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Prevention of Disease:

for smallholder farmers and village animal health workers in Cambodia

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Biosecurity:

Measures that are taken by the farmers to STOP the spread or introduction of disease, intended to protect the health of the people and the animals.



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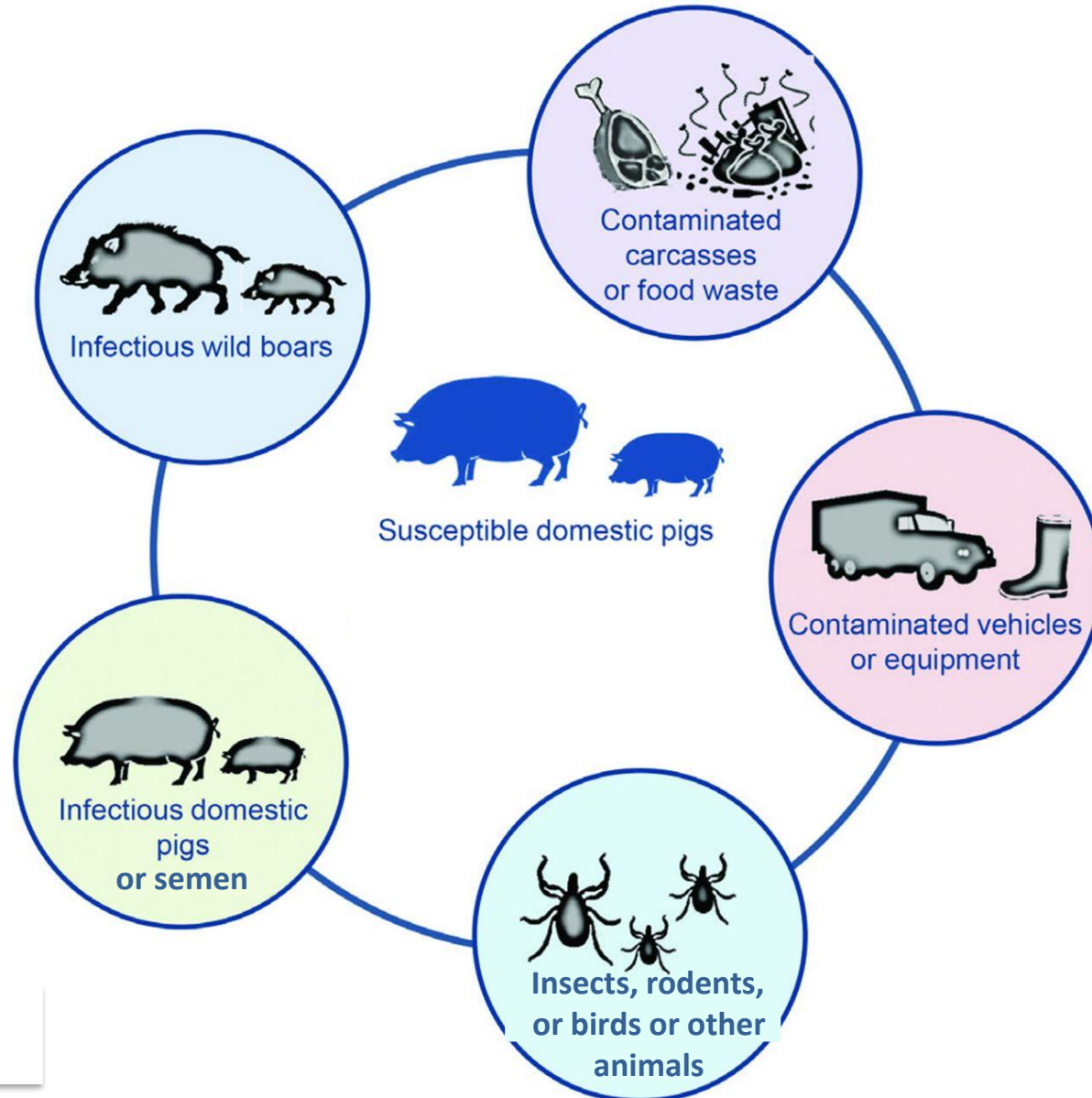


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BIOSECURITY

1. Pig sources, pig sellers
2. Neighbors
3. Veterinarians, VAHWs, & other people (feed, groceries, NGO, USAID workers)
4. Close proximity to other pigs
5. Waste feeding
6. Boars & semen
7. Pig buyers, shared equipment
8. Other shared equipment
9. Wild pigs, dead pigs, rodents, domestic animals, insects & birds
10. Manure





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What did we learn from the surveys?



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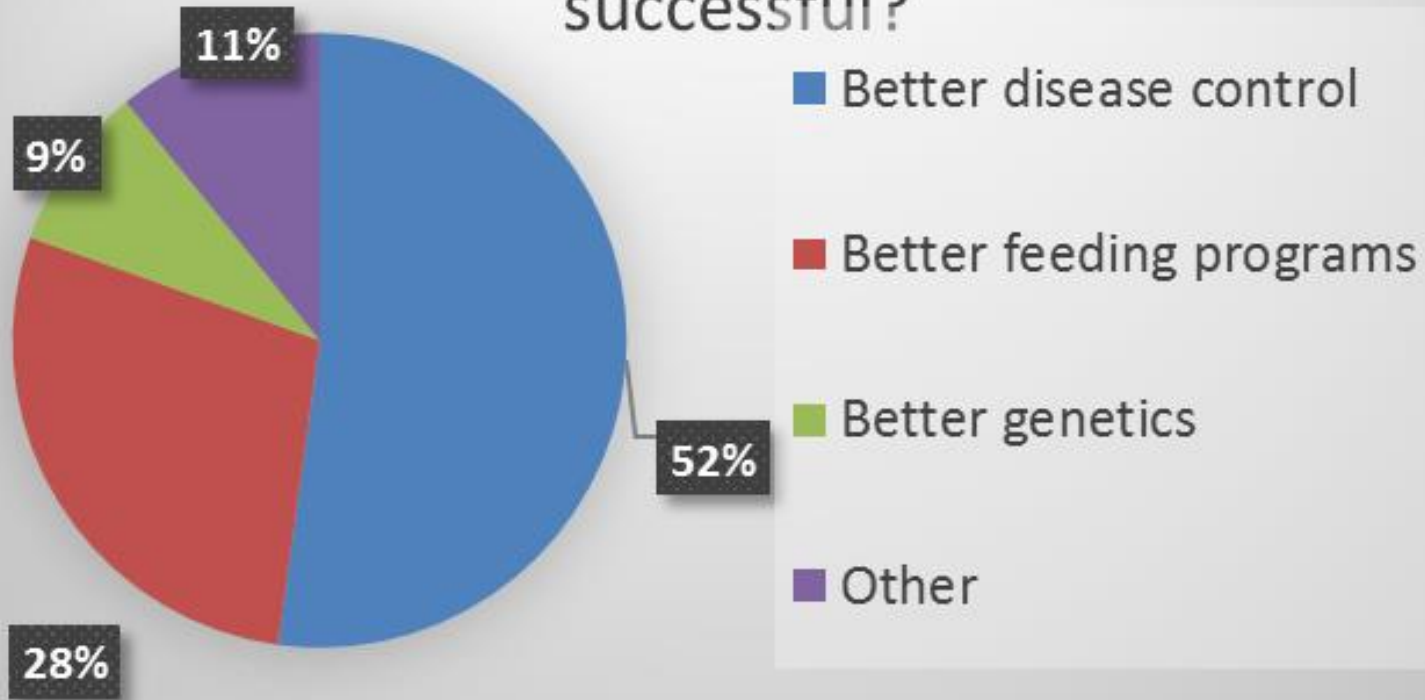
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What do pork producers in your community most need to be more successful?



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1. Source of pigs is a disease risk

Where do you get your pigs?



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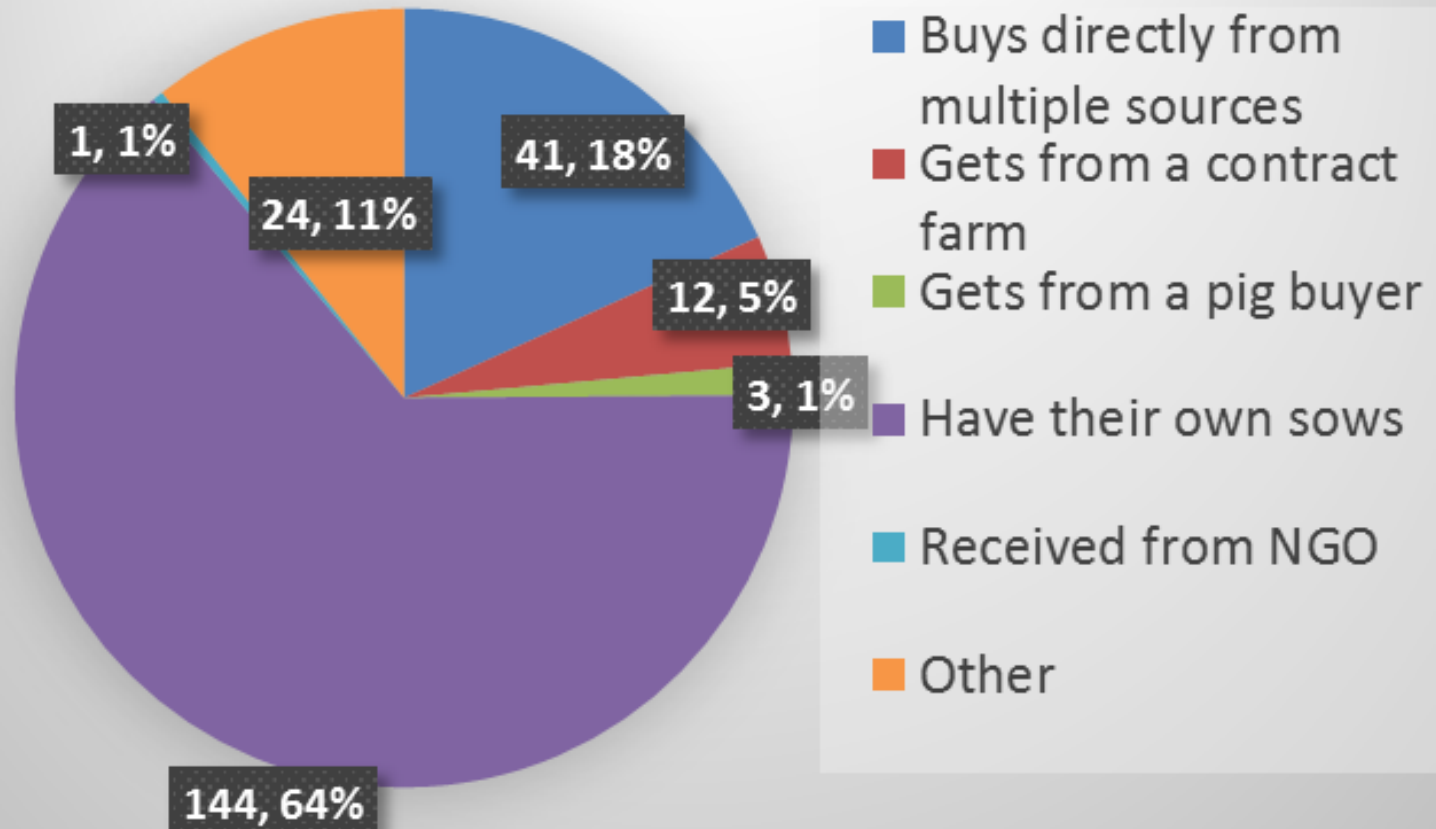
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Where does the farmer get pigs?

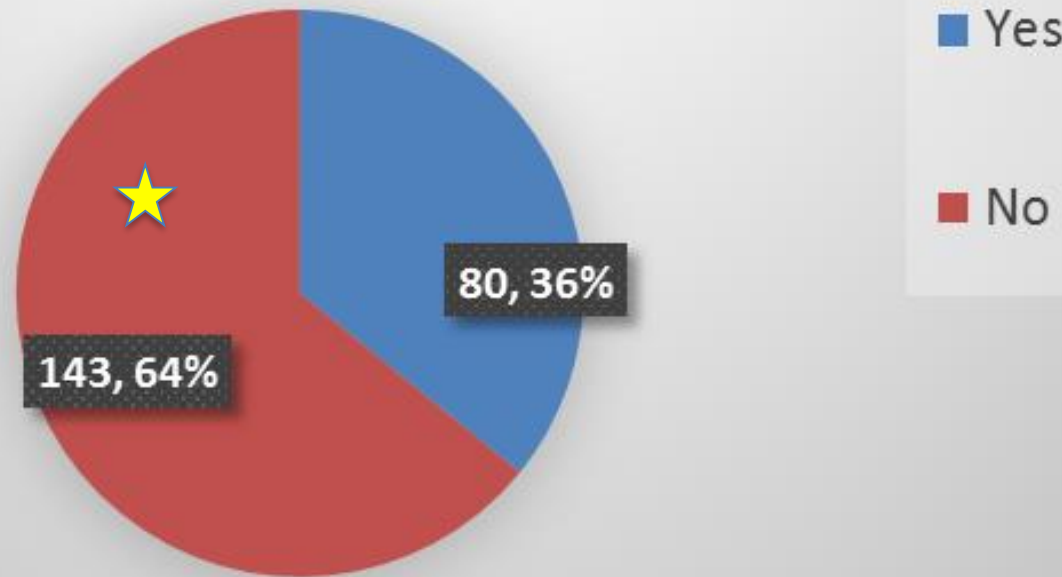




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Does the person delivering the pigs stop at farms besides yours when delivering your pigs?



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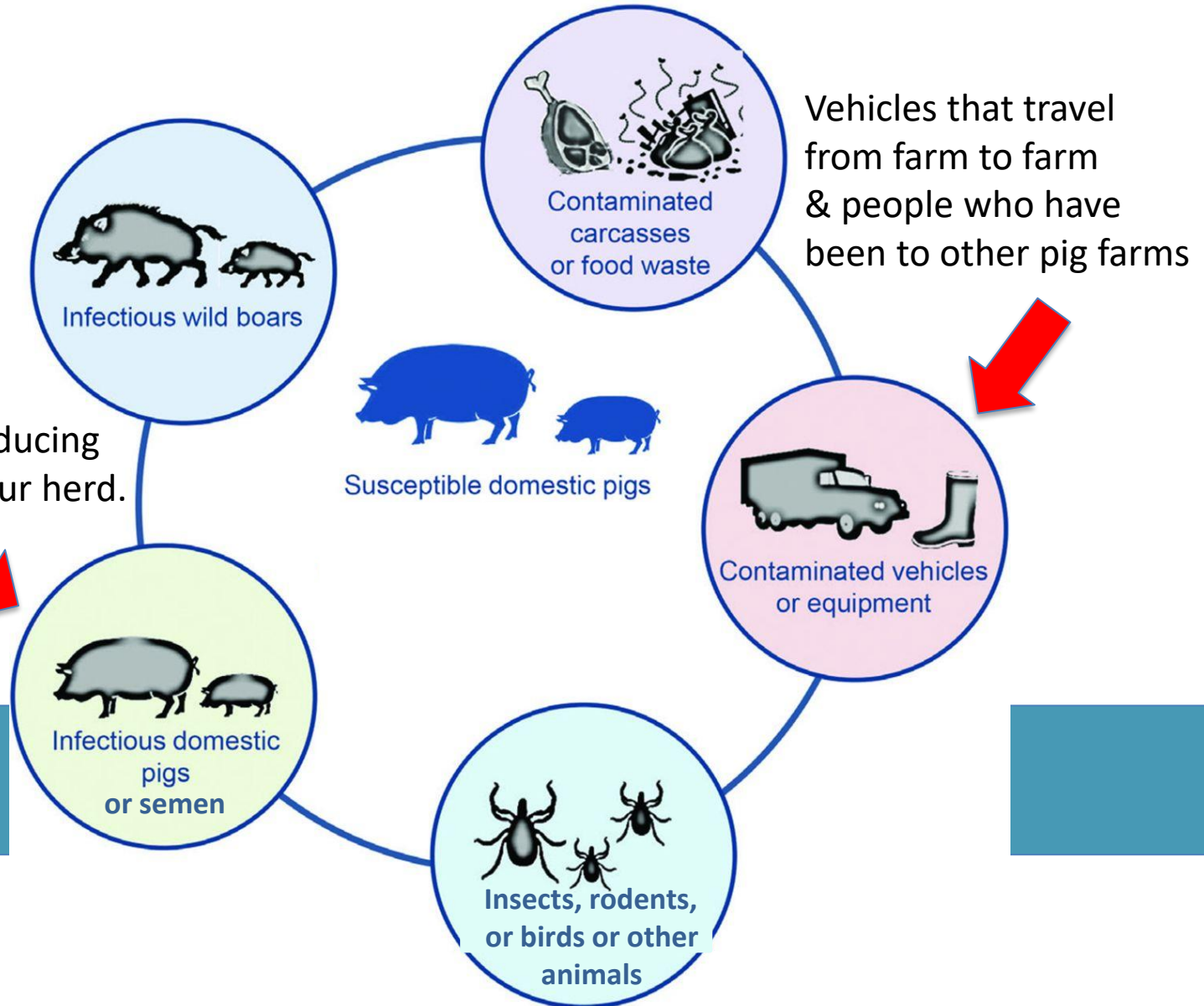
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Multiple pig sources increase risk of introducing new diseases into your herd.





