

Rabbit Breeding

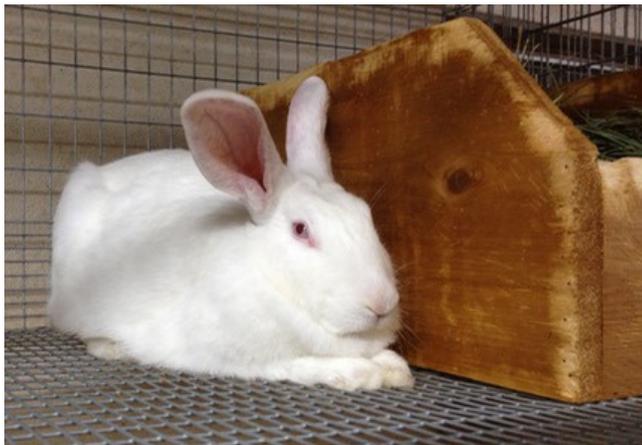
<http://www.azrabbits.com/useful-information/breeding.html>



You can begin breeding your rabbits when they are 4 to 4.5 months old (miniature and giant breeds may vary and individual rabbits may take longer than others). If you'd like the does to reach full maturity and size, it is recommended to wait until they are 6 months old before breeding (AZ Rabbits discourages this as it can cause breeding problems). This can be desired if you will be selling foundation stock to others so they can see what their parents look like at full maturity so they know what to expect theirs to look like. Breeding early won't necessarily effect their breeding success nor the size or number of kits, although our experience has been that breeding starting at 4.5 months results in a better producing rabbit. Once the doe has been bred, they will slow

their growth and they may never reach the full size they might otherwise have reached. It is a personal preference you need to make for yourself.

Always take the doe to the buck's cage. If you take the buck to the doe's cage, the buck may waste time marking the territory and they may end up fighting. Sometimes the doe will even harm the buck in a way that will eliminate all chances for the buck to reproduce in the future, making him useless in your breeding program. Remember to always take the doe to the buck! Once you put the doe in the buck's cage, he'll usually stomp around, make a circle or two and then mount the doe. You'll know the mating is complete when the buck gives a faint grunt and falls backward or on his side. Then he'll stomp around a little bit, kiss her cheek and mate again.



Some people like to rebreed them after 1 hour to ensure a successful mating. Others breed the same pair the following day. At AZ Rabbits, we allow the buck to have 3 successful mounts during the single meeting and do not do any follow up breedings. We have had excellent success using this method and do not see a need for more than this.

We are often asked how many bucks are recommended for a rabbitry. The following selection from the book, "Rabbit Production" by McNitt, Patton, Lukefahr, Cheeke may be helpful in this consideration.

"Research has demonstrated that the sperm count does not decrease below the level for optimum fertilization even when the buck is used daily for extended periods of time or used three or four times a day for a few days. The buck's only purpose in a rabbitry is breeding. If he is not used often, he may become fat and lazy. If 1 buck is kept for 10 does and your rebreeding interval is 35 days, the buck is only used 10 times in 66 days (35 + 31 days gestation). This means he works about once a week. Thus, 1 buck could service 66 does if he were used daily. With a shorter breeding interval, more bucks are needed. Many commercial rabbit raisers are now keeping 1 buck for 25 to 30 does."

At AZ Rabbits, we recommend that although you may not need 2 bucks, it is wise to have a backup. And always be looking for great bucks in your litters to raise up for replacements. Always be looking to improve your stock with the best of the best.

Forced Breeding

If the doe is not willing to be bred, you may need to use a forced breeding method. This usually occurs when you wait too long to rebreed your doe or wait too long for the first breeding. If you follow the recommendations of AZ Rabbits, you'll rarely encounter this problem. To do this, take the doe to the buck's cage. Then with one hand, grab the skin above the front shoulders (just below the neck area) with one hand and put the other hand under the abdomen. With the hand grasping the skin above the shoulders, pull the skin toward the back of the head (firmly, but not enough to hurt the doe). This not only secures the doe in place, but pulling the skin aids in lifting the tail, giving access for the buck to breed. With the other hand under the abdomen, lift slightly, also aiding in giving the buck access. Sometimes this is easily done and the breeding is quickly successful, particularly with an experienced buck. Sometimes it takes a little more time and patience. If you have a successful mounting using this system but cannot get a second one, remove the doe and bring her back and repeat this process 30 minutes later. This 30 minute gap is more for the buck's interest and stamina than any other reason. He'll get worn out trying and the rest is very beneficial.

One buck can service up to 30 does, servicing one or two does every other day, resting one day between matings. But it is recommended you have more than 1 buck for backup and to help diversify your breeding, depending on your end goals. We successfully breed a buck giving 12 hour breaks between (for instance, breed him to a doe in the morning, then again that evening to another doe). Then give him a day off. This maximizes sperm count and results in optimal fertilization and litter size. You can also breed a buck to your does once a day, if limiting to 2 successful mounts at the breeding of one doe and no more. Two does every other day is beneficial so you can have more due on the same day and practice fostering if needed.

