

### 蚯蚓非光滑体表减粘降阻试验

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摘要: 以赤子爱胜蚓为研究对象, 根据其运动特性, 制备了头部静息态、舒张态、收缩态及体部静息态、舒张态、收缩态6种体表试样; 利用微粘附力测试系统, 对蚯蚓体表试样和钢试样进行土壤粘附力和滑动阻力试验。试验结果表明, 蚯蚓体表试样的减粘降阻效果由大到小依次是收缩态、静息态、舒张态; 而且, 头部减粘降阻效果比体部明显; 在试验条件下, 头部收缩态的土壤粘附力和滑动阻力分别为钢试样的25%和61%, 而体部收缩态的土壤粘附力和滑动阻力分别为钢试样的44%和71%。Taking earthworm (*Eisenia foetida*) as the study object, six surface specimens including motionless, extending and shrinking of the forehead and body were prepared according as its movement characteristic. The soil adhesion force and sliding resistance experiments of earthworm non smooth surface specimens and steel specimen were conducted on via a tiny adhesion testing system. The results showed that the shrinking specimen had best reducing soil adhesion force and sliding resistance ability, then were motionless specimen and the extending specimen respectively. The forehead sample had better reducing soil adhesion force and sliding resistance ability than the body sample. In the test condition, the soil adhesion force and sliding resistance of the forehead sample were 25% and 61% of that of the steel specimen respectively. The soil adhesion force and sliding resistance of the body sample were 44% and 71% of that of the steel specimen respectively.

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