

## TANUVAS – URF- Movable Dipping Tank for Small Ruminants

- ❖ TANUVAS – URF - Movable dipping tank for small ruminants is designed to reduce the cost of erection of conventional dipping tank to a considerable extent.
- ❖ The dipping tank is 9 feet length, 3 feet width and 3 feet height and weighs 80 kg and capacity is 800 litres of water.
- ❖ The tank is movable and hence can be wheeled to animal shed and thereby reducing labour and stress to animals.
- ❖ The dipping solution after dipping can be drained and sprayed in the animal sheds.
- ❖ Cost effective and user friendly for small, medium and large farmers.
- ❖ Since the movable dipping tank is fabricated using light weight materials and cost is less when compared to construction of conventional dipping tanks.
- ❖ The movable dipping tank is self contained in the towing configuration and is equipped with new rims and tires.
- ❖ It can be fixed in any convenient location.
- ❖ Up to 500 goats can be dipped one by one at a time.
- ❖ Price Rs.19,200/-



UIIC 001

Innovators : Dr. T. Muthuramaligam and Dr. P. Tensingh Gnanaraj



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## TANUVAS – URF- Movable Multiple Sprinkler System

- ❖ The movable sprinkler system is designed like wing shape with multiple sprinklers for effective irrigation of agricultural crops.
- ❖ This sprinklers system rotates on a vertical axis and sprinkles water over a circular area.
- ❖ It is 6 feet high and 90 feet width with 12 sprinklers.
- ❖ Each sprinkler covers about 4 feet diameter area and sprinkles 13 litres of water per minute.
- ❖ It irrigates 30 cents of land in 10 minutes i.e. an acre in 30 minutes with about 4700 litres of water.
- ❖ Save water, electricity, labour and time.
- ❖ Suitable for farmers who has long stretch of cultivable land with a minimum of 120 feet width.
- ❖ It is a simple and efficient tool to irrigate fodder field.
- ❖ Price Rs.1,17,000/-



Innovators : Dr. P. Tensingh Gnanaraj and Dr. T. Muthuramaligam



## TANUVAS – URF- Automatic Waterer for Rabbit

- ❖ Designed to provide easy and comfort to rabbit for drinking water.
- ❖ Thick aluminum material - 10cm long and 6cm diameter in drinking side and 3cm long and 3cm diameter in another side to attach water bottle.
- ❖ Minimize wastage of water.
- ❖ Reduces space required for providing water.
- ❖ Ensure hygienic availability of water at any given point of the time.
- ❖ Vitamin supplements / medications shall be mixed with water and easily administered.
- ❖ Price Rs. 400/-



Innovators : Dr. P. Tensingh Gnanaraj, Dr.T.R. Pugazhenthi and P. Pothiappan



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## TANUVAS – URF- Low Cost Feeding Rack for Goats

- ❖ Low cost wooden feeding rack for goats reared under intensive system of rearing to maintain their browsing nature (habitat).
- ❖ Easily to carry and transport and prevents wastage of fodder.
- ❖ Prevent soiling of fodder with dung and urine.
- ❖ Increases the feed intake level among goats.
- ❖ One rack is sufficient to feed 8 goats.
- ❖ Ideal for intensive system of goat rearing.
- ❖ Price Rs.6,000/-



UIIC 004

Innovators : Dr. P. Tensingh Gnanaraj and Dr. T. Muthuramaligam



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## TANUVAS – URF - Cow Dung Lounge

- Designed to convert the farm wastes like dung, left over fodder and paddy straw into solid fuel.
- It is made up of a metallic cylindrical body of 1.3 feet long and 3 inch diameter and a pressing tool.
- Cow dung and farm wastes have to be filled in the cylinder and pressed to make it into a cylindrical form.
- The pressed dung etc. can be dried and used as a fuel.
- This type of dried cylindrical dung forms burn with less smoke and burn for a longer time, thus conserving energy.
- Price Rs.850/-



Innovators : Dr. P. Tensingh Gnanaraj and Dr. T. Devi



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## TANUVAS – URF – Portable Multipurpose Medicine Wheel Cart

- ❖ Movable Multifunction Veterinary wheel cart made up aluminum and steel.
  - Features of the device:
  - Pull out trays or side plastic trays that provide additional space for staff to work.
  - Oxygen cylinder holder
  - LN2 container holder
  - Height adjustable pole with utility hooks
  - Wash basin holder
  - Plastic trays
  - Adjustable ball-bearing, extension drawer.
  - Power points for connecting equipments for diagnostics e.g. Ultrasound machine.
  - The top platform is for animal.
- ❖ It is a simple and efficient device for health care activity.
- ❖ Comfortable for animals as well as doctors.
- ❖ Price Rs. 12,000/-