WHAT CAN YOU DO?

1. Know the health of your source of pigs
2. Don't mix pigs from different sources
3. Limit access of pig seller to your farm





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2. Other people having contact with your pigs is a disease risk.

Who has contact with your pigs?



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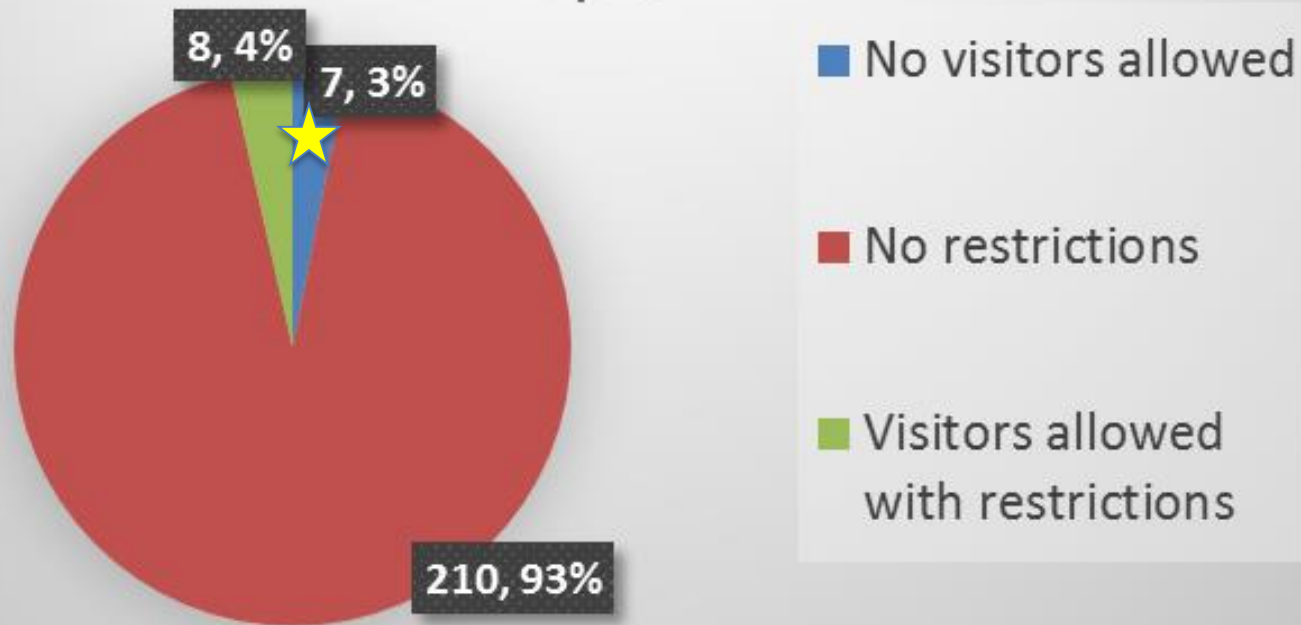
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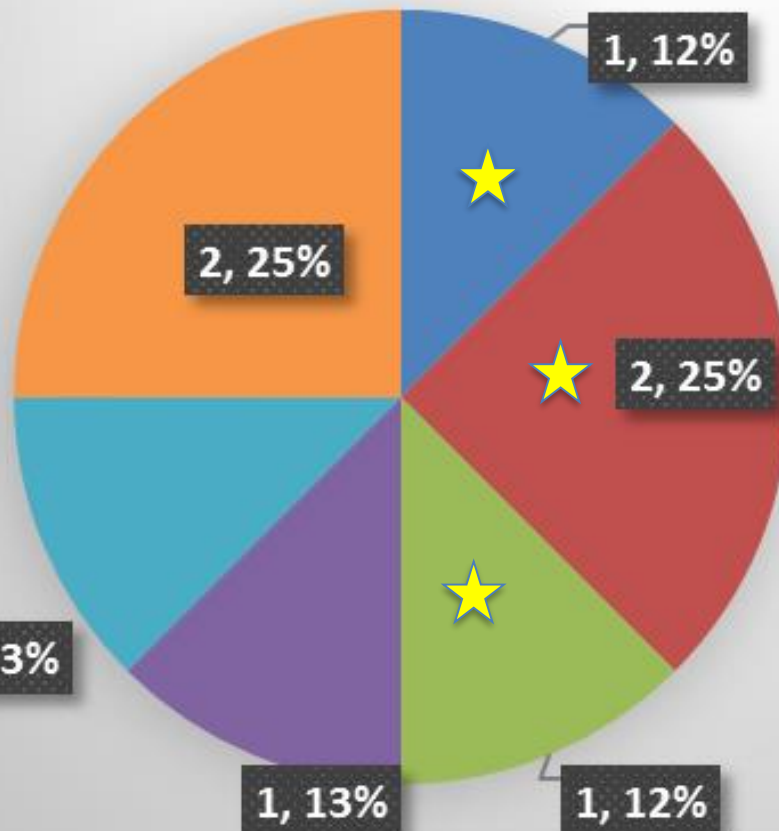


Does the farmer restrict access of other people to the area that pigs are kept?





If restrict, restrictions are:



- Change footwear
- Must not own or been around other pigs
- Disinfect shoes
- Must not own pigs
- Just allow, it is impolite to restrict
- Not allow strangers

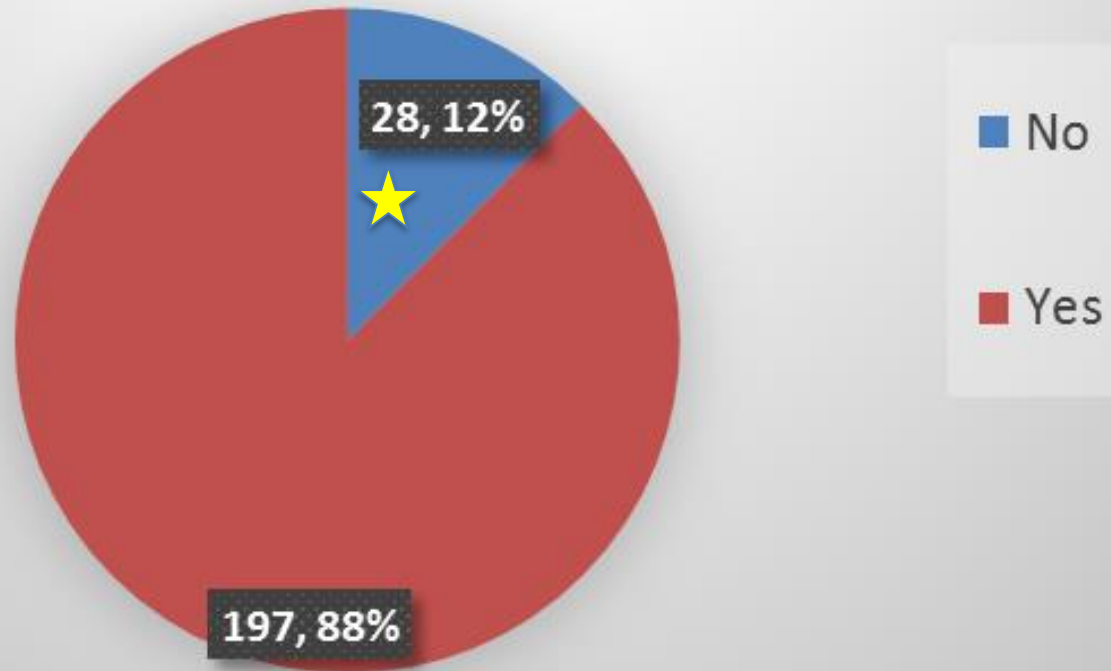




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Do your neighbors come to see your pigs?



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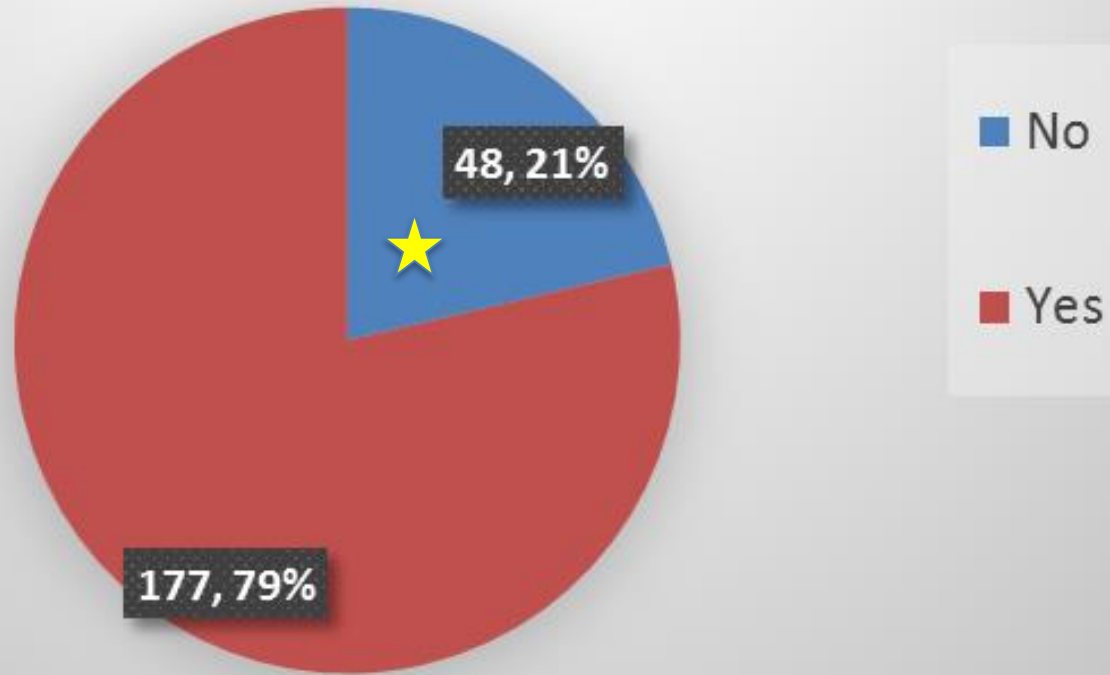
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Do some of these neighbors also have pigs?



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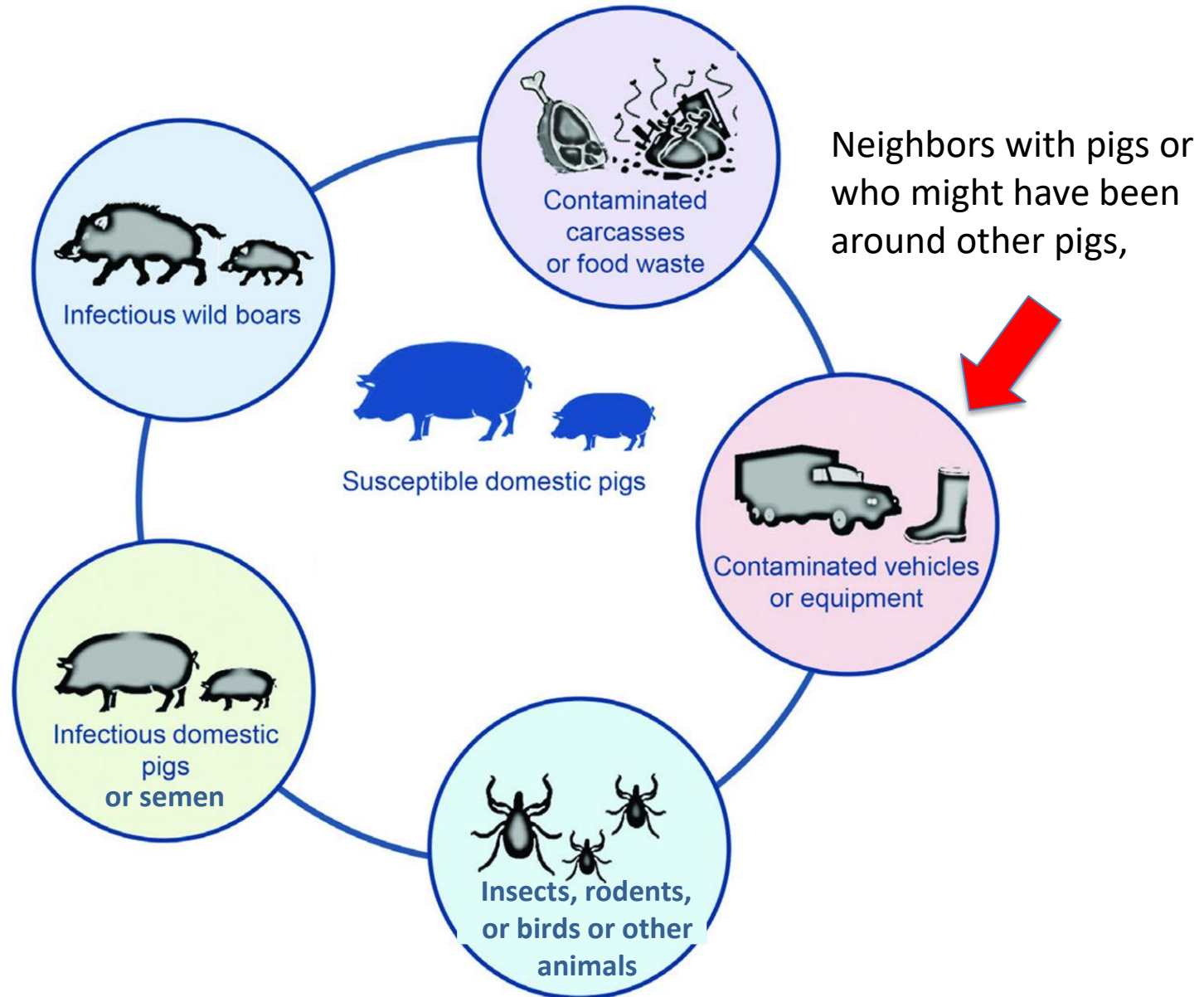


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WHAT CAN YOU DO?

1. Limit access to the area your pigs are kept
2. Insist that anyone who does visit your pigs
 - a. Doesn't drive their vehicle to the pig area
 - b. Washes their hands
 - c. Put plastic covering over their shoes or the farmer provides shoes.
3. Be ready to explain why limited access is necessary for pig health. You don't intend it to be impolite.





3. VAHWs and veterinarians

Must follow biosecurity rules due to exposure to multiple farms and pigs with disease.





