Parameter		Function	
walk_drop_rate	α	Probability each time step that an ant walking from the nest will stop walking and begin to search.	
search_giveup_rate	-	probability of giving up search and returning to nest during the random walk.	
dir_dev_const	ω	For searching ants moving in a correlated random walk, ω determines the baseline degree of deviation in the direction an ant will move from one time step to the next. See equation 1.	$SD = \omega + \gamma / t_s^{\delta}$ (1)
dir_dev_coeff2	γ	Determines the additional degree of deviation in turning early on in an ant's search. See equation 1.	
dir_time_pow2	δ	Exponent determines how quickly turning behavior approaches the baseline turning behavior as time spent searching (t_s) increases. See equation 1.	
trail_drop_rate	ε	For ants following a pheromone trail, determines the probability each time step that an ant will abandon the trail and begin searching before reaching its end.	
dense_thresh	λ_r	Determines ants' constant probability of recruiting to a site when picking up food. See equation 2.	$p_r = \lambda_r + C / \mu_r$ (2)
dense_const	μ_r	Determines how ants' probability of recruiting to a site responds to the count C of additional food in neighboring cells. See equation 2.	
dense_thresh_patch	λ_s	Determines ants constant probability of returning to a site when picking up food. See equation 3.	$p_s = \lambda_s + C / \mu_s$ (3)
dense_const_patch	μ_s	Determines how ants' probability of returning to a site responds to the count C if additional food in neighboring cells. See equation 3.	
dense_thresh_influence	μ_t	Determines ants constant probability of following trails when departing the nest. See equation 4.	$p_t = \lambda_t - C / \mu_t$ (4)
dense_const_influence	λ_t	Determines how ants' probability of following trails when departing the nest responds to additional food in neighboring cells at the last location it picked up food. See equation 4.	
decay_rate	η	Determines the rate at which pheromones evaporate. See equation 6.	$\Pi_{x,y,t} = \Pi_{x,y,t-1} * (1 - \eta)$ (6)
dir_dev_coeff1		unused	
dir_time_pow1		unused	
dense_sens		unused	
		The following parameters have no effect in the posted code, but can be used to adjust the proportion of ants that forage	
prop_active		Proportion of ants that forage at the start of the simulation–set to 1	
activate_sensitivity		Likelihood an ant leaves the nest based on # of encounters with incoming individuals	
decay_rate_return		Determines the length of time an ant remembers contacted incoming individuals	