Innovators : P. Pothiappan, Dr. T. Muthuramalingam and Dr. T. Devi



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## TANUVAS – URF - Movable Multiple Rain Gun

- Designed to irrigate lands of varying sizes from few cents to many hectares.
- It consists of four rain gun attached to pipeline which is further mounted on a movable trolley.
- Can be easily moved from one place to another.
- The height of the rain gun can be adjusted according to the height of the crop.
- Water emitted by each rain gun is 12.5 liters/minute i.e. 50 liters/ movable multiple rain gun / minute.
- One submersible motor (1 HP) is enough to run four rain gun and one 3 -10 HP motor is needed to run 3-20 movable multiple rain gun.
- Each rain gun emits 12.5 liters of water/ minute and the total quantity of water in 50 liters/minute
- One rain gun will irrigate 3.5 cents of land /5 minutes. i.e. 10 trolleys irrigates1 acres of land in 30 minutes.
- This technology is highly useful for small, marginal and large scale livestock farmers especially for backyard fodder cultivation
- Save water, electricity, time and labour.
- It is a simple and efficient tool to irrigate agriculture field.
- It can be purchased from University Research Farm, TANUVAS by placing order.
- Cost of one movable multiple rain gun without trolley is Rs.1800/- and with trolley is Rs.2,700/-



**UIIC 007**

Innovators : Dr. T. Muthuramalingam, Dr. P. Tensingh Gnanaraj and P. Pothiappan



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## TANUVAS – URF - Piglet comfort crate

- ❖ Specially designed to reduce mortality in newborn piglets.
- ❖ It is made of poly vinyl slatted floor
- ❖ Advantages:
  - ❖ Instant draining of urine and faeces to the ground.
    - Soling of sow and piglet is prevented.
    - Maintenance of very good hygiene preventing mortality due to diarrhea in piglets.
    - Reduction of bacterial load especially E.coli.
    - Healthy accelerated growth in piglets.
    - The crate is dry and free from dampness.
- ❖ Slatted floor is elevated from the floor level which facilitates very little or no contact of piglets with urine and faeces.
- ❖ The crate is 6 ft long and 7 ft wide. The width of the rail is 22 inches at the top and 25 inches at the bottom. The distance of the crate from ground level and from the side wall is about 1 foot.
- ❖ It is provided with creep area for piglets to escape from crushing by the mother.
- ❖ Heater and lamp is provided for warmth and light piglets during night and winter.
- ❖ Semi automatic feeder and waterer is provided.
- ❖ The nearing parturient gilt/sow should be placed inside the crate before a week farrowing after disinfection with 0.2% KMnO<sub>4</sub> solution.
- ❖ Very useful for commercial farms to reduce mortality in piglets and to sell more piglets.
- ❖ Price Rs. 28,000/-



Innovators : Dr. P. Tensingh Gnanaraj and Dr. T. Muthuramalingam



## TANUVAS – URF - Slatted Floor (polyurethane) cage for Rabbit

- Polyurethane slatted floor cage fabricated, tested and found to be ideal for rabbit.
- This slatted floor drains the urine and faeces of the rabbit to the ground.
- This slatted floor is 3 1/2 feet above the ground.
- The cage is 2 feet length, 2 feet width and 4.5 feet height.
- Inside 1 foot X 1 foot nest box for kindling is provided.
- The cage is clean which ensures healthy growth for adult and young rabbits.
- Slat floor prevents diarrhea in bunnies and also reduced bacteria especially E. coli.
- The cage unit is easy to clean and wash.
- The cage can be maintained dry and damp free all the time.
- It is observed that bunnies grow comfortably healthy and attains satisfactory body weight with high livability in the cage.
- Price Rs. 4,200/-



UIIC 009

Innovators : Dr. P. Tensingh Gnanaraj, Dr. T.R. Pughazenthi Dr. A. Sundaresan



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## TANUVAS – URF - Nest Box for New Born Lambs and Kids