Palpating

At 2 weeks (14 days), you'll want to palpate the doe to make sure she's pregnant. While restraining the doe with one hand, feel just in front of the pelvic area on her belly with the other hand. If she's pregnant, you should feel the marble sized embryos which feel more like a grape than a hard ball. If you are new, check another doe that isn't pregnant so you can feel the difference. If the doe isn't pregnant, rebreed. If she is, you'll want to put the nesting box in the cage 2 weeks later (28 days after breeding). Palpating is not a simple process, but with practice, you'll always correctly diagnose a pregnancy. And make sure you palpate on or before day 14. Many recommend you palpate at day 10. If you do this, feel around for a smaller embryo that closely resembles a ripe blueberry. Palpating is always easier on does that have been handled often. If you are attempting to palpate a doe that hasn't been handled very often, the doe may not calm down enough to loosen up. Take caution that you don't harm the embryos while palpating a tense doe.

Nesting Box & Birth

The nesting box should be put in on day 28 (3 days before scheduled kindling). We put it in on the evening of day 28. Putting the box in earlier often results in losing much of the bedding due to the rabbit's messing around in it or the rabbit using it as a litter box. It should be approximately 18" long, 10" wide and 10" high (some retailers sell them at 19"x10"x10"). The front should be either cut into a V-Shape or tapered down to about 6" for the doe to enter and exit more easily. No roof is necessary as this creates moisture which can kill the young, although some like to have a 5 - 8 inch roof over the far end of the box to keep the doe from jumping in from the side and stomping on her young kits, especially new mothers (our preferred method). A 1/4" x 1/4" wire bottom is good to allow urine drainage and moisture escape also. Others like to use removable Masonite flooring with holes in it which they change out every time there's a litter (we prefer wood nesting boxes with the 1/4"x1/4" wire bottoms).

Fill the box with soft straw, hay and/or pine shavings about 3 days before the doe is due. She'll pull hair out of her dewlap (the roll under her chin) and make a cozy bed for her young. They should arrive within 28 to 31 days after being bred (usually on day 31). If they haven't arrived by day 34, they aren't coming... time to rebreed.



Make sure you inspect the litter after they are born. Remove any dead in the boxes. If you have bred multiple does at the same time you may want to foster some kits if one does has too many and another too few. Continue to inspect the litter on a daily basis to check for any dead. A doe may not have totally successful births the first or even the second time. If she isn't good at it by the third kindling, she may not be the best choice for breeding. And depending on the doe, they can optimally care for between 8 to 10 kits. Litters of 11 or more are not manageable by does.

The young "kittens" are born with no hair and with their eyes closed. In 5 or 6 days their fur will grow in and in 10 to 12 days they will open their eyes. If any of the kits have their eyes so crusted over that they are not opening, get a paper towel and warm water. Dip the paper towel in the water and gently swipe the eye, being extremely careful and gentle. If both eyes are closed, move from one to the other, letting the water soften the crust. After gently working them, you will eventually be able to open them and clean off any remaining gunk. Only do this if it is obvious they need assistance. Then rub on some ointment to eliminate infection. If they are not aided, the problem could result in blindness. If this is happening too often, you may want to evaluate your nestbox and nestbox material. Unsanitary or dusty conditions may be causing a problem for your kits. If this is the case, start cleaning out your nest boxes and put clean, fresh hay/straw/etc. in and dump out any feces after the first week. Salvage the cleanest of the hair but remove urine or feces tainted clumps. Cleaning out the nest box after the first week usually isn't necessary, but there are always exceptions. Watch closely.

The industry average mortality rate in the preweaning stage can be up to 40 percent. Proper diet, nest boxes and care can lower this number dramatically. But to expect no kit losses at all is not realistic. Even if you do everything right, uncontrollable factors will result in the loss of some kits, particularly in the first week or two. Monitor patterns with your herd and eliminate does that consistently have higher mortality rates in kits.

The doe will spend most of her time outside of the nest box and only return to feed them twice or so a day. After 3 weeks the kits should be hopping in and out of the box often and you can safely remove the nest box from the cage. We have found that at 3 weeks the box is no longer being used by the kits and is just taking up space in the cage. Be sure to clean and sanitize your nest boxes between uses. It is also recommended to assign a nestbox for each doe to avoid possible cross-contamination (if supplies allow).

False Pregnancy

Every once in a while you may get a doe that shows all the signs of pregnancy but without kindling. She may even pull fur and attempt to make a nest. This is most common with does that haven't kindled their first litter. It may also occur if does have not been separated at least 18 to 20 days prior to breeding or if the doe urinates immediately after breeding, flushing out the semen. And obviously a false pregnancy will occur if the breeding was sterile. A tell-tell sign of a false pregnancy is when the doe uses the nest box as a litter box. If she starts doing this and you haven't palpated her, a litter may not be coming.

