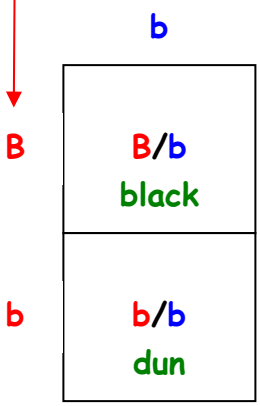
Example 2: Color Genetics Probability

dun bull (b/b) x black cow that carries dun (B/b)

All (100%) of this bull's sperm have a dun gene (b)

½ of this cow's eggs have a black gene (B), and ½ of her eggs have a dun gene (b)

1 x 2 = 2, so we need two boxes: 1 column with 2 rows



You can see from this diagram that ½ = 50% of the calves are black, and ½ = 50% are dun. Notice that the black calf carries dun.

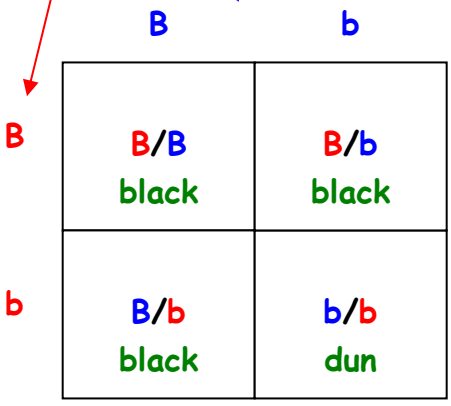
Example 3: Color Genetics Probability

black bull that carries dun (B/b) x black cow that carries dun (B/b)

½ of this bull's sperm have a black gene (B), and ½ of his sperm have a dun gene (b)

½ of this cow's eggs have a black gene (B), and ½ of her eggs have a dun gene (b)

2 x 2 = 4, so we need four boxes: 2 column and 2 rows



You can see from this diagram that 3/4 = 75% of the calves are black, and 1/4 = 25% are dun. Notice that the 1/3 of the black calves do not carry dun, and 2/3 of the black calves do carry dun.

The cross of a black bull that carries red with a black cow that carries red works just like Example 3.

John Potter, August 10, 2003