- The nest box is designed to provide ideal warmth and clean environment to the newly born lambs and kids especially in winter.
- The wooden slatted floor in the nest box quickly drains the urine and dung voided by the lambs and kids.
- The nest box is 4 feet length, 3 feet width, 4 feet height at the centre with the curved top.
- The sides and the top is covered with transparent acrylic sheet.
- Required ventilation is provided by sufficient holes/windows on the supporting wooden plank on sides.
- This nest box is mounted on a 1 1/2 feet height wooden frame with a ramp and door.
- Filament lamp of V is provided in the nest box.
- The nest box of the set dimension is for lambs or kids or lambs and kids.
- It is observed that this nest box has substantially reduced the mortality in lambs and kids by providing warmth, light, clean and dry slatted floor and also improved body weight gain.
- Will be very useful for sheep and goat farmers and also rural household.
- Price Rs.12,500/-



Innovators : Dr. P. Tensingh Gnanaraj, Dr. P. Pothiappan and Dr. T. Devi



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## TANUVAS – URF – Wheel Barrow for Farm Waste Removal

- Made of plastic mounted on a rectangular metal frame of 5.75 feet length and 2.65 feet width and 2.60 feet height with the capacity of 125 litres.
- This unit is movable through a pair of wheels (pneumatic tyres) fixed at the centre for mobility.
- The plastic container could be rotated to 1800 angle to unload the farm waste.
- This wheel barrow is convenient to load the farm waste, transport easily and quick unloading.
- This saves labour, prevents spillage and easy to clean.
- Wheel barrow is light in weight durable and proved to be of great use in farm waste disposal and also transport of goods within the farm.
- Price Rs.9,600/-



UIIC 011

Innovators : Dr. P. Tensingh Gnanaraj, Dr. D. Balasubramanyam and Dr. T. Muthuramalingam



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## TANUVAS – URF - Tattoo Hammer for Pigs

- ❖ Pigs are identified for selection for breeding.
- ❖ Pigs are identified by tattooing and ear notching methods which involves restraining the animal which is difficult, time consuming and labour intensive.
- ❖ The new tattooing device, the tattoo hammer can be used for tattooing pigs without restraining them.
- ❖ The tattoo made by this tattoo hammer can be easily be identified from at a distance without restraining the animal
- ❖ Tattooing using this tattoo hammer substantially minimize bleeding.
- ❖ This tattoo hammer can be used in animals of all age groups.
- ❖ The tattoo mark created by this tattoo hammer can be easily be identified up to 2 years.
- ❖ Price Rs.5,500/-



Innovators : Dr. P. Tensingh Gnanaraj, Dr. T. Muthuramalingam,  
Dr. S. Rangasamy and Dr. M. Babu



## TANUVAS – URF - Low Cost PVC Inclined Battery Cages for Rabbit

- ❖ The conventional rabbit cage is made up of metal and prone for rusting.
- ❖ The low cost PVC inclined battery cages for rabbit designed in TANUVAS is light and hence can be moved from one place to another.
- ❖ One unit of 3 tires each of 3 sq. ft. area is sufficient to rear one adult.
- ❖ This cage is made of PVC frame is portable easy to clean and provides comfort to the rabbit.
- ❖ Price Rs.5,200/-



Innovators : Dr. P. Tensingh Gnanaraj, Dr. A. Sundaresan and Dr. T. Muthuramalingam



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## TANUVAS – URF - Misting Device to Cool Livestock

- ❖ In summer the productivity is reduced in livestock due to heat stress.
- ❖ The misting device for livestock is designed in TANUVAS discharges water into mist and spray it over the animal.
- ❖ This device is fit in front of pedestal fan thus the mist is sprayed over 3 – 4 animals by rotation.
- ❖ In summer this device can be used for about 5 minutes for every 20 minutes during high temperature.
- ❖ The cooling of livestock using this device helps to alleviate the heat stress and helps to overcome anorexia, panting and reduced milk yield.
- ❖ For dairy farms it proved to maintain the milk yield by alleviating heat stress on milch animals.
- ❖ One misting device can be used for up to 20 milch animals.
- ❖ Price Rs.8,400/-



Innovators : Dr. P. Tensingh Gnanaraj, Er. M. Siddharth and Dr. E. Rachel Jemimah



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## TANUVAS – URF - Slatted Floor House for Goats

It is an intensive method of rearing goats in which the goats are not allowed for browsing in to open field, instead green fodder, dry fodder and concentrate were fed to them within the housing system itself.

It is important to provide concentrate, green and dry roughages in an adequate quantity to goats in this system of housing. Lack or insufficiency of any one of the above feed will result in decreased body weight and overall performance like inadequate dry fodder will result in indigestion and poor growth rate in goats and inadequate green fodder will result in poor reproductive performance.