Re-Breeding

After they are born, many recommend rebreeding the does after 2 to 3 weeks. If bred 2 weeks after kindling, wean the young at 4 weeks. Does will reduce milk production starting at 3 weeks. At AZ Rabbits we use this aggressive (and expert supported) technique and breed the does 2 to 3 weeks after kindling (depending on the condition of the doe). With this breeding program we then wean at 4 weeks. This breeding schedule yields 7 to 8 litters a year. The schedule you'll follow is something you'll need to decide for yourself.

However quickly you rebreed your does after kindling will obviously determine how many litters a year you get. The following shows the number of litters per year you'll get based upon how quickly you breed after kindling:

- 42 days after kindle = 5 litters/year
- 35 days after kindle = 5.5 litters/year
- 28 days after kindle = 6 litters/year
- 21 days after kindle = 7 litters/year
- 14 days after kindle = 8 litters/year

Always watch for the best of your litters with the traits you are desiring to keep for your replacement breeding stock as you consistently work on improving your desired traits. Be prepared to cull and replace with improved stock on a continual basis. It is recommended that does be replaced every 18 months (although they can remain productive for up to 6 years). Keeping the best of the best in the litters allows you to do this and always be improving your herd.

Other Noteworthy Factors

Another consideration for optimal fertility and production is daylight. Depending on the time of the year, daylight hours vary. For optimal production, 16 hours of lighting, either natural or artificial, is highly recommended. Get a timer and save yourself the hassle of having to turn the lights off and on every day.

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### **More on Breeding and Inbreeding**

Different breeding methods are important to understand. It is key that you understand the strengths, weaknesses and uses of these various practices and how to use them to your advantage. The following thoughts are helpful...

"Under certain conditions, inbreeding can be invaluable to both commercial and fancy breeders."

"As the rate of homozygosity increases through inbreeding, heterozygosity decreases in a proportional manner - i.e., the inbred offspring are more genetically uniform."

"... those inbred families or lines composed of individuals that possess a preponderance of desirable genes fixed in the homozygous state not only will permanently retain their superiority for traits selected but also will consistently transmit such superiority to their offspring."

"From a commercial standpoint, the primary advantage of producing inbred lines is for crossing purposes. Through crossing of unrelated inbred lines, the general result of vigorous and productive hybrid stock is expected."

"For large-scale commercial production of meat rabbits, systematic use of inbreeding and outcrossing could be adopted... Since a high state of breeding vigor is desirable in breeding does, it is considered best that they be crossbred or outcrossed through the crossing of superior inbred parental breeds or lines. However, since bucks represent a smaller proportion of the breeding herd, it may be economically feasible to create inbred lines to produce inbred herd bucks to mate to unrelated does, preferably of a different breed or linecross. Select, improved, inbred sires should produce more thrifty, more uniform, and higher performing market rabbits than non-inbred sires originating from a common base population... Only experienced commercial rabbit breeders with a thorough knowledge of genetics, a large herd, and

an accurate record-keeping system should consider using such an inbreeding-outcrossing breeding system."

"Strict culling of undesirable individuals is critical to prevent the spread of undesirable genes whenever inbreeding or linebreeding is used."

- *Rabbit Production*, by McNitt, Patton, Lukefahr, Cheeke

Oren Reynolds of Illinois was the editor of Domestic Rabbits magazine for 25 years and president of the ARBA at one time. Born in 1902, he raised rabbits from most of the twentieth century and was extremely successful. Even at 98 years old, he was still very active with the ARBA and advised the board of directors and edited the magazine six times a year. He raised Champagne D'Argents and won more awards than any other breeder, which gave him the title of "Mr. Champagne", winning 17 national best of breeds.

This is what Oren Reynolds had to say:

"I am a firm believer in judicious culling. In fact, 90 percent of the mistakes made in rabbit raising are made the day the young litters are culled. The faults are there but hard to see. As the animal grows he doesn't outgrow the faults, they just become easier to see because they develop as he does. Either a youngster has a good, smooth, full rump when weaned or he will never have it.

"Once you start inbreeding you get the bad points bred out, and the only way to make sure you don't reintroduce them is to keep out strange blood. At the beginning, I was pleased to get one or two keepers from a litter of seven or more. Now if I can't keep five from a litter of seven, I am displeased and consider it almost a failure. I could raise all I needed or wanted with twelve does."

- *Storey's Guide to Raising Rabbits*, by Bob Bennett

In both of the books quoted above, inbreeding and linebreeding is described as a very powerful and useful tool in rabbit production. It is also important to know what you're doing to fully utilize its benefits. The purpose of including the above information is to dispel the negative stigma associated with inbreeding and linebreeding and show its importance in the right situations and under the right conditions. It is NOT to encourage the novice breeder to do this, but to convince breeders that they can be useful practices by knowledgeable breeders.