To answer this question as a high-quality graduate statistics student, we need to consider the principles of statistical inference and the limitations of observational versus experimental studies.

Given the scenario:

- The study involves random assignment of fish to treatment and control groups, which suggests an experimental design where the researcher controls the exposure to the herbicide.

- A statistically significant difference was found in the average enzyme levels between the groups.

Now, let's analyze each option:

(A) \*\*There is evidence of association, but no causal effect of herbicide on enzyme levels.\*\* - This option suggests that while there is a relationship between the herbicide and enzyme levels, causality cannot be inferred. However, since this is a controlled experiment with random assignment, we can infer causality under the assumption that no other confounding variables were present or that the randomization was effective in balancing them out.

(B) \*\*The sample size is too small to draw a valid conclusion.\*\* - With 60 fish (30 per group assuming equal division), this is generally considered sufficient for many statistical tests to detect significant differences if they exist, especially in controlled experiments. Thus, this option does not align with typical statistical power considerations for this sample size.

(C) \*\*He has proven that the herbicide causes higher levels of the enzyme.\*\* - In statistics, we never "prove" anything; we provide evidence for or against a hypothesis. This statement is too strong and does not reflect the probabilistic nature of statistical conclusions.

(D) \*\*There is evidence that the herbicide causes higher levels of the enzyme for these fish.\*\* - This is the correct interpretation. The random assignment in the experiment allows us to infer causality, and the significant result provides evidence that the herbicide exposure led to higher enzyme levels in the treatment group compared to the control group.

Therefore, the correct answer is:

\*\*(D) There is evidence that the herbicide causes higher levels of the enzyme for these fish.\*\*