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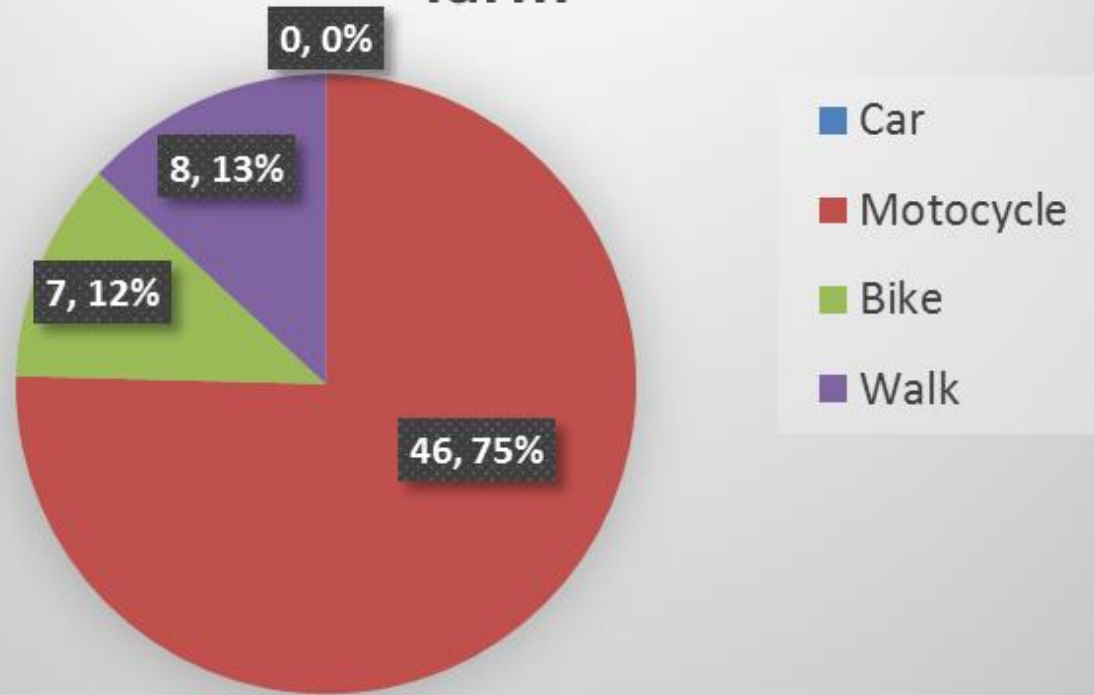
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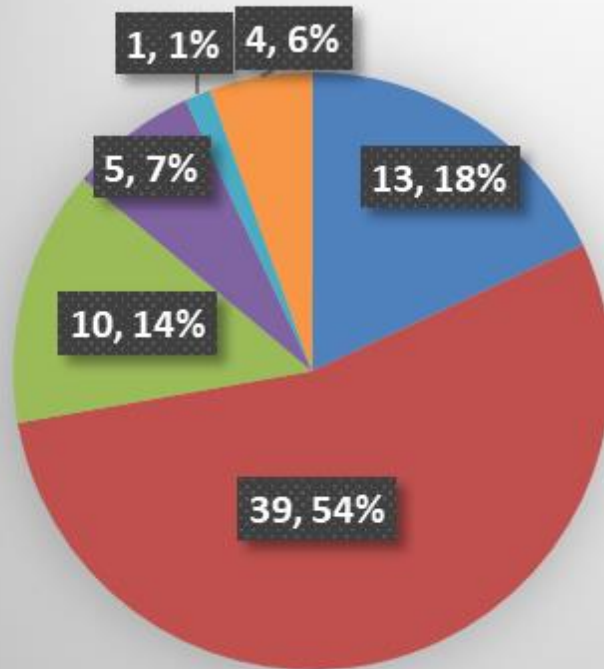


Village animal health worker - Mode of transportation from farm to farm





Village animal health worker - Biosecurity when visit farm to farm

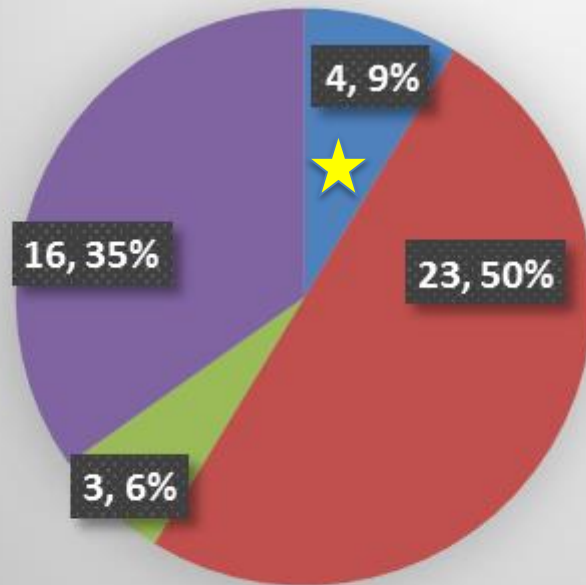


- No biosecurity
- Wash hands between farms
- Disinfect shoes between farms
- Change clothes/shoes between farms
- Wash vehicle between farms
- Other





Village animal health worker - Order of visiting farms



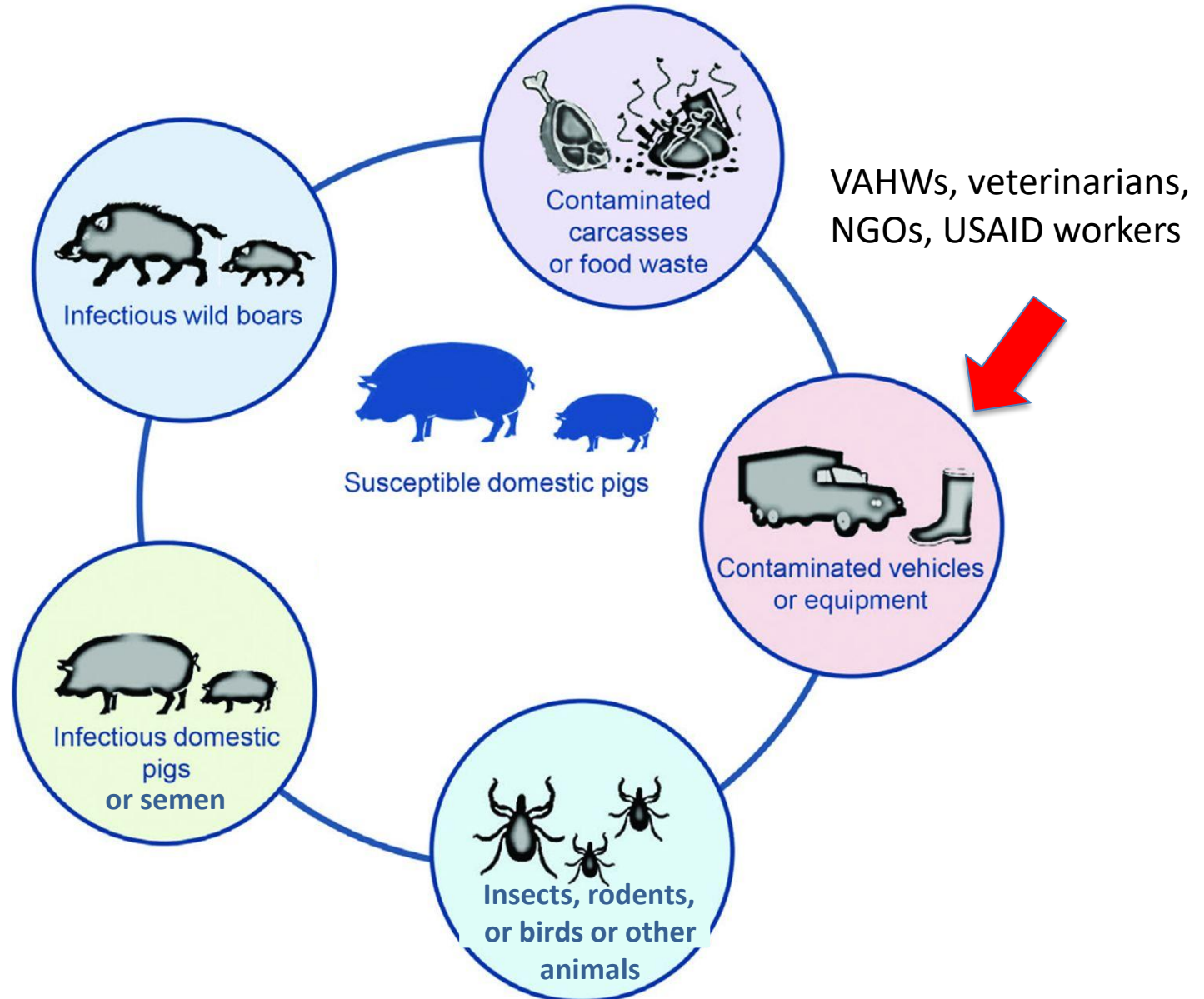
- Least sick to most sick
- Most urgent first
- Farms that are closer to each other to minimize the travel between them
- Whoever calls first is visited first





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WHAT CAN FARMERS DO?

1. Insist that anyone who does visit your pigs
 - a. Doesn't drive their vehicle to the pig area
 - b. Washes their hands
 - c. Put plastic covering over their shoes or the farmer provides shoes.
2. Be sure to make your biosecurity rules known.





WHAT CAN VAHWS DO?

1. Arrive with a clean vehicle, hands, clothes, & shoes.
 - a. Wash any pig manure from motorcycle
 - b. Wash your hands
 - c. Put plastic covering over your shoes or wear the farmer provided shoes.
2. Be sure to ask what their biosecurity rules are and follow them. If there are none, help them establish some.





4. Proximity of other pigs

Do your neighbors have pigs?

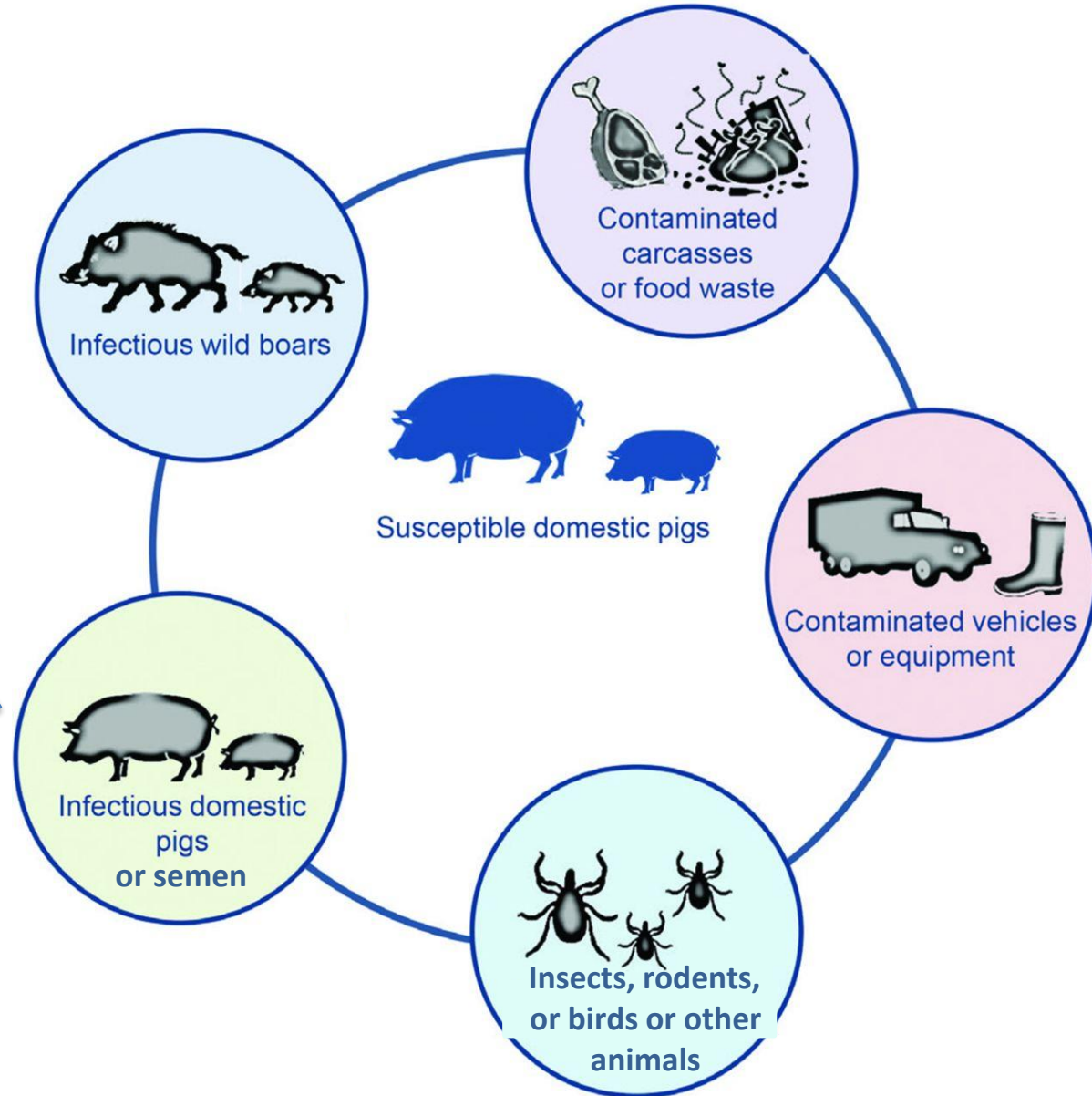
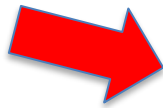




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Neighboring pigs





WHAT CAN YOU DO?

1. Limit access to your pigs so neighbors and pigs do not have contact.
2. Be sure to make your biosecurity rules known
3. Don't visit your neighbors pigs especially if they are sick, or if you must, follow your own biosecurity rules (wash hands, cover, change, or wash footwear)
4. Have good fences, so pigs don't get out and visit the neighbors





5. Feeding waste

Are you feeding restaurant waste
or kitchen waste?

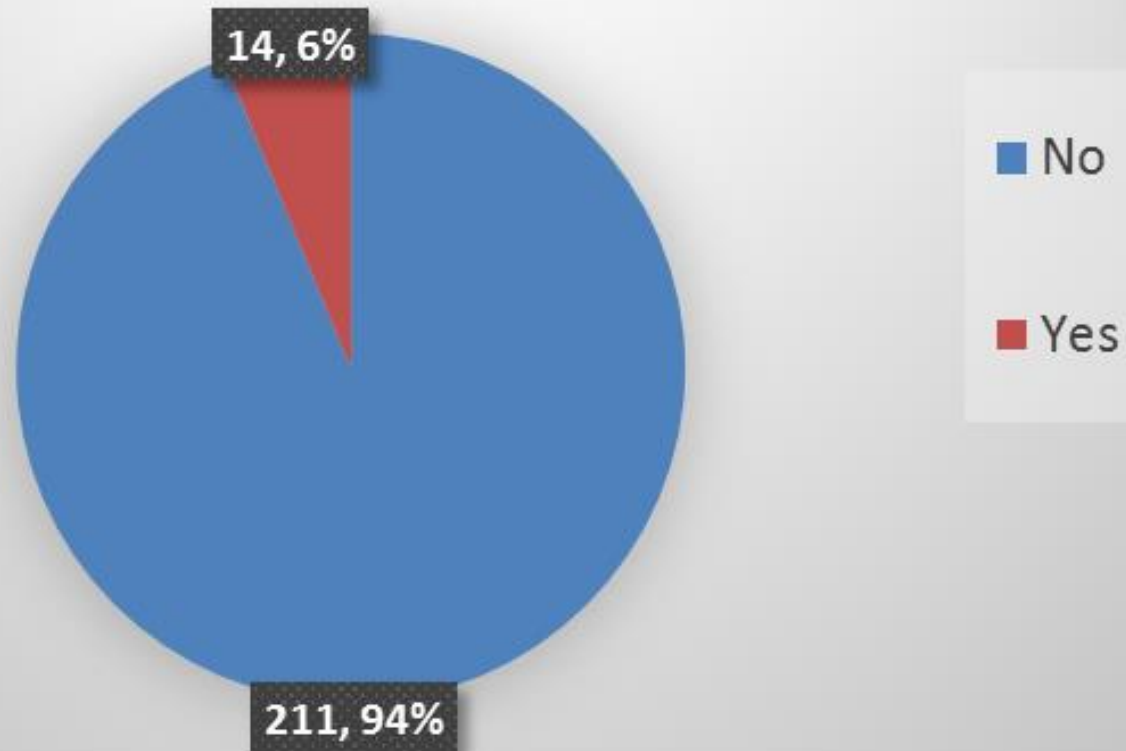




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Does the farmer feed restaurant waste to pigs?