### **Construction of slatted floor house**

The following points should kept in mind before constructing shed for goats.

- ★ The shed should provide ideal micro and macro environment to goats during all types of climatic condition.
- ★ The shed should protect the goats from the cold weather during winter and from the heat stress during summer.
- ★ The shed should provide adequate space for kids, does and the bucks.
- ★ The shed should be constructed away from any water resources as they tend to induce respiratory illness in goats if possible
- ★ The ideal shed length should be in east – west orientation.
- ★ It should have provision for hanging tarpaulin / gunny bags / screen cloth in order to protect animal from cold weather during winter



## Shed design

- ❖ Distance of the slatted floor of the shed from the ground level shall be about 4 feet
- ❖ The centre height of the roof from the slatted floor shall be 10 feet and at the end of the roof on either side shall be 7 feet.
- ❖ The size of the run area of the house should be twice the size of the slatted floor house.
- ❖ The height of the fence around the shed is 4 feet.
- ❖ The width of the shed is 16 – 20 ft and the length can be according to the requirement.

## Floor space requirement for goats

Type	Area (sq. ft.)
Kid (3- 6 months of age)	04
Doe (>6 months of age)	10
Buck (>10 months of age)	20

- ❖ The shed area can be divided into multiple compartments with separate gate for each.
- ❖ However there should be only one entrance and one exit gate for the entire shed.
- ❖ Common woods used for construction of slatted floor are woods of
  - ❖ Jack fruit tree
  - ❖ Coconut tree
  - ❖ Bamboo
  - ❖ Palmyrah tree
- ❖ Distance between woods in the slatted floor is half inch which facilitates draining of dung and urine from the animals to the ground level and prevent their stagnation / accumulation in the shed.
- ❖ The optimum wood width should be about two and half inches. Higher the width should be avoided as it will result in stagnation of dung and urine.



- The wood should be strong and durable to bear the weight of all the goats.
- The housing system consists of run area in addition to slatted floor house. This facilitates free movement and exercise to goats which further improves their appetite and feed intake. The pen and the run is connected by a (sloppy) ramp.
- As the system provides adequate air movement and circulation it tends to reduce respiratory illness in goats to certain extent.

### **Managerental tips**

- Goats can be grouped according to the age /body weight/pregnant status and can be reared in separate compartments within the same shed for effective management.
- Bucks should always be kept in separate compartment and should not be mixed with females or kids.
- Lactating does and their kids should be kept and reared in separate compartment to facilitate adequate suckling of milk by the kids.
- Does which are crossed for breeding should be kept in separate compartment to facilitate easy identification and confirmation of pregnancy status.
- Non cyclical goats should be kept in separate compartment to facilitate easy identification of estrous signs.
- Pregnant does should be reared in separate compartments in order to protect them from abortion due to trauma and also to provide extra ration to meet their demand.
- Brooding lights should be fit in the kids compartments to protect them from cold weather during night especially in winter and to provide enough warm to protect from hypothermia.
- As the slatted floor housing system provides better hygienic environment to goats, mortality due to diarrhoea and pneumonia is considerably low when compared to conventional system of goat rearing.
- **Cost :**      RS.300/sq. ft – Wood  
                      RS.900/sq. ft – Plastic crate

Innovators : Dr. P. Tensingh Gnanaraj and Dr. T. Muthuramalingam



## TANUVAS – URF - Calf Comfort Hutch

- TANUVAS – URF – Calf hutch is designed to improve health and growth of calves prior to weaning.
- Total length of calf hutch is 10.5 feet and width of the hutch is 4.5 feet. It has two division, pen and run. Length of pen is 4.5 feet, length of run is 6 feet.
- Rear height of pen is 5 feet, front height of pen is 6 feet and front height run is 5 feet.
- Calf enter into the calf hutch through upside down inlet door.
- Neck lock in calf hutch allows controlled feed and water to calf.
- Neck lock helps to provide clean feed and water to the calf at required time.
- Installed detachable milk bottle.
- Unlocking neck lock at night allows the calf to move itself into the pen. So calf hutch provide night shelter to calf.
- Calf hutch help to prevent the spread of contagious disease, reduce calf mortality.
- It is inexpensive. Properly designed calf hutch provides excellent natural ventilation which further reduce incidence of respiratory disease.
- It is light weight and portable making them easy to clean.
- If calf becomes ill, you can move susceptible calves further away from other calves. It can also easily move to different areas of the lot or pasture.
- Calf hutch provide more space allow more freedom for the calf to exercise and roam outside.
- Calf hutch allow greater control and management. A clean, dry, well ventilated hutch provides the best opportunity for a calf to stay health & growing.
- Cost Rs.15,000/-



