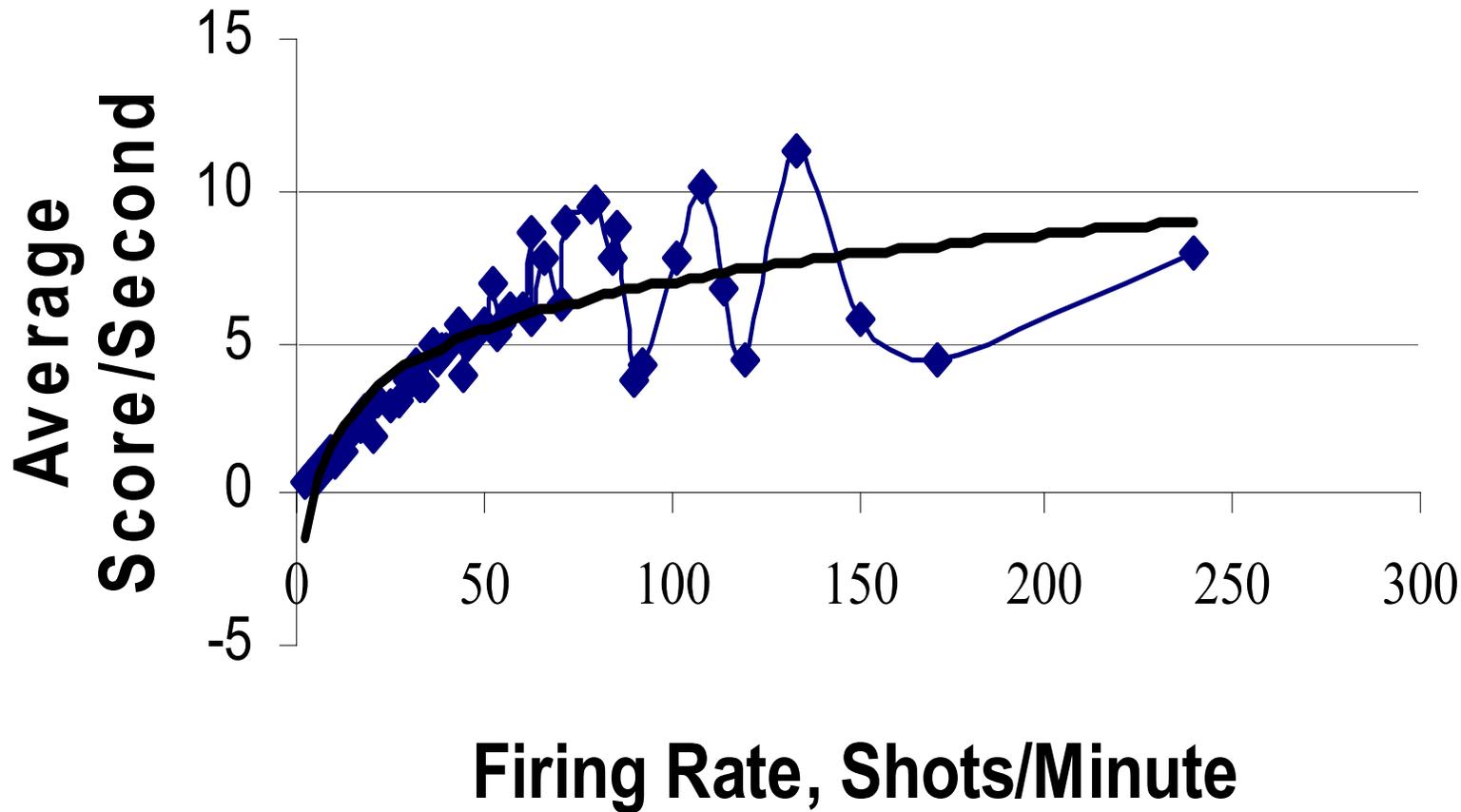


HITS GAINED BY INCREASING RATE OF FIRE

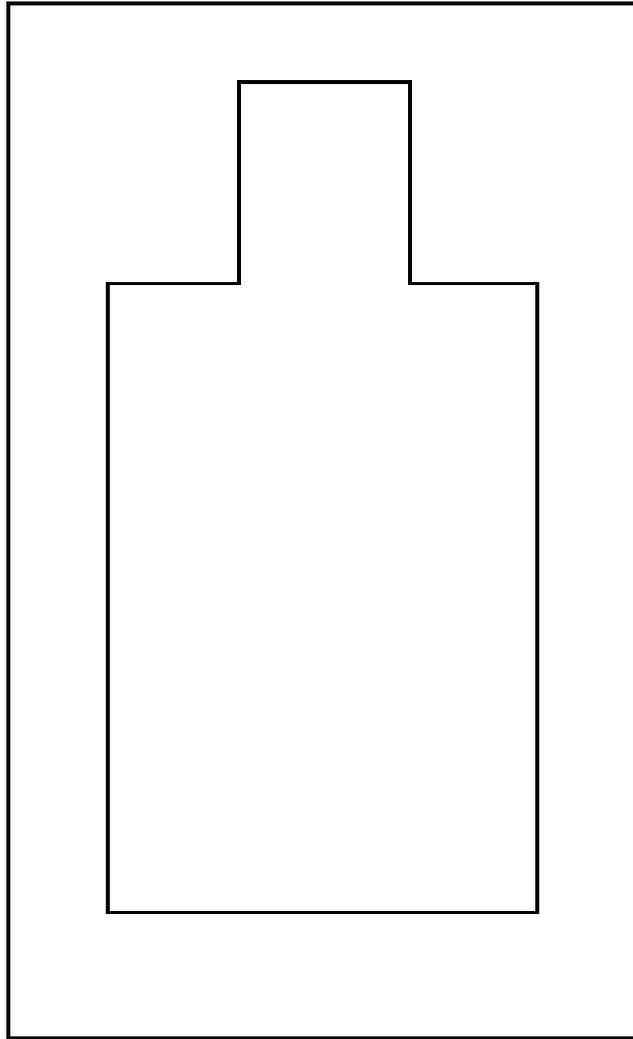


EXPERIMENTAL DATA

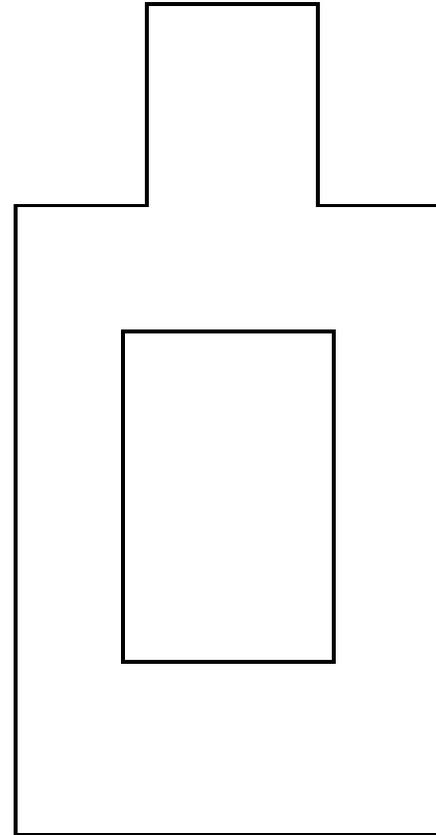
Intended Firing Rate	Average points/sec	Average points/shot	Actual firing rate shots/min
Unlimited (slow fire)	1.37	7.38	11.59
30 shots per minute	4.56	6.89	39.65
40 shots per minute	5.55	6.46	51.71
60 Shots per minute	6.26	5.77	66.60
120 Shots per minute	7.29	3.56	125.30



