A Rippling Proof of $P = NP$

$DRE\text{AM}$ group

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$P = NP$

We proceed by induction on the polynomial $P$
Base case trivial (by symbolic evaluation)
Step case:

$$ax P \mapsto = N ax P$$

Rippling in the step case is blocked. Proceed by case split on $N$

Zero branch

$$ax P \mapsto = 0( ax P \mapsto)$$

Weak fertilise

$$ax(NP) = 0(axP) \mapsto$$

Speculate lemma associativity of times - which instantiates $N$ to $0$
Now treat successor branch

$$ax P \mapsto = (Suc0)ax P \mapsto$$
$$ax P \mapsto = ax P \mapsto$$

$P = P$

which follows by reflexivity of equality $\Box$