Innovators : Dr. P. Tensingh Gnanaraj, Dr. T. Geetha and Er. M. Siddharth



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## TANUVAS – URF - Piglet Soothe Snooze Deck

- ❖ TANUVAS – URF – piglet soothe snooze deck is designed to reduce the mortality in piglets due to hypothermia and crushing injury by the dam
- ❖ Piglets after suckling from the dam can be kept in this deck to provide them ideal hygienic environment.
- ❖ Incidences of illness can be reduced by minimizing the contact of piglets with the faeces and urine of the dam.
- ❖ Improves the daily body weight gain of the piglets as less amount of energy is lost for thermoregulation.
- ❖ Piglets can be kept for 3 week of age in this deck.
- ❖ The piglet soothe snooze deck is 3 feet length, 2 feet width and 2 feet height.
- ❖ It is fabricated using plywood on three sides and with acrylic door in the front.
- ❖ A lamp is mounted on the top to provide light and warmth to the piglets during night and winter.
- ❖ The floor is made up of two layers Viz. rubber mat on which the piglets rest and iron mesh beneath it to provide rigidity and to drain the excreta of the piglets.
- ❖ The deck can be fixed at convenient location near the farrowing pen.
- ❖ The holding capacity is 12 – 15 piglets.
- ❖ Cost effective and user friendly for small, medium and large farmers.
- ❖ Price Rs. 3,000/-



Innovators : Dr.T. Muthuramalingam, Dr. E. Rachel Jemimah, Dr.P.Tensingh Gananaraj



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## TANUVAS – URF - Guiding Pad for Pigs

- Designed to guide or direct pigs to desired destination/place/sty/pen with ease for relocation, weighment, etc.
- Can be used to transfer pig /group of pigs from one place to another.
- Made of thick board of 4 ft length and 3 ft height.
- Provided with two oval holes at the top for holding the guiding pad and one in the middle for pig vision.
- Minimize labour and time.
- Easy to handle.
- Available in two different models one for guiding single pig and other for guiding group of pigs.
- Cost effective and user friendly for small, medium and large farmers.
- Single pad price Rs.600/-
- Double pad price Rs. 1,200/-



Innovators : Dr. P. Tensingh Gananaraj, , Dr.T. Muthuramalingam, Dr. E. Rachel Jemimah



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## TANUVAS – URF - Compartmental Lamb/Kid Milk Feeder

- ❖ TANUVAS – URF – compartment lamb/kid milk feeder is specially designed to feed milk to two lambs/kids at a time and to ensure that the right quantity of milk is available to each lamb/kid.
- ❖ It is very useful for hand raising abandoned, weak or newborn lamb/kid by feeding correct quantity of milk to individual animal.
- ❖ The compartments help us to ensure the quantity of milk fed by each lamb/kid.
- ❖ The compartment milk feeder is made up of two individual plastic boxes fitted with removable teat made up of latex.
- ❖ The teats can be easily removed for cleaning and replacement.
- ❖ The compartments are mounted on a metallic frame with sand and clamp in a view to either place the feeder at desired height and location or to simply clamp the feeder to a frame at a desired height.
- ❖ Each compartment can hold up to 4 litres of milk.
- ❖ The length, breadth and height of the feeder are 30cm X 20 cm X 20 cm respectively.
- ❖ Cost effective and user friendly for small, medium and large farmers.
- ❖ It can be fixed in any convenient location.
- ❖ Up to two lambs/kids can be fed milk at a time.
- ❖ Price Rs.5,700/-



Innovators : Dr. P. Tensingh Gananaraj, , Dr.T. Muthuramalingam, Dr. E. Rachel Jemimah



## TANUVAS – URF - Topper pop bottle Milk feeder for lambs and kids

- ❖ The TANUVAS – URF topper pop bottle milk feeder is specially designed for hand raising of weak or newborn lambs and kids.
- ❖ The topper pop bottle milk feeder is made up of recyclable plastic screw top soft drink bottle with a 28 mm neck fitted with nipple at the cap.
- ❖ The nipple is made up of compression molded rubber and latex.
- ❖ The topper pop bottle milk feeder is available in two different quantities viz. one litre and half litre capacity.
- ❖ It can be easily handled by children and women.
- ❖ It can also be mounted at desired height and location using frame.
- ❖ Easy to clean and hygienic.
- ❖ Cost effective and user friendly for small, medium and large farmers.
- ❖ Price Rs. 950/- (Pritchard flutter nipple)
- ❖ Price Rs. 1,500/- (Bottle cap nipple)