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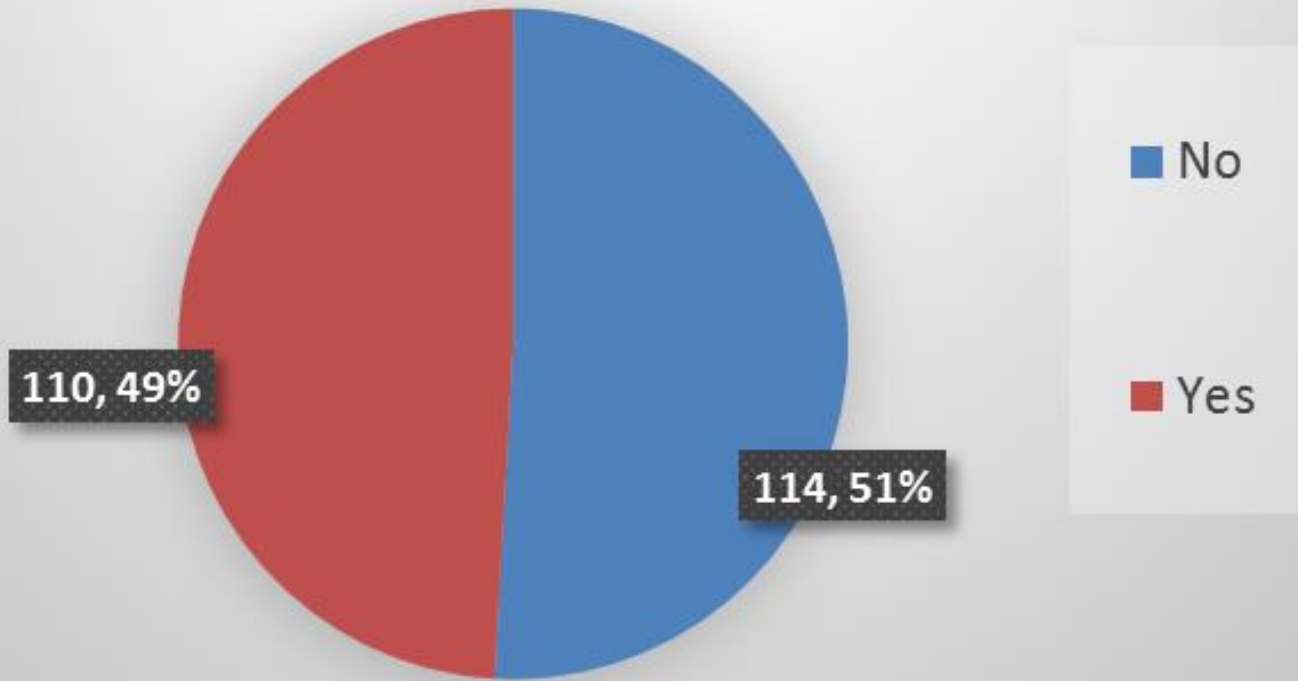
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Do you feed your own kitchen waste to the pigs?



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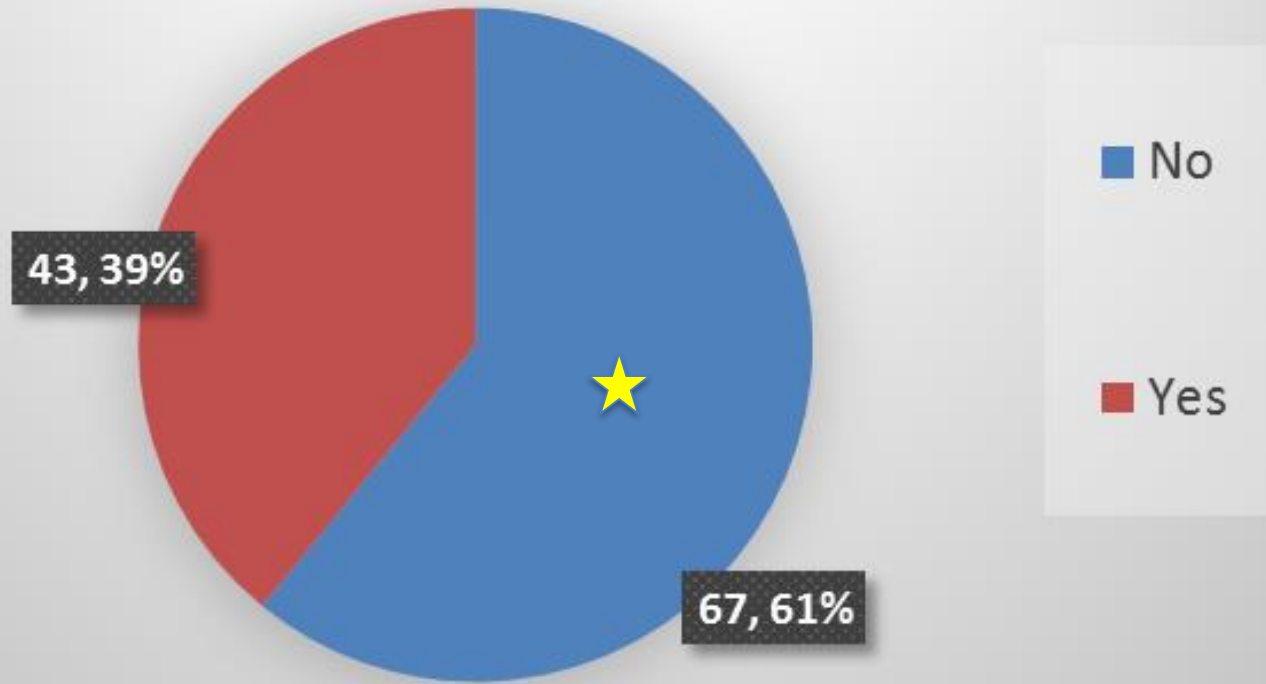
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Does the waste contain meat scraps?



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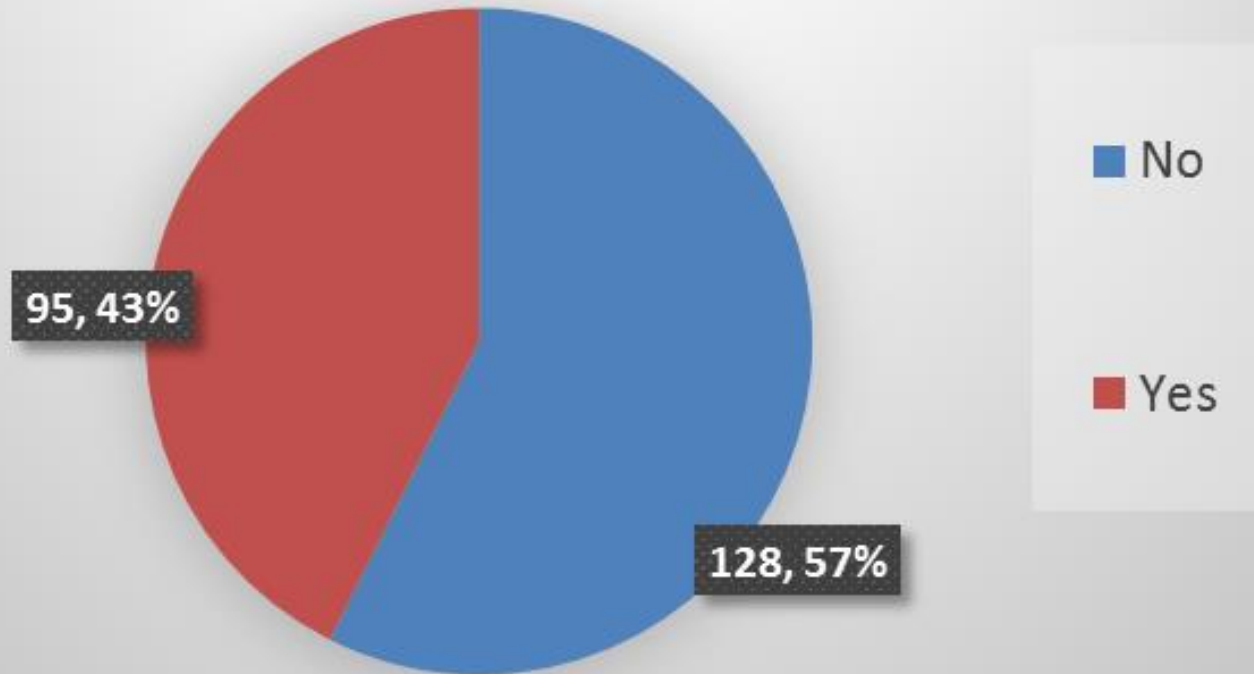
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Does the farmer have anyone come to the farm selling meat?



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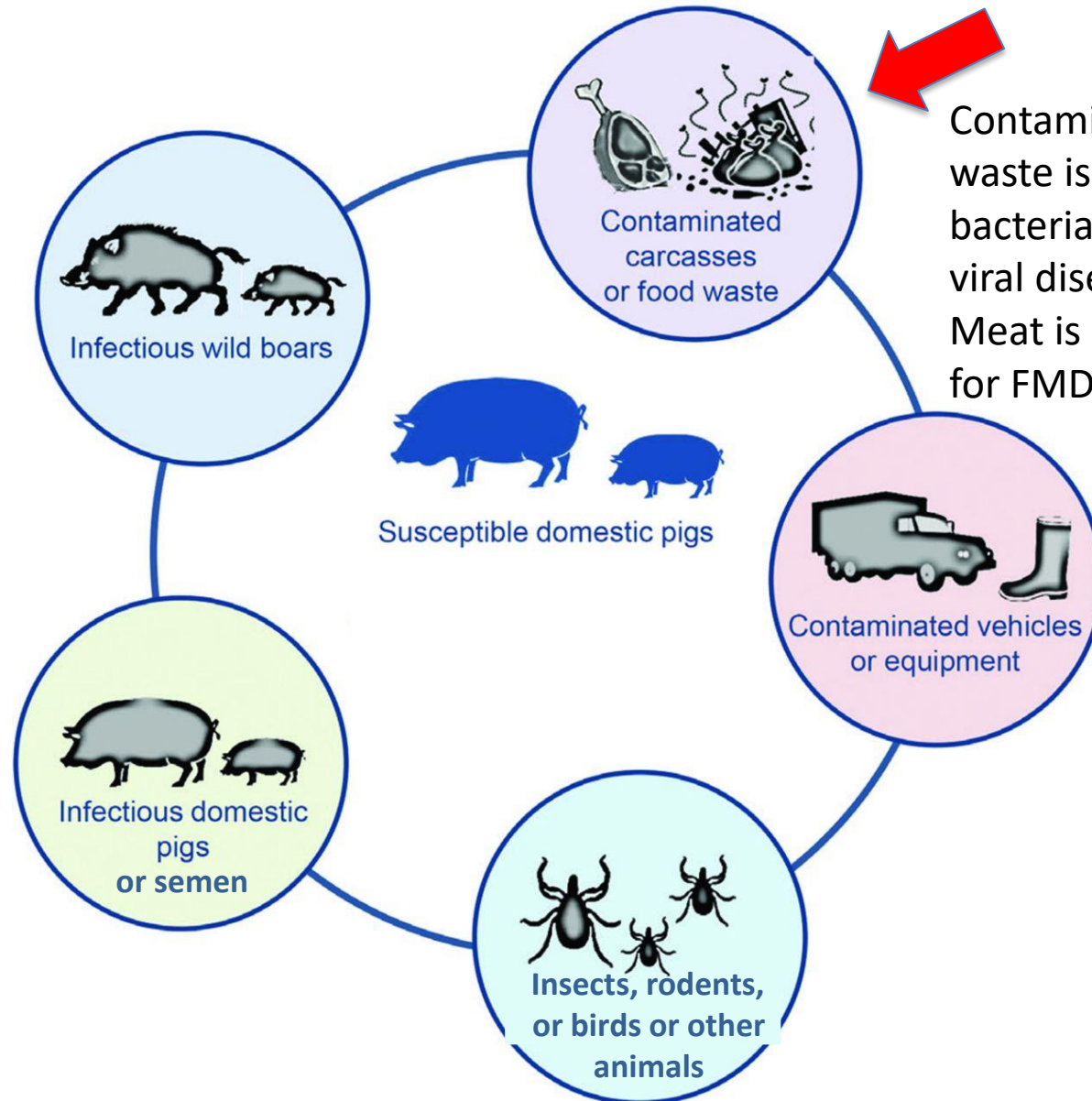


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Contaminated feed waste is a risk of bacterial and viral disease. Meat is a big risk for FMD, PRV and ASF



WHAT CAN YOU DO?

1. Do NOT feed back meat scraps to pigs.
2. Restaurant waste is risky due to risk of bacteria and viruses in the waste, but also due to the person transporting the waste.
3. Don't feed meat in your kitchen waste.





6. AI semen, boar usage, & the boar man

How can we reduce your risk and still get the sows pregnant?

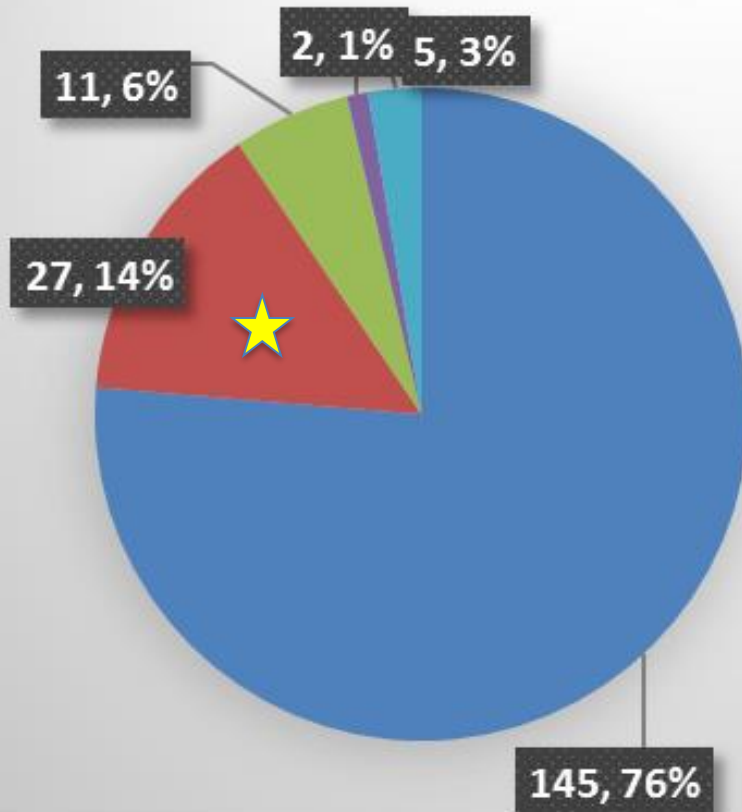




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How are sows bred?



