

# Item Discovery

The **item discovery rate** determines the possibility of item drops when killing enemies.

Base value is 100, and it can be raised to the maximum of 410 via different ways:

- Equipping either the Covetous Gold Serpent Ring or Symbol of Avarice will raise item discovery by 200. They will not stack.
- Humanity (stat) raises discovery by certain amounts and stops after 10. See its article for a chart.

Hollow or human form does not affect the drop rate of your character.

Item discovery rate does not increase drop rate linearly, though it is close to linear scaling at low drop rates. Equivalently, one can say the item discovery rate increases the drop rate for all possible item drops, or that it reduces the chance that no drop occurs. The respective formulas are:

$$P(\text{Item}) = \frac{\text{ID} \cdot p(\text{Item})}{\sum_i \left( p(\text{Item} \sim i) + 100 \cdot p(\text{NoDrop}) \right)} = \frac{p(\text{Item})}{(1 - p(\text{NoDrop})) + \frac{100 \cdot p(\text{NoDrop})}{\text{ID}}}$$

Where ID is the item discovery rate,  $p(\text{event})$  is the base likelihood of an event, i.e. at 100 item discovery, with "item" being the event that said item will drop and "NoDrop" being the event that no item will drop, and  $P(\text{Item} \sim 1)$  being the actual probability of the drop when factoring in item discovery.

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