

**Poultry house design for broiler pdf**

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Making a good broiler poultry housing system is very important for keeping your meat birds healthy and productive. Broilers are raised for commercial meat production and they gain maturity within a very short period of time. They are genetically improved and have a great meat production efficiency. But for proper growth and maximum production from your birds, you have to make a suitable house for them and ensure good environment. Broiler Poultry Housing Modern fast growing broilers are more dependent on suitable environmental conditions than any other poultry birds. So suitable broiler poultry housing is very important for commercial and profitable production. Here we are describing more about the steps for constructing a suitable house for your broiler production business. Construction On an average wood, concrete or steel trusses and supports are used for constructing broiler poultry houses. And the houses are usually clear span structures from side wall to side wall. Steel trusses or concrete poles are used to support the weight of the roof. If you use trusses, then you don't have to use support posts (which make the house cleaning process and bird catching process harder). The floor of broiler house is usually compacted dirt that is covered with various types of bedding materials. You can use rice hulls, sand, wood shavings, peanut hulls etc. for making the bed over the floor. For commercial production, the better dimensions of your broiler poultry housing will be 40 to 50 ft wide, 400 to 600 ft long with about 8 ft sidewalls. Although, the dimension may vary depending on the number of birds and your production purpose. Dropped Ceilings Build dropped ceilings for improving ventilation and reducing heating costs. Dropped ceilings act as a vapor barrier, and help to protect the trusses and ceiling insulation. It reduces the ceiling surface area. Dropped ceilings also allow the installation of ceiling insulation for reducing heat loss during cold weather and heat gain during hot weather. You can construct broiler house that is well insulated with blown in cellulose or fiber glass batt insulation for reducing heat loss in the winter and heat gain during the summer. Recommended insulation values are at least R-21 and R-7 (both in the ceiling and walls). Solid Side Walls Most of the broiler poultry producers around the world used to construct houses with solid side walls, instead of having open sides with curtains. You can also use solid side walls for better insulation. This will help to reduce air leaks, provide better light control and will allow the house to be heated more efficiently. Compared to the open sides walls with posts, solid side walls will provide a smooth surface. This also help to improve air speed during tunnel ventilation (this will help to increase the cooling of birds next to the wall). Modern poultry producers are now building larger houses (as large as 70 \* 600 ft) for commercial production. Heating Maintaining proper temperature is very important for broiler poultry farming business. For proper growth and profitable broiler poultry production, you must have to maintain proper temperature system. So heating a broiler house is extremely important. Usually broiler chickens can't maintain their body temperature until they reach approximately 14 days of age. During this period you have to keep the chicks under a strictly managed temperature between 85° to 90° Fahrenheit with minimum variation. Usually broiler poultry housing heating systems include forced air furnaces, radiant brooders, pancake brooders and radiant tube heaters. Tube and brooders are used for heating the floor, and the hot air furnaces heat the air first which then heats the floor. Usually cold air is heavier than hot air. This can result in stratification with the air being warmer at the ceiling than at the floor. You can use circulation fans for moving hot air from the ceiling down to the floor of the house. For saving fuel and improving the litter conditions, you can use circulation fans to mix the cold and warm air. While mixing cool and warm air, the warmer air helps to dry the litter. You can also use paddle fans for mixing air (but be very careful while using paddle fans and ensure that the chicks are not exposed to drafts). Ventilation Good ventilation system is also very important for broiler poultry housing. Proper ventilation delivers fresh air and removes excess heat, moisture and undesirable gases from the house. Proper broiler house ventilation system includes fans, air inlets, evaporative cooling system and thermostats/controller. Ventilation systems are of two types. Cold weather ventilation and hot weather ventilation system. Cold Weather Ventilation Negative pressure ventilation is used to provide fresh air inside the house during cold weather. It removes excessive moisture and minimize the heat loss. Fans used for broiler house ventilation system, exhaust air out of the house by creating a slight negative pressure inside the house. Due to the negative pressure, fresh air is pulled into the house. And the fresh air enters through some planned air inlets. The air inlets are installed either in the ceiling or high on the house side wall. These inlets are designed to direct air across the ceiling allowing it to mix with warmer air located there and to heat up before coming into contact with the birds. Check temperature and determine the heating necessity. Doing this will help to minimize heating costs. For large scale commercial production, you can install automatic computer controllers. Hot Weather Ventilation For keeping the birds cool during hot weather, you can use tunnel ventilation. Tunnel ventilation system in the broiler house consists of large air inlets at one end and fans at the opposite end. The fans used in one end pull air the length of the house at a velocity of 500 ft per minute. This system removes excessive heat from the building very fast and make a wind chill that provides the broiler birds additional cooling. Evaporative cooling system is also used for cooling the broiler house, when tunnel ventilation system alone is not sufficient enough. Controlling House Environment Controlling house environment is very important. You must have to have the facilities to control the temperature, moisture etc. This will result in a comfortable environment and your broiler birds will grow well. Ensure that, your birds are not diverting energy from growth to stay cool or warm. For commercial broiler production purpose, use computer controlled environment system. Set alarms if the environment changed suddenly. Setup generators for constant power supply. In a word, do everything that are required for controlling the house environment perfect for the birds. And this will make good result and maximum production. A good poultry house protects the bird from harmful animals and adverse environment conditions. Good house means 'the house which has all the facilities required by the broiler poultry birds'. A poultry house must have the necessary facilities of well ventilation, capturing moisture, sufficient air and light movement, lighting, litter management etc. Broiler poultry are different than layer. They need more lighting period for consuming more food and drinking more water for proper growth. Before constructing broiler poultry housing, you must have to learn the process of building a poultry house. Keep in mind the following topics while building house for your broiler poultry birds. Broiler poultry housing system needs to be located in a higher place, free from flood. The selected area for building the house will be slightly higher than surrounding area. The house will be far from residential area. It will be better, if the house is located in a calm and quite place. Make proper drainage system inside the broiler poultry house. Always keep the litter dry inside the house. Ensure the availability of required lighting period. Proper ventilation is a must. Keep big sized doors and windows in the house. Make south faced house. Doing this will help to prevent cold air. Make a fence around the poultry house to keep the bird free from other animal and thief. Keep different aged broiler poultry in different houses. Keep sufficient feeders and drinkers inside the broiler poultry house. At McGregor we design and manufacture commercial poultry housing. We specialise in mobile poultry buildings for layer & broiler birds, as well as large-scale free-range turkey housing and game bird units. At the core of our poultry housing solutions is their adaptability, helping farmers to achieve greater levels of productivity on the farm whilst keeping birds healthy and protecting against disease. Our mobile layer and rearing buildings are easy to maintain, clean and disinfect. The buildings are also fully insulated, providing greater protection for broilers and layers from year-round weather conditions. Mobile poultry buildings offer a number of advantages over traditional static barns. Designed to RSPCA Assured (formerly Freedom Foods) Standards, our poultry buildings can be towed to fresh pasture between laying & rearing cycles, giving birds easy access to fresh pasture and simplifying the process of cleaning and mucking out. This enhanced building design dramatically improves the welfare of the birds, making our poultry housing the ideal solution for free-range & organic farms. Our low-impact housing solutions for turkeys and game birds provide large-span, open spaces with great ventilation and natural lighting. These buildings can be easily installed close to natural vegetation directly in the field, creating the perfect free-range environment for growing birds. With their modular design, these buildings are also easily expandable to house any sized flock.