- A boar man brings a boar when the farmer calls
- Artificial insemination
- Farmer owns his boar and also breeds sows for others
- Farmer owns his own boar and only uses that boar on his sows
- Uses a boar from a neighbor



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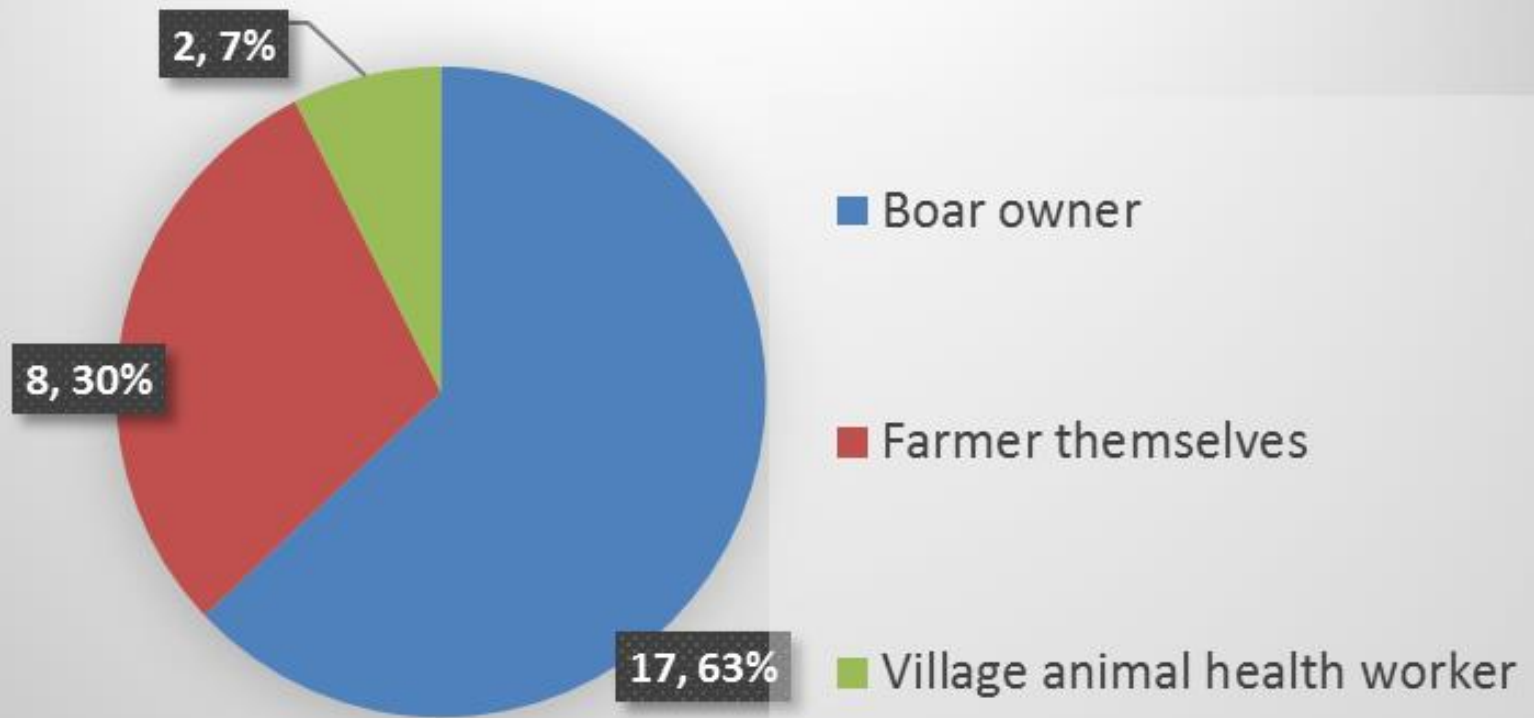
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Who does the AI?



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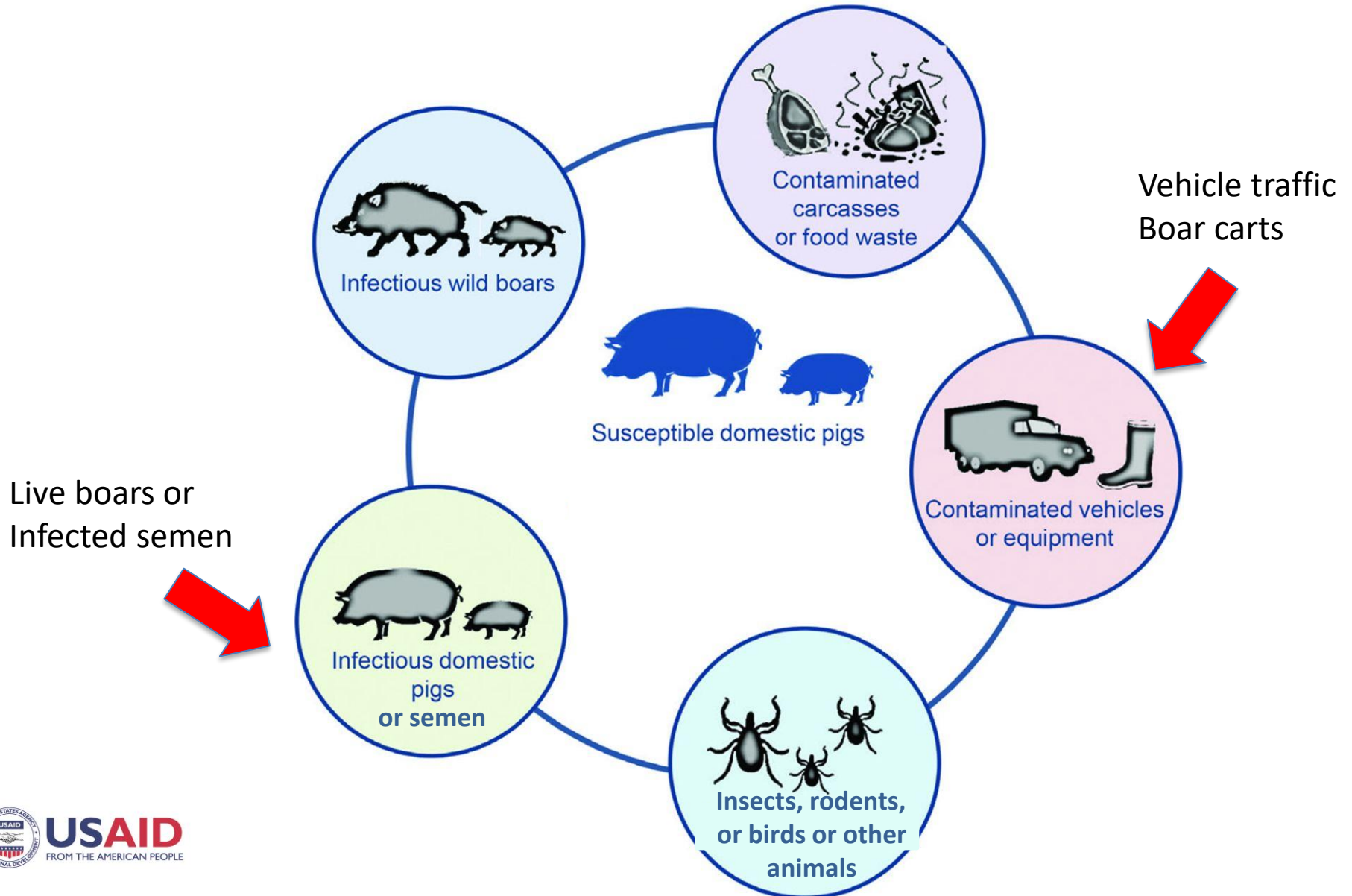


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WHAT CAN YOU DO?

1. Live boars
 - a. Risk of disease introduction from other farms from boar, transport, or boar man
 - b. Semen, manure from boar
2. AI semen greatly reduces risk IF boar is healthy and boars are not used for natural service **ever**.
3. Be sure to make your biosecurity rules known. Boar man should follow your rules.





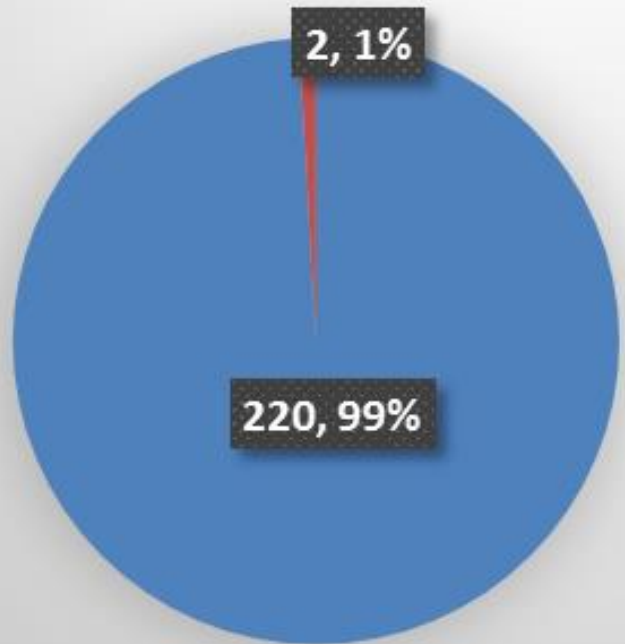
7. The Pig Buyer

How can we reduce your risk and still get your pigs to market?





How does the farmer market the pigs?



- Buyer comes to the farm and picks them up
- Farmer takes pigs to the buyer

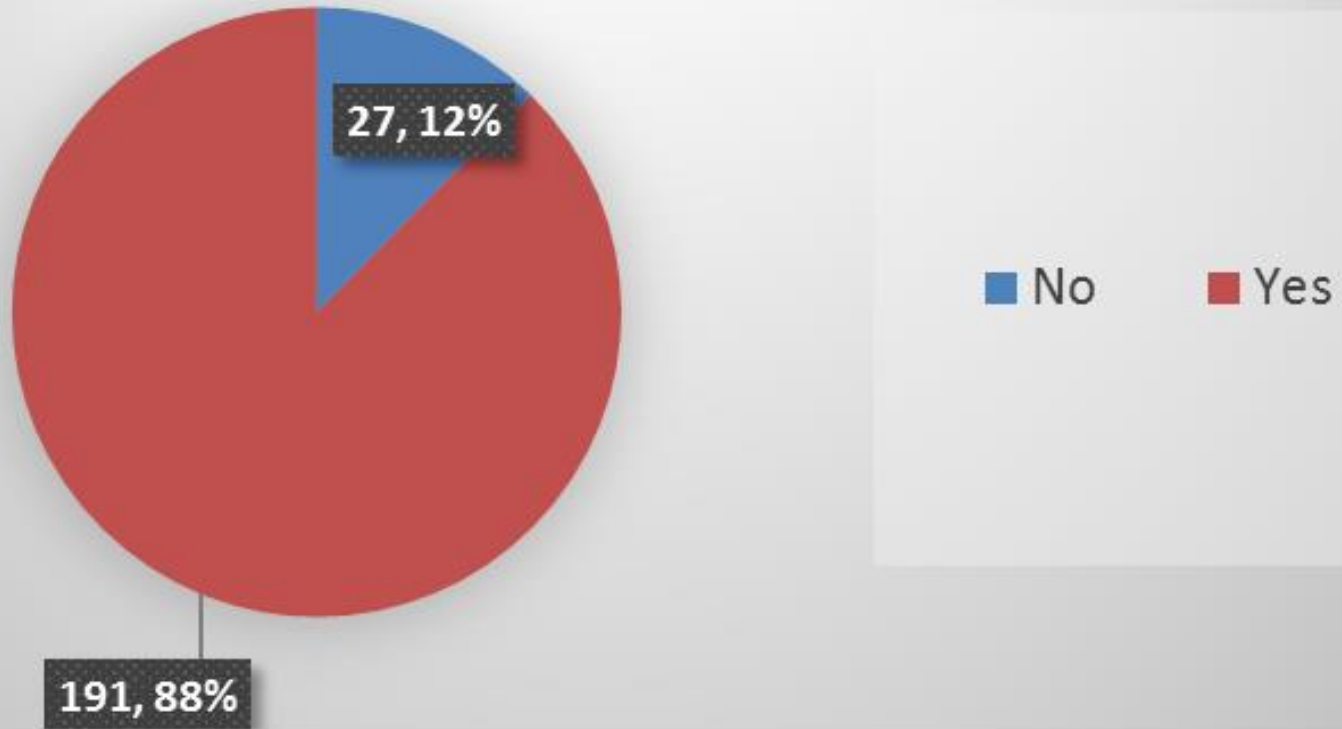




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Does the buyer purchase from other farms also?



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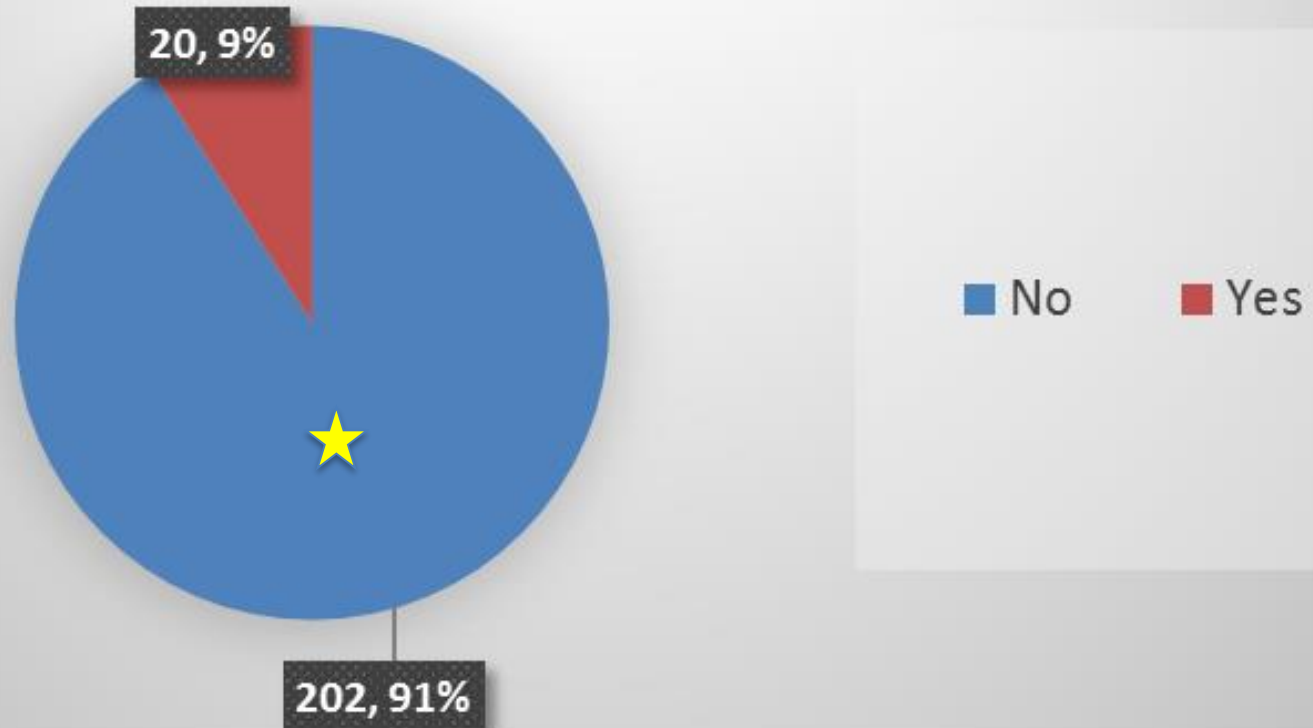
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Does the pig buyer brings a scale to the farm?