Innovators : Dr. P. Tensingh Gananaraj, , Dr.T. Muthuramalingam, Dr. E. Rachel Jemimah



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## TANUVAS – URF - Barrel type Automatic Drinker for Pigs

- ❖ Designed to provide easy and comfort to pigs for drinking water.
- ❖ Provide clean and hygienic water to pigs round the day.
- ❖ Made up of thick plastic cylindrical drum with lid of 120 litres capacity fitted with mechanical nipple.
- ❖ The mechanical nipple is made up of stainless steel and let animal drink water by biting action in order to eliminate water waste from play and accidental operation.
- ❖ The nipple is also provided with screen filter to keep out unwanted debris.
- ❖ The nipples can be easily removed for cleaning and replacement.
- ❖ Minimize wastage and contamination of water.
- ❖ Reduces space required for providing water.
- ❖ Ensure hygienic availability of water at any given point of the time.
- ❖ Easy to clean.
- ❖ Vitamin supplements / medications shall be mixed with water and easily administered.
- ❖ Available in three different ranges separately for piglets, growers and finishers.
- ❖ For piglets the drum is fitted with 6 nipples for grower the drum is fitted with 5 nipples and for finishers/adult the drum is fitted with 4 nipples to provide equal space for individual piglets for accessing the nipples for drinking water and to avoid fighting among pigs.
- ❖ Ideal for pig sties where group of animals are housed together.
- ❖ Provided with plates at the bottom so that they can be fixed at any desired location.
- ❖ Cost effective and user friendly for small, medium and large farmers.
- ❖ Price Rs.5,300 (Adult pig)      Price Rs.5,900 (Pig grower)      Price Rs.6,000 (Piglets)



Innovators : Dr. E. Rachel Jemimah, Dr.T. Muthuramalingam and Dr. P. Tensingh Gananaraj



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## TANUVAS – URF - பன்றிக் குட்டிகளுக்கான குறைந்த விலை தீவன தொட்டி

- ❖ பன்றி ஈனும் தண்டவாளக் கொட்டிலுக்குள் பன்றிக் குட்டிகளுக்கு தேவையான தீவனங்களை அளிக்கும் வகையில் வடிவமைக்கப்பட்ட தீவனத் தொட்டி இதுவாகும்.
- ❖ இதன்மூலம் பன்றிக் குட்டிகளுக்கு தேவையான அளவு தீவனங்கள் கொடுத்து தீவனங்கள் விரையமாவதை தடுக்கலாம்.
- ❖ ஓவ்வொரு தீவனத் தொட்டியிலும் 6 பிளாஸ்டிக் தொட்டிகள் இருக்குமாறு வடிவமைக்கப்பட்டுள்ளது.
- ❖ கம்பி வலையால் பிண்ணப்பட்ட அமைப்பில் தீவனத் தொட்டிகள் பொருத்தப்பட்டுள்ளதால் பன்றிக் குட்டிகள் எளிதாக தீவனங்களை எடுத்துக்கொள்ளும் வகையில் தேவையான இடத்தில் தேவையான உயர்த்தில் பொருத்திக் கொள்ளலாம்.
- ❖ தீவனங்கள், சாணம் மற்றும் சிறுநீர் போன்றவற்றால் மாசுபடாமல் இருக்க வழிவகை செய்கின்றது.
- ❖ எளிதாக சுத்தம் செய்யலாம்
- ❖ ஒரு தீவனத் தொட்டி 10 பன்றிக் குட்டிகளுக்கு போதுமானது.
- ❖ மிகக் குறைந்த விலையில் சிறிய, நடுத்தர மற்றும் பெரிய பண்ணையாளர்கள் பயன்படும் வகையில் உருவாக்கப்பட்டுள்ளது.
- ❖ விலை ரூ.900/-



## TANUVAS – URF - Creep Feeder for Piglets

- TANUVAS – URF Creep feeder for piglets is specially designed to provide creep feed to piglets in the creep area of the farrowing pen.
- It is designed to ensure the availability of correct quantity of feed to piglets.
- It enhances concentrate feed intake among nursing piglets thereby improving daily weight gain and early weaning.
- It is made up of 6 small plastic trays mounted on a metallic frame which is elevated at one side to provide easy access to piglet and to avoid wastage due to non accessibility.
- Easily to carry and transport and prevents wastage of feed.
- Prevent contamination of feed with faeces and urine thereby minimizes the health issues.
- Easy to clean.
- One feeder is enough for up to 10 piglets.
- Cost effective and user friendly for small, medium and large farmers.
- Price Rs.900/-