POINTS PER SECOND VS. FIRING RATE

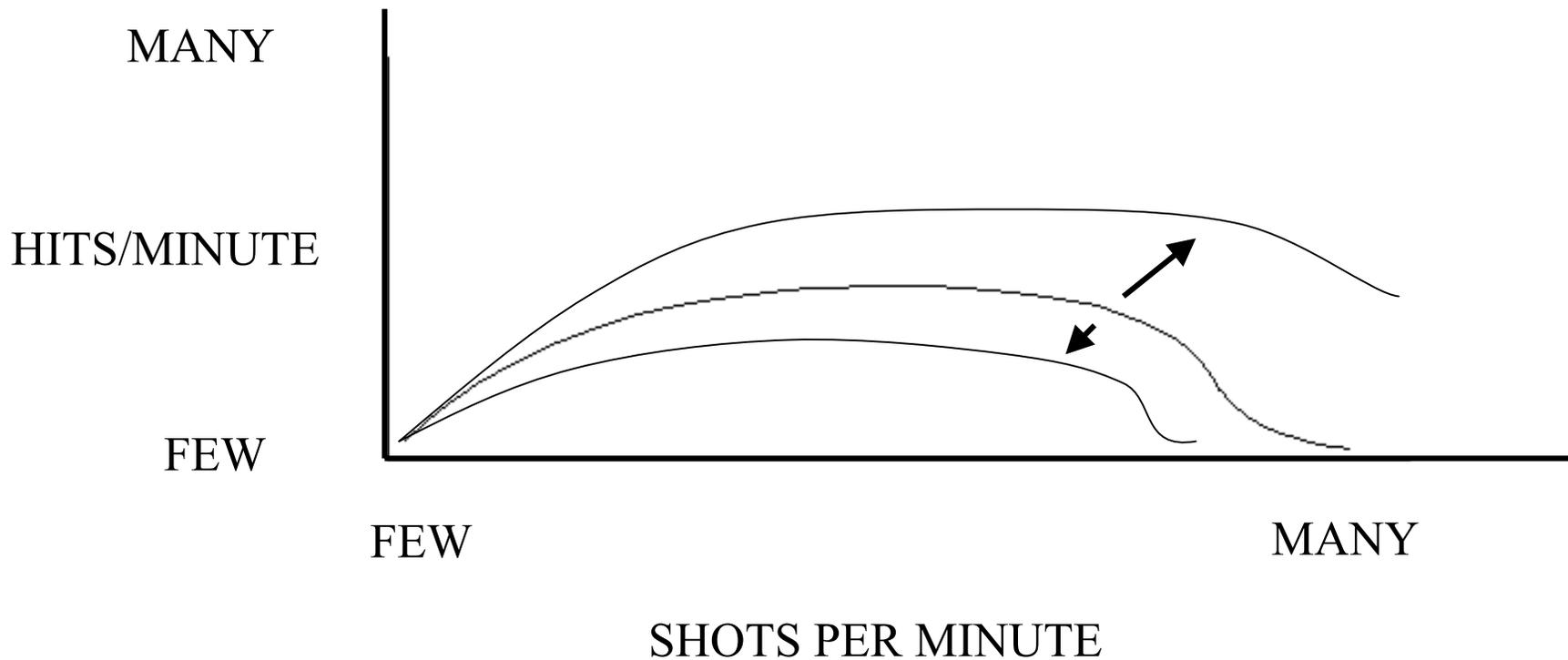


Ph less than 1

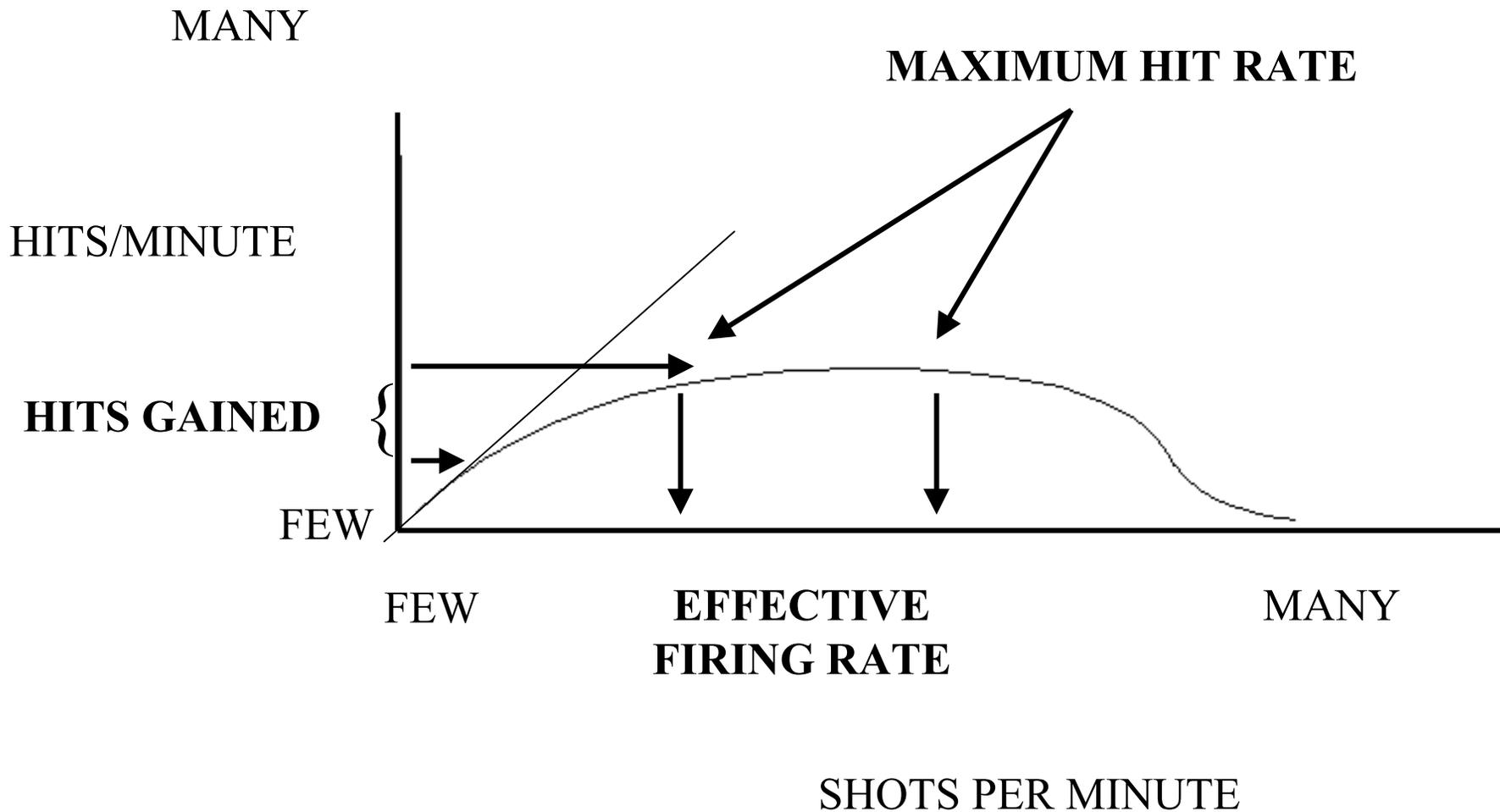


Ph = 1

THE TARGET AND THE WINDOW



EFFECT OF CHANGE



1. Make Disciplined, *Rapid Semiautomatic* fire the *close-combat norm*.

2. Raise the Curve