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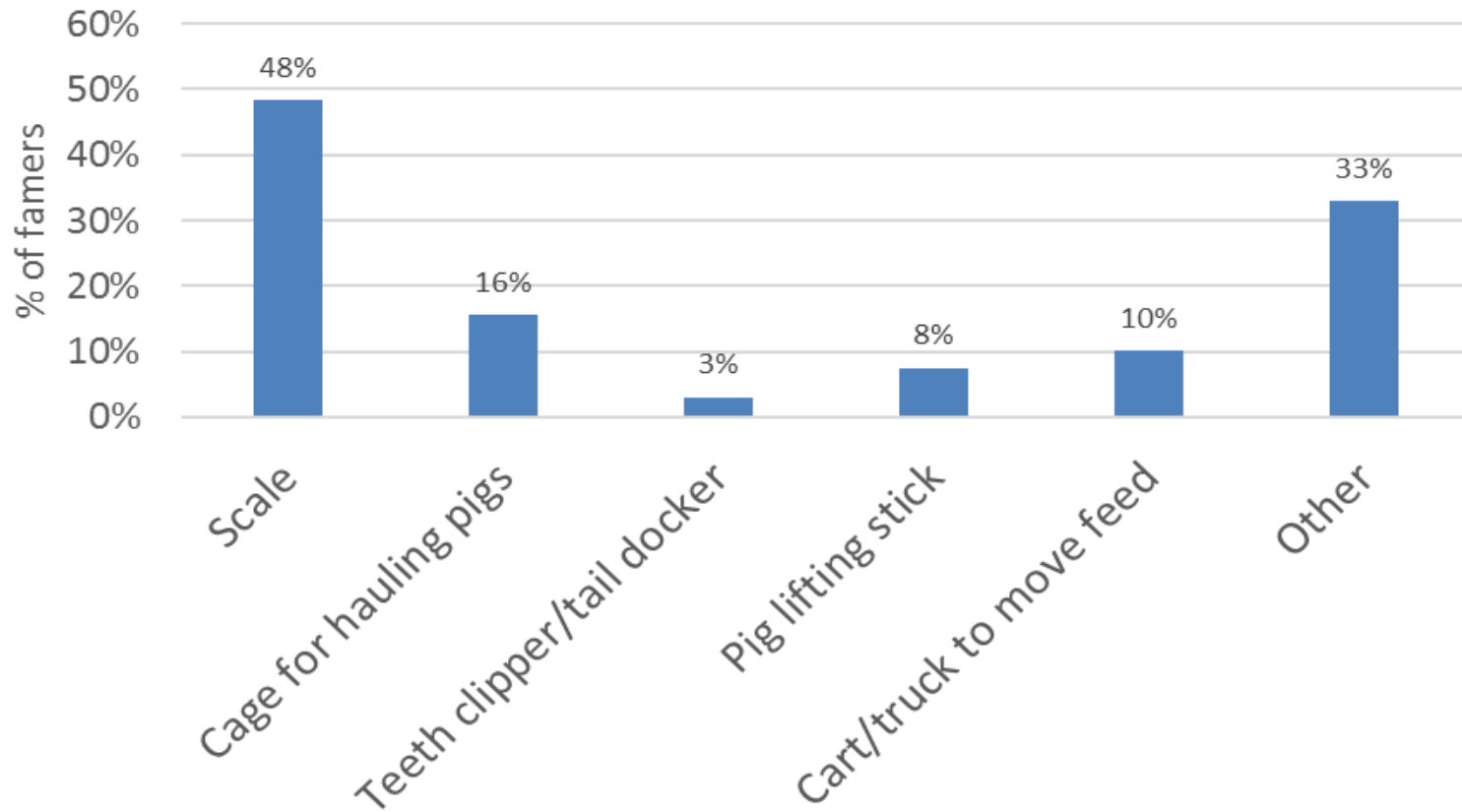
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Does the farmer share any of the following equipment with others who have pigs?



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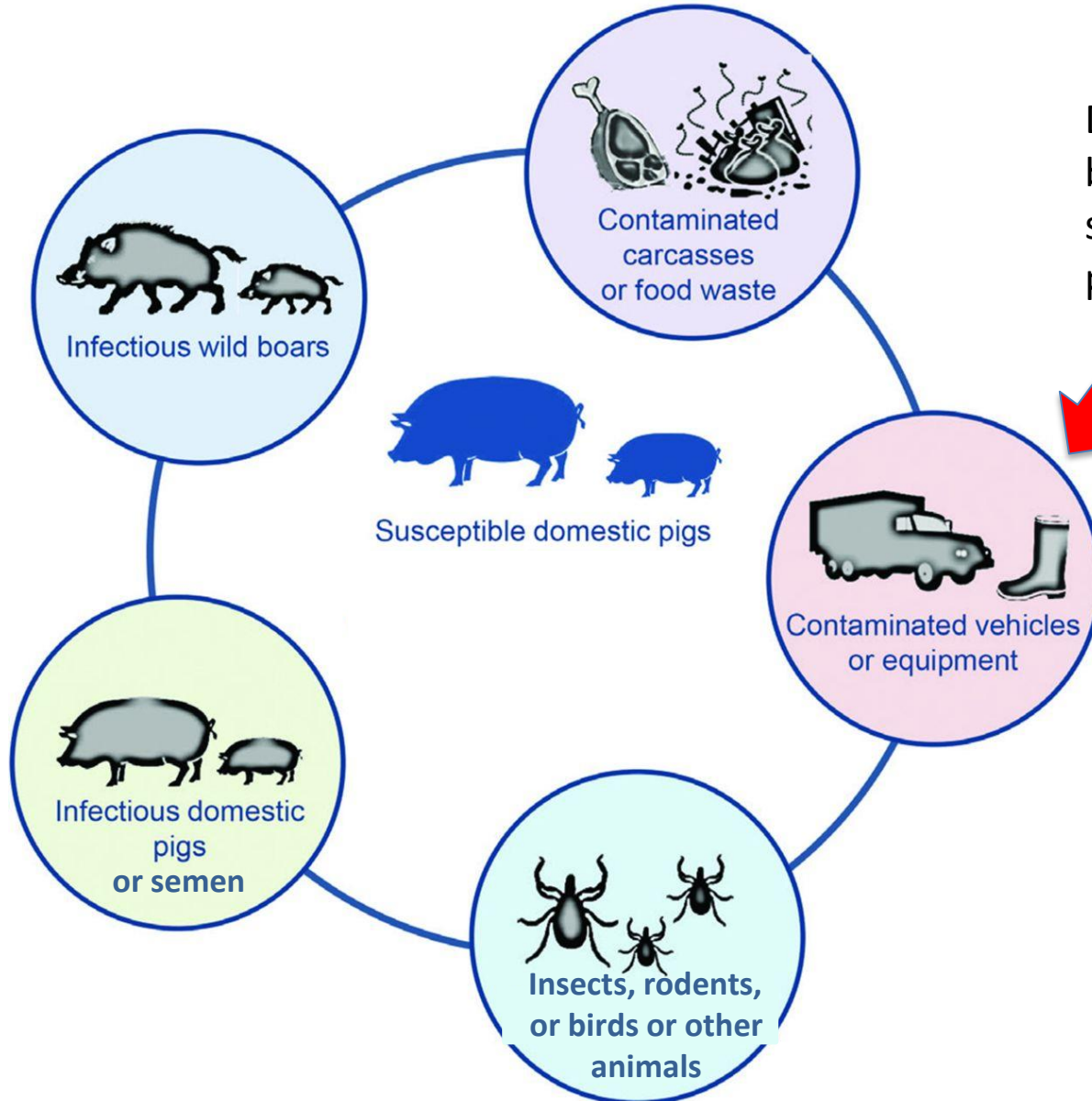
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Pigs on the buyer's trailer when they come to your farm.



Dirty pig buyer trailer, scales pig stick





WHAT CAN YOU DO?

1. Pig buyer trailer
 - a. Should be clean and empty upon arrival
 - b. If other pigs are on the trailer, don't allow them access to your pigs, transport your pigs to them then wash your equipment.
2. Shared equipment may be necessary, but should be clean and dry before sharing
3. Be sure to make your biosecurity rules known. Pig buyer should follow your rules.





8. Risk of Other Shared Equipment

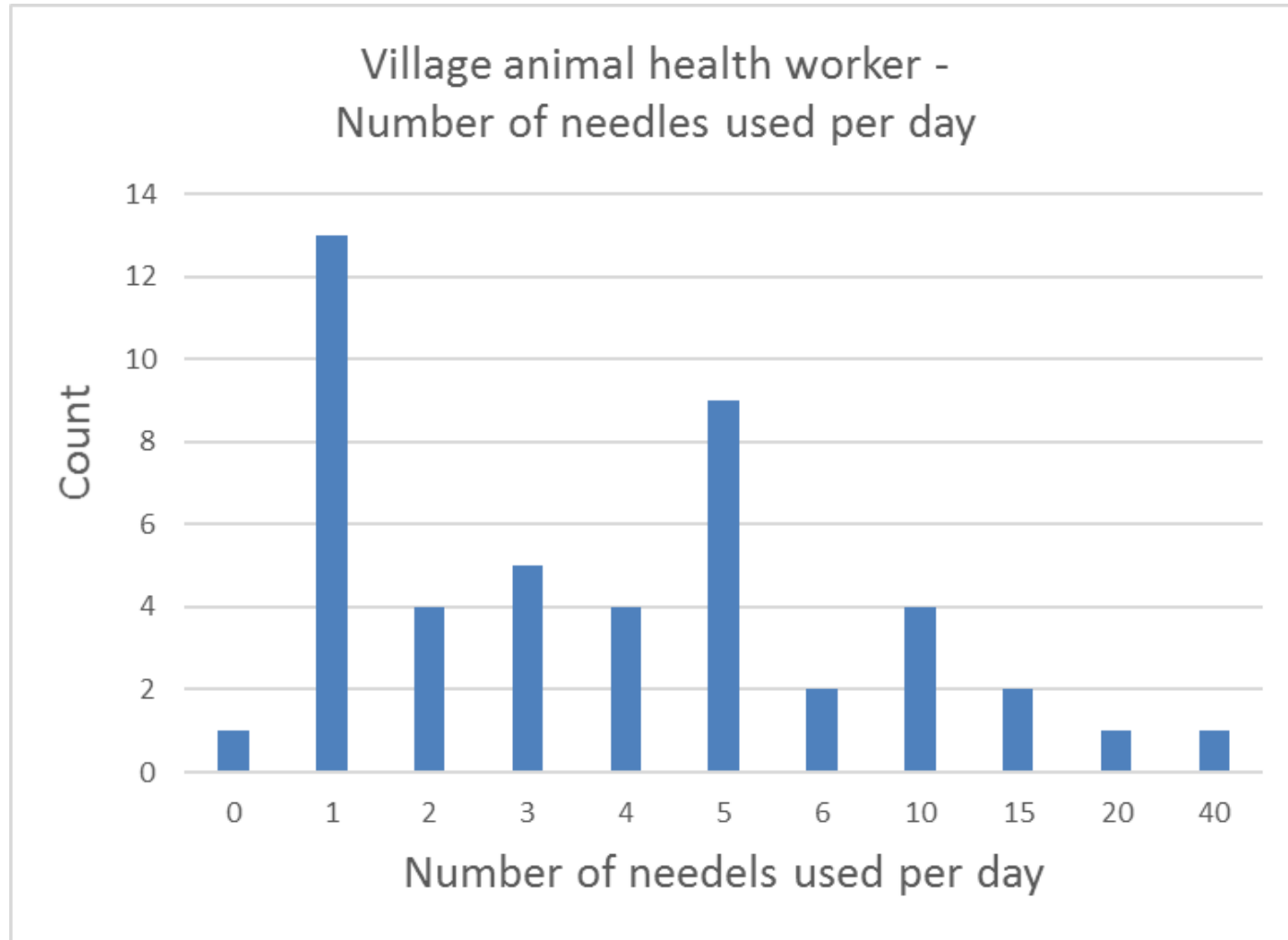
Any equipment that moves from farm to farm is a risk





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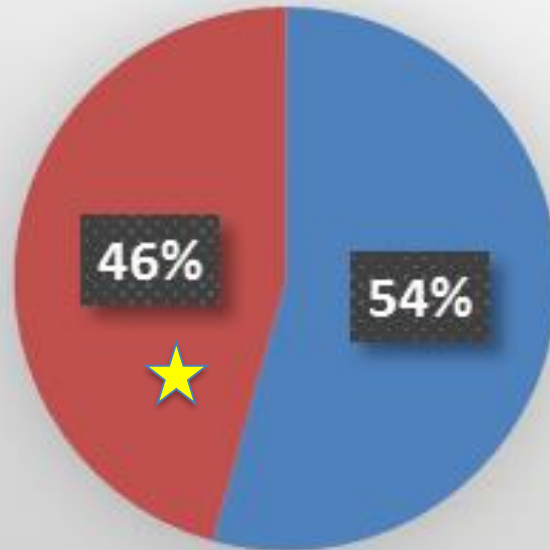
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Do you use reusable needles?



■ Yes
■ No



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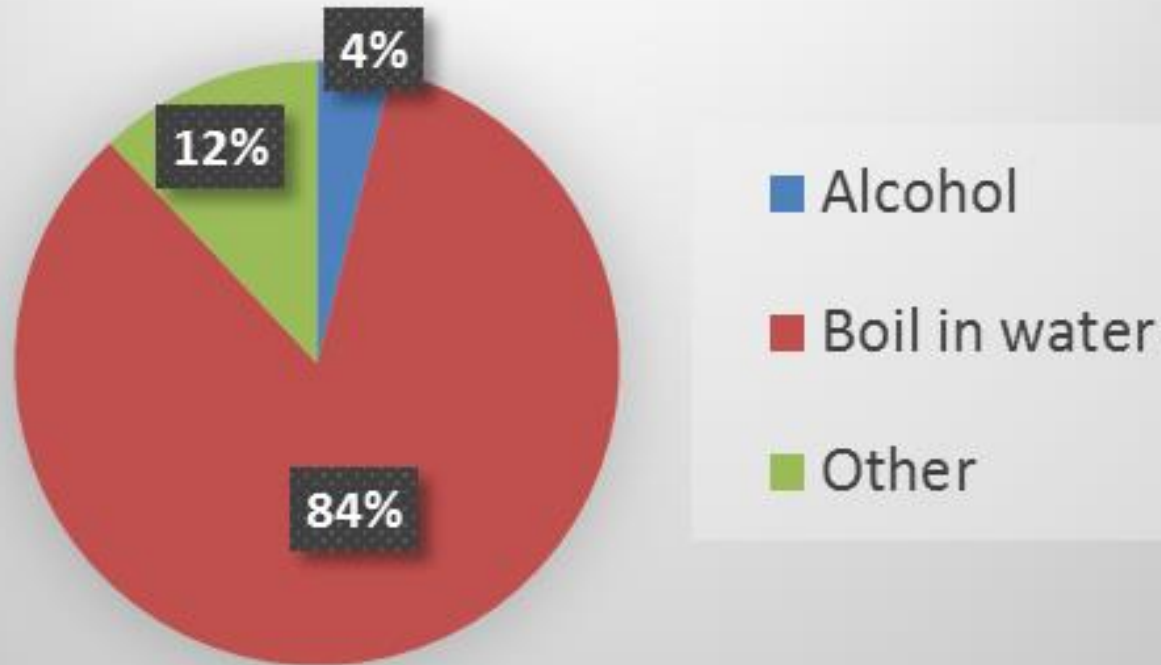
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How do you clean a reusable needle?

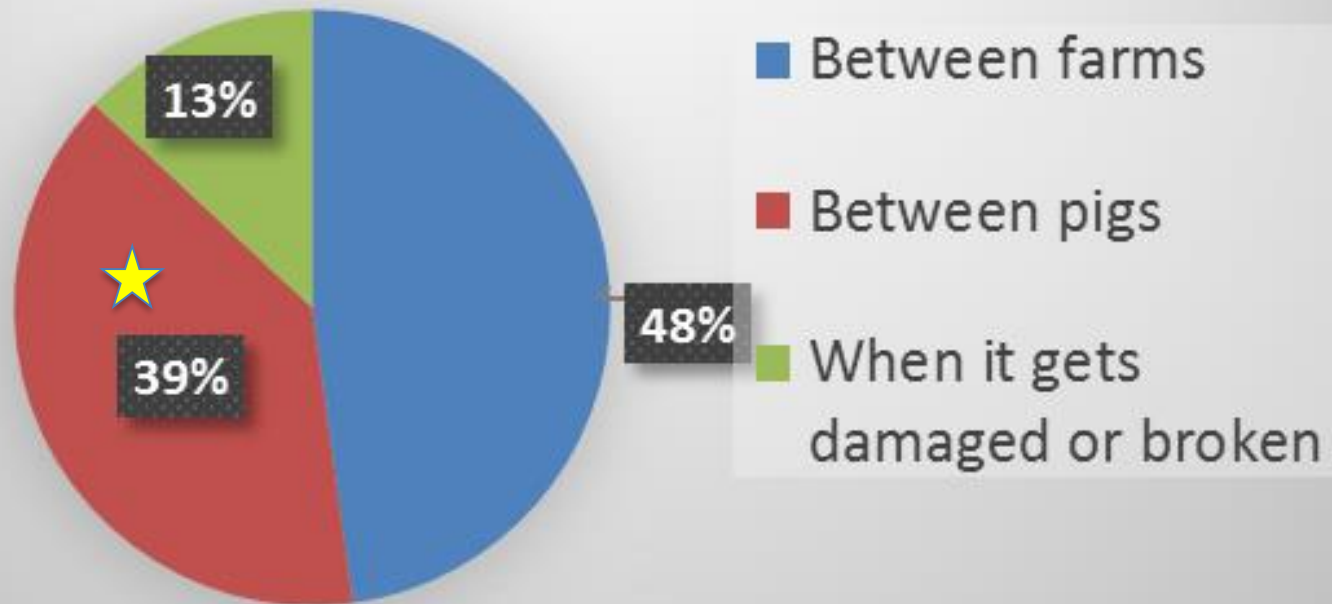




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When do you change needles?