Innovators : Dr. E. Rachel Jemimah, Dr.T. Muthuramalingam and Dr. P. Tensing Gananaraj



## TANUVAS – URF - Tretab - SG

- ❖ It is specially designed multipurpose trevis attached with table on wheels for restraint, clinical examination and treatment of sheep and goat.
- ❖ It is made up of iron and provided with animal and operator friendly features.
- ❖ It is provided with sponge coated movable sides which can be adjusted according to the size of the animal for its restraint.
- ❖ The rear end is fitted with adjustable handle to lift the hind limbs of the animal to desired height for clinical examination and artificial insemination.
- ❖ The front end is provided with sponge coated head lock for proper restraint of animal and its clinical examination.
- ❖ A table is fitted to the left side of the trevis for placing equipments/ and materials needed for treatment and examination of the animal.
- ❖ The tretab - SG is 4 ft long, 2 ¼ ft wide and 4 ½ ft high.
- ❖ It is also provided with weighing balance in order estimate the weight of the animal for medication.
- ❖ Easy to transport from one place to another as it is provided with wheels.
- ❖ It is an important device which is indispensable for all veterinary hospitals and for medium and large farms.
- ❖ Cost Rs. 15,000 /-



Innovators : Dr. S. Balasubramanian, Dr. S. Thilagar and Dr. P. Tensingh Gananaraj



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## TANUVAS – URF - Lifting device for sheep and goat

- ❖ It is specially designed hydraulic lifting device to lift small ruminants for wool shearing, hoof trimming, clinical examination and treatment.
- ❖ It is made up of iron and provided with a lever for lifting.
- ❖ The platform frame is designed in the form of see saw so that the animal can be easily walked on to it from the ground.
- ❖ The platform is made up of iron mesh for animal standing.
- ❖ The fore end is fitted with head lock for restraining the animal.
- ❖ The length, breadth and height of the device are 3 ½ ft, 2½ ft and 3 ½ ft respectively.
- ❖ Once the animal is walked on to the platform and head locked the platform can be raised to desired height up to 4 ft with the help of hydraulic lift for easy examination and operation.
- ❖ It is an important device which is indispensable for all veterinary hospitals and medium and large scale commercial farms.
- ❖ Cost Rs. 11,000/-



Innovators : Dr. P. Tensingh Gananaraj, Dr. S. Balasubramanian and Dr. S. Thilagar



*Tamil Nadu Veterinary and Animal Sciences University*

## TANUVAS – URF -Low Cost Hydroponic device

- ⊕ It is a soil less fodder production technology by which fodder can be grown to feed livestock such as cattle, buffalo, horse, pig, sheep, goat and poultry.
- ⊕ It request only minimal land, water and labour
- ⊕ The low cost mode consist of 8 rows each with holding capacity of 4 trays
- ⊕ About 8 kg of fodder can be produced from 1.65 kg of maize seed
- ⊕ As a seed also comes along with fodder and sprout mat, the whole fodder along with root and seed is utilize by the animals without wastage.
- ⊕ Different types of seeds the can be grown in to hydroponic fodder are maize, sun hump, horse gram, jowar etc.,

### Procedure

- ⊕ The select seeds with high sprouting quality and moisture less the 12%
- ⊕ Place the seeds in to tub / tank and add water
- ⊕ Wash the seed by stirring with stick and drain the water
- ⊕ Add water and soak the seeds for 24 hours
- ⊕ Pack the soaked seeds in to gunny bags
- ⊕ Place these gunny bags under shade (avoid keeping near / under direct sun light)
- ⊕ Sprinkle water once in every 3 hours on to the gunny bags
- ⊕ Allow the seeds to sprout in the gunny bag itself for one day
- ⊕ Transfer the sprouted seeds from the gunny bags on to the trays and spread them evenly upto a height of 1/2 inches within the tray
- ⊕ Rack the trays in to the lower section of the machine (i.e) in to the day 1 row.
- ⊕ Switch on the sprinklers in every two hours for sprinkling water daily.
- ⊕ Change / shift the trays to next row on every other day
- ⊕ After completion of 8th day (i.e.) 8th row the fodder can be utilized for feeding farm animals.
- ⊕ Usually the growth period is 8 days in which the fodder grows to a maximum height of 25 to 35 cm.
- ⊕ It can be purchased from University Research Farm, TANUVAS by placing order.
- ⊕ Cost Rs.48,000/-



