Surprises with Negation

Here's a rule that uses cut.

```
a(X) :- b(X), c(X), d(X), !, e(X).
a(X) :- f(X).
```

Can we get the same effect with negation?


```
a(X) :- b(X), c(X), d(X), e(X).
a(X) :- % if all false, and f is true ..
        not b(X), not c(X), not d(X) , f(X).

aa(X) :- b(X), c(X), d(X), e(X).
aa(X) :- % if not all true, and f is true ...
         not helper(X), f(X).
helper(X) :- b(X), c(X), d(X).

b(1). f(1).
b(2). c(2). d(2). f(2).
f(3).
e(999).     % Just so e is defined.
```

Let's try it:

```
| ?- a(1).
no
| ?- a(2).
no
| ?- a(3).
yes
| ?- aa(1).
yes
| ?- aa(2).
no
| ?- aa(3).
yes
| ?- aa(X).
no
```