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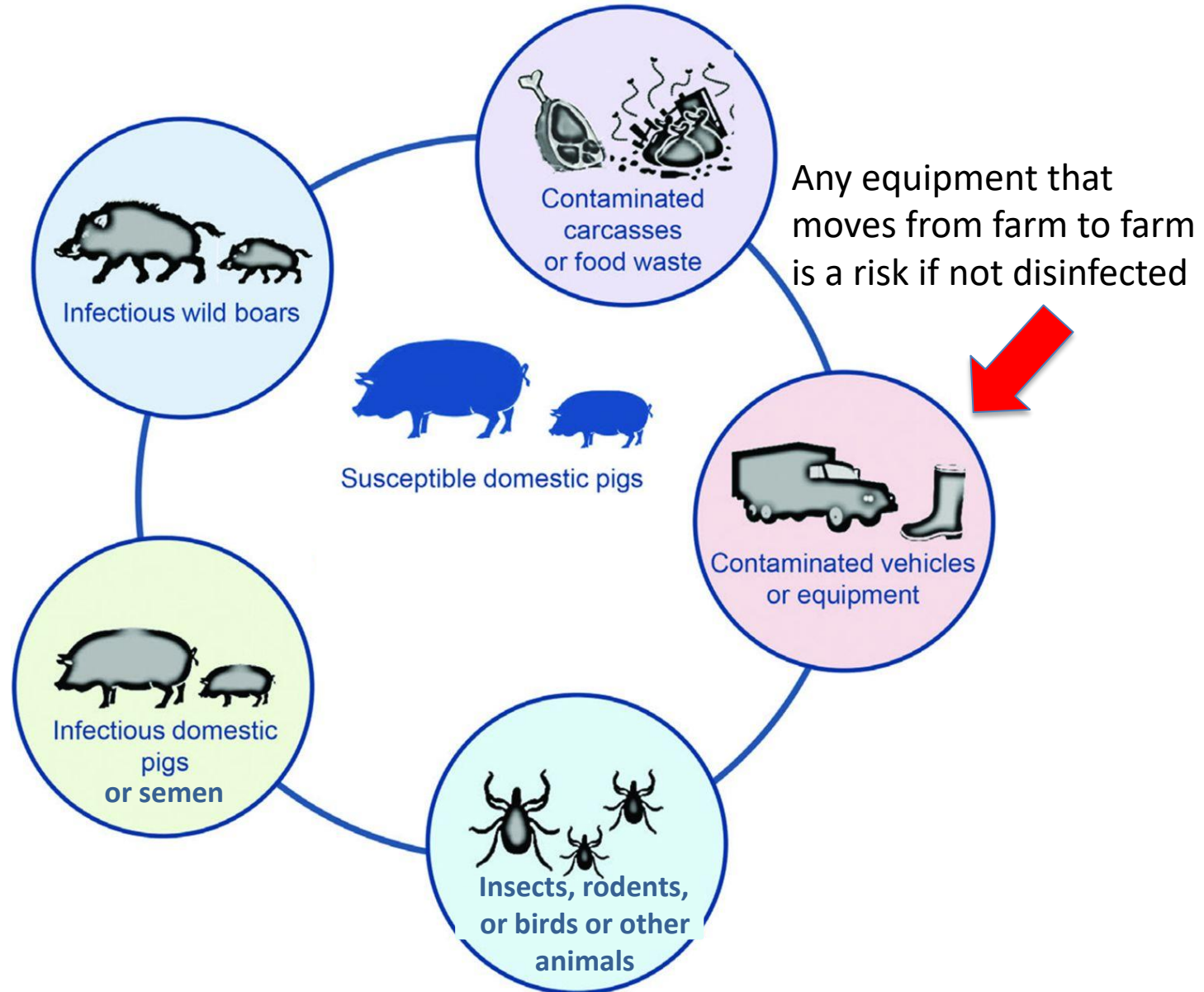


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WHAT CAN YOU DO?

1. Needles
 - a. Should be clean, disinfected, and sharp upon arrival
 - b. Ideally, change between pigs is best, between litters is OK, between farms is a must.
2. Teeth clippers, scalpel blades, pig stick must be cleaned and disinfected between farms
3. Be sure to make your biosecurity rules known. Don't be afraid to ask if equipment is clean.





9. Risk of Other Animals

Other wild and domestic animals may increase your risk

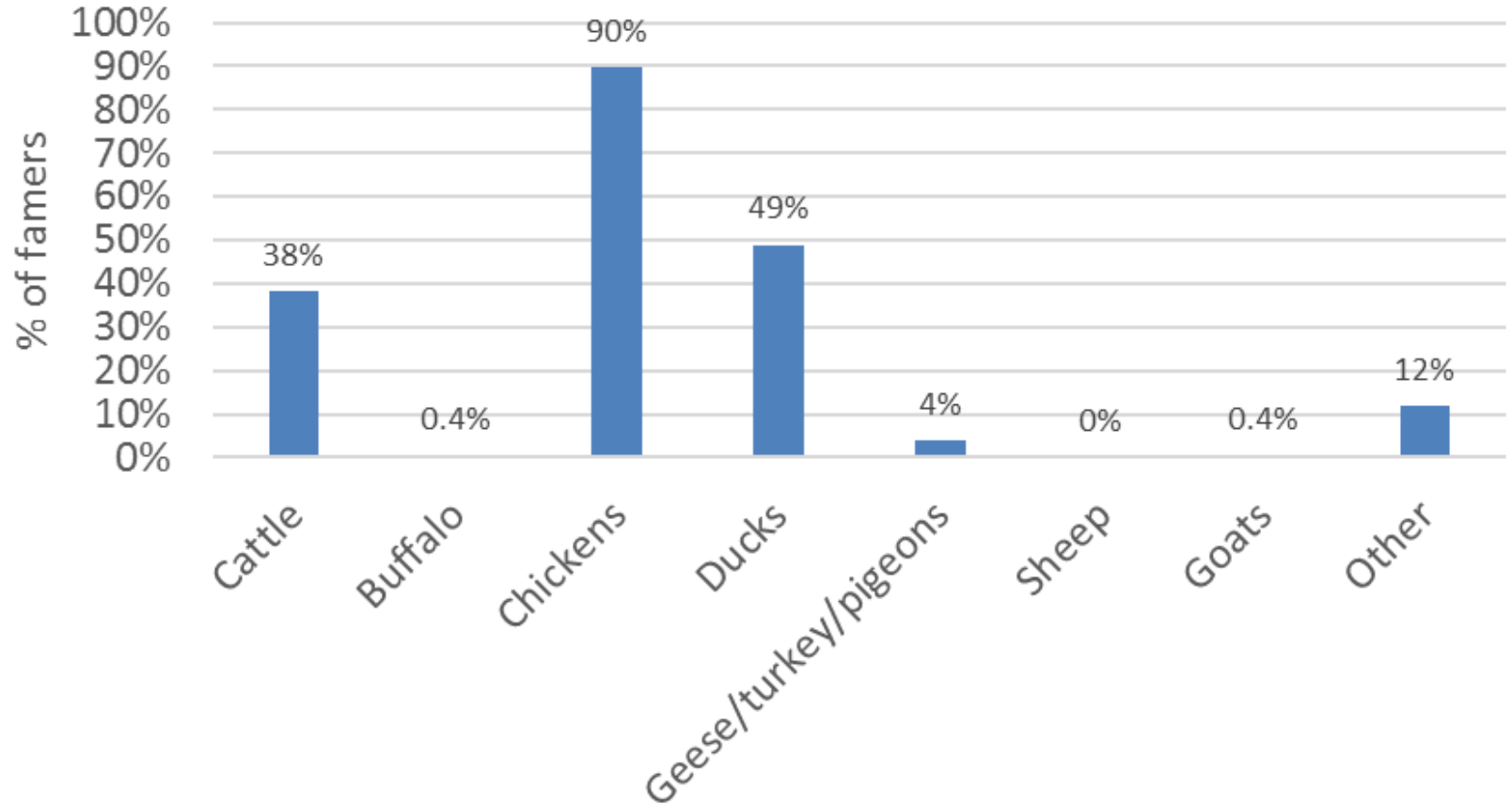




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Does the farmer also own other livestock?



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WHAT ARE THE RISKS?

1. Wild pigs – risk of disease transfer if direct contact
2. Dead pigs – risk of disease transfer
3. Birds – risk of contaminated feed, influenza
4. Insects – blood transfer of disease, ticks carry ASF
5. Rodents – track disease, contaminate feed
6. Other animals (dogs, cats) – track disease, drag dead carcasses.

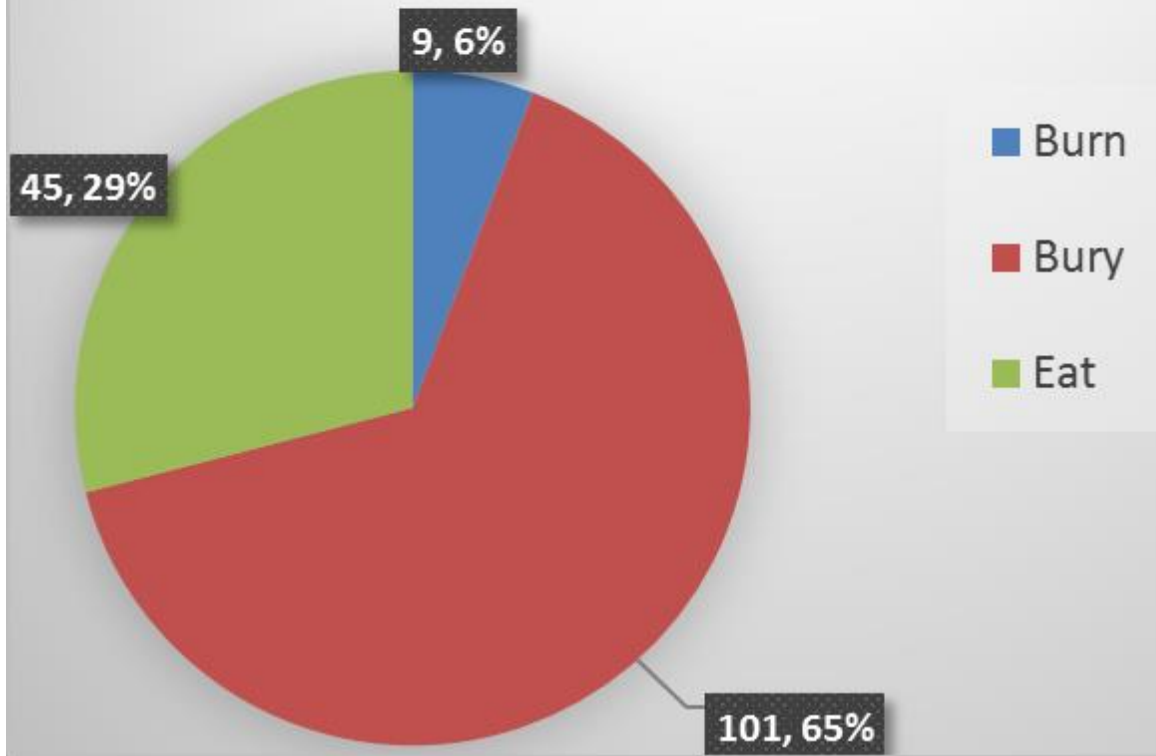




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What do you do with pigs that die from disease?



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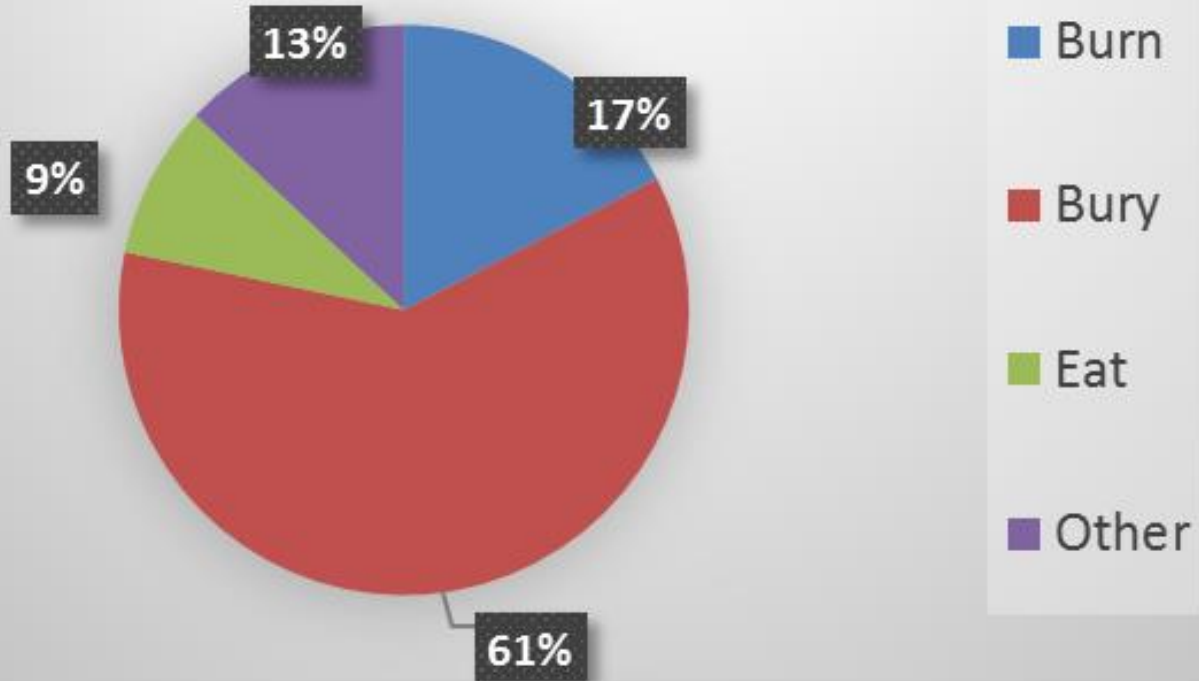
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What do you recommend farmers should do with pigs that die from disease?



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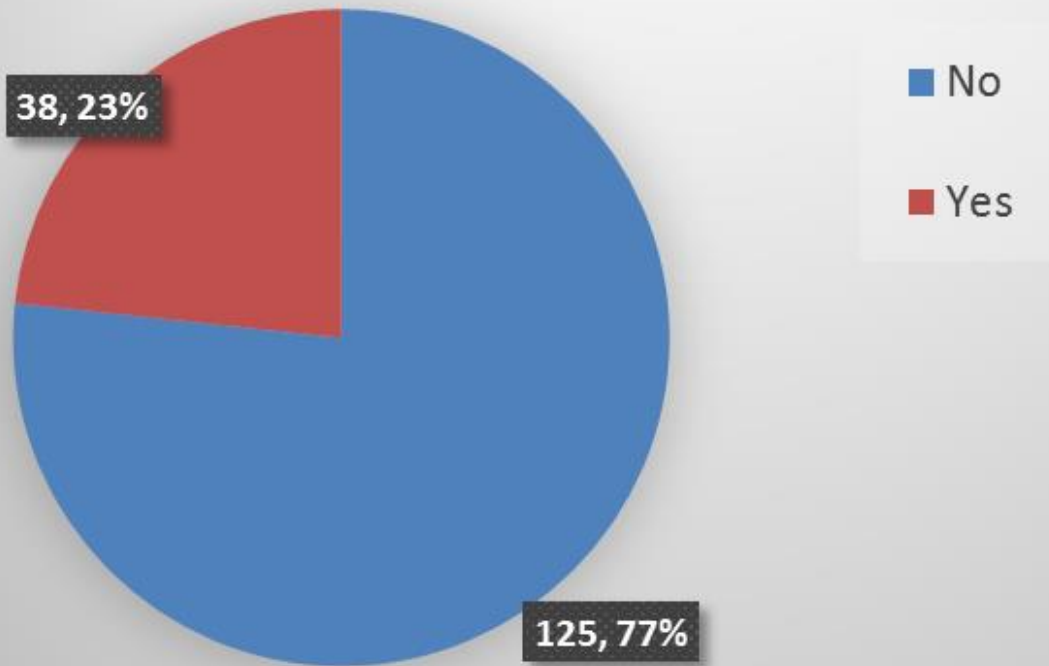
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FEED THE FUTURE

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Do you apply withdrawal time following antibiotic treatment?