Innovators : Dr. P. Tensingh Gananaraj, Dr. E. Rachel Jemimah and Dr.T. Muthuramalingam



*Tamil Nadu Veterinary and Animal Sciences University*

## TANUVAS – URF - Portable Mini Poultry Brooder

- ❖ Brooder is an equipment used to provide warmth to day-old chicken of broiler, layer, turkey, guineafowl , Japanese quail chicks, etc upto 2 weeks in summer and 3 weeks in winter.
- ❖ TANUVAS - URF - Portable mini poultry brooder consists of a heat source (incandescent bulb) with height adjustment to increase / decrease the temperature based on the behavior of the chicks.
- ❖ Brooder guard is made of up of polypropylene flute board sheets which can withstand the brooding temperature.
- ❖ It is washable and can be disinfected and reused.
- ❖ The brooder guard height is 1ft and 3 ft diameter
- ❖ It can accommodate 100 chicks
- ❖ It is portable
- ❖ Cost of production Rs.800



Innovators : Dr. P. Tensingh Gananaraj, Dr. A. Sundaresan and Dr. S. Ezhilvalavan



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## TANUVAS – URF -Low cost M-type chicken cage

- ❖ TANUVAS - URF - M-type cage is meant for rearing chicken grower cum layers
- ❖ Grower can be reared at upper row and layers can be reared at lower row
- ❖ Each grower cage can accommodate 5 birds of 9-18 weeks of age and totally 40 growers can be reared in 8 compartments.
- ❖ Each layer cage can accommodate 4 birds of 19-72 weeks of age and totally 32 layers can be reared in 8 compartments.
- ❖ A mesh is provided on the floor of the layer cage to avoid egg breakage
- ❖ A nipple drinker is installed inside the cage and a linear feeder is fixed outside
- ❖ More feeding space is available and better ventilation than conventional cages
- ❖ The cage can be easily dismantled and easy to carry
- ❖ It is more suitable for rural poultry production
- ❖ Cage specification:  
 Front feeding length : 18 inch      Front height : 18 inch  
 Back height : 15 inch      Depth : 15 inch
- ❖ Cost of Production Rs.12,500



Innovators : Dr. S. Ezhilvalavan, Dr. P. Tensingh Gananaraj and Dr. A. Sundaresan



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## TANUVAS – URF – Backyard Poultry Shelter (BPS) with nest box

- ❖ TANUVAS-URF-Backyard poultry shelter (BPS) is to protect the birds from predators
  - ❖ BPS consists of two nest boxes, two perch and a run. The roof is made of wire netting. The perch is made up HDPE mat on which the chicken can stand. The run is fenced with net and net supported by PVC pipes. The roof is surrounded by a net.
  - ❖ The size of the shelter is 12.5 X 7 ft.
  - ❖ The nest box helps in production of safe and clean eggs
  - ❖ Specification of the nest box
- |              |           |             |           |
|--------------|-----------|-------------|-----------|
| Length       | : 39 inch | Width       | : 15 inch |
| Front height | : 15 inch | Back height | : 23 inch |
- ❖ Cost of Production Rs.16,000



Innovators : Dr. P. Tensingh Gananaraj, Dr. A. Sundaresan and Dr. S. Ezhilvalavan



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## TANUVAS – URF – Rural poultry cage

- ❖ TANUVAS- URF-Rural poultry cage (RPC) can be used for rearing day-old and adult desi-chicken
- ❖ RPC has two compartment; a top compartment meant for rearing adult birds and a bottom one is for rearing chicks
- ❖ Droppings of upper compartment will be collected on a sloped sheet fixed on top of the lower compartments
- ❖ Feeder and waterer can be kept inside the cage
- ❖ Each cage in upper row can accommodate 10 adult birds and totally 20 adult birds can be reared
- ❖ Each cage in lower row can accommodate 15 chicks cum grower and totally 30 chicks cum grower can be reared
- ❖ The size of the each compartment is 30" x 30"
- ❖ RPC is most suitable for backyard rearing
- ❖ Cost of Production Rs.8,800/-



Innovators : Dr. P. Tensingh Gananaraj, Dr. S. Ezhilvalavan and Dr. A. Sundaresan



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## TANUVAS - URF - Portable Egg Candler

- ❖ TANUVAS - URF- