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Production Rates for Crews Using Hand Tools on Firelines

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Reported rates at which hand crews construct firelines can vary widely because of differences in fuels, fire and measurement conditions, and fuel resistance-to-control classification schemes. Real-time fire dispatching and fire simulation planning models, however, require accurate estimates of hand crew productivity. Errors in estimating rate of fireline production affect estimates of fire size in simulation models predicting fire suppression effectiveness. Productivity rates, therefore, are crucial for such models and the high variability makes choices difficult. Studies of crews using hand tools to build firelines were compared. Wide variations in construction rates were found. The results suggest the need for future productivity studies to standardize procedures and to develop resistance-to-control classifications that can be identified with field measurements. Approaches showing the most promise are those that measure probability distributions of productivity.

Retrieval Terms: hand crews, initial attack simulation, fireline, resistance-to-control, fuels

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