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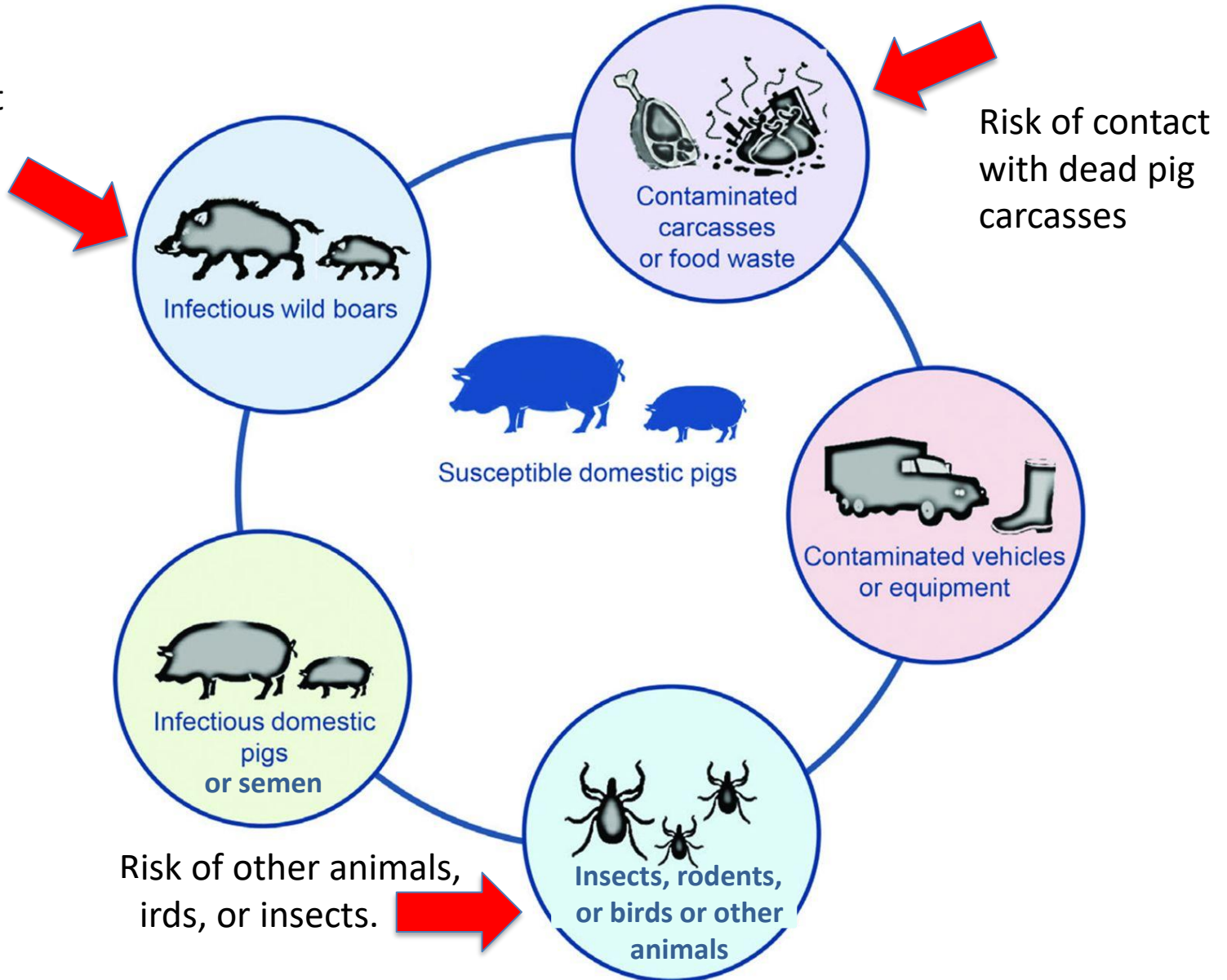
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Risk of contact with wild pigs



Risk of contact with dead pig carcasses

Risk of other animals, birds, or insects.



WHAT CAN YOU DO?

1. Wild pigs – restrict access to your pigs
2. Dead pigs – Remove immediately, bury or burn
3. Birds and insects – restrict access, use netting
4. Rodents – restrict access, trap, keep things clean so you don't attract them
5. Other animals (dogs, cats) – restrict access to pigs, don't allow access to dead pig carcasses





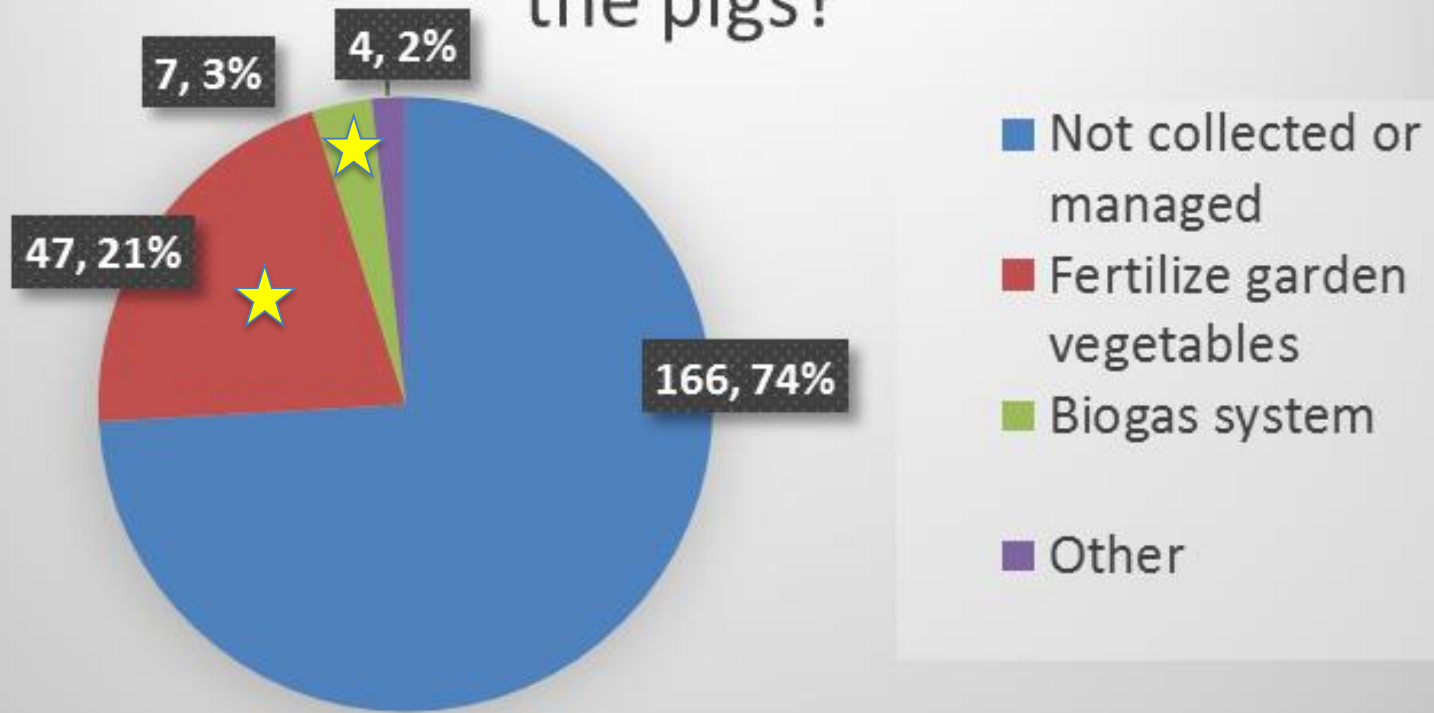
10. Risk of manure

Risk of contamination if using manure from other pig farms, yet we want to reap the benefits of using manure for fertilizer





What happens to the manure from the pigs?

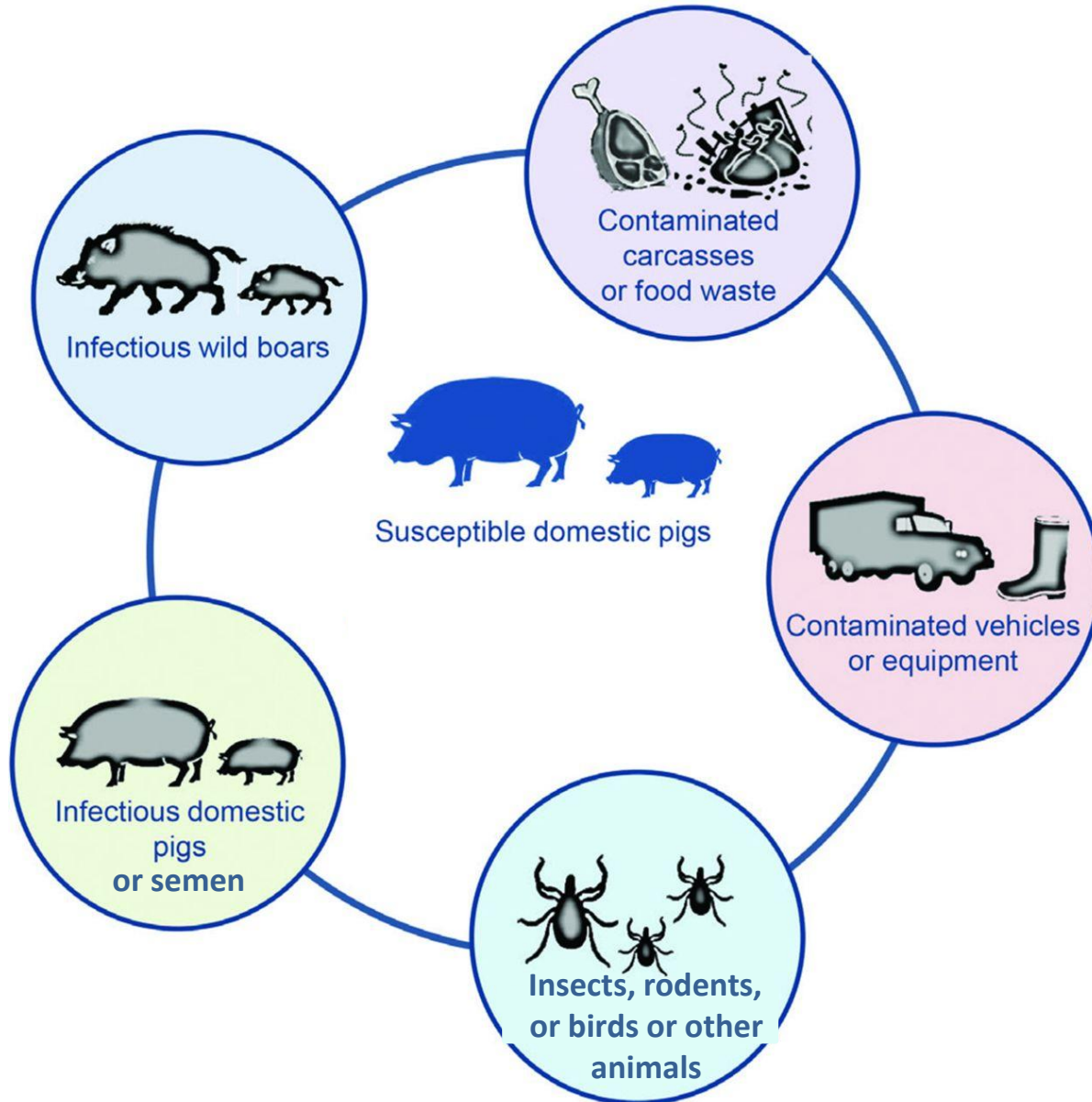
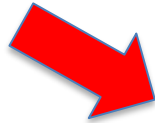




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Risk of bacteria and viruses in manure
Infecting pigs





WHAT CAN YOU DO?

1. Collect manure, do not allow pigs access
2. Use manure for garden fertilizer
3. Do not allow your pigs to have access to manure from other farms.

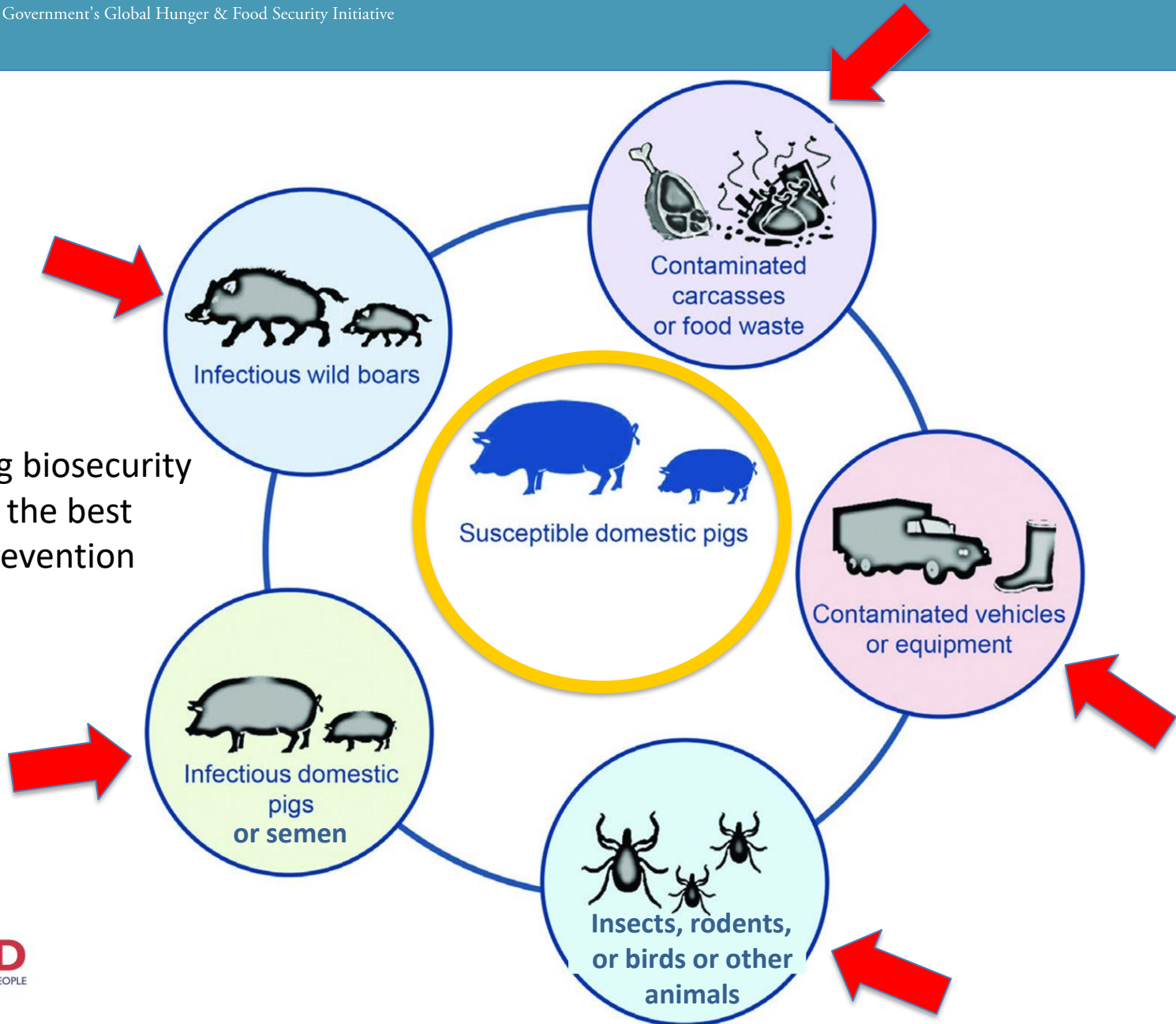




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Controlling biosecurity on farm is the best disease prevention plan





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**Thank you
for your participation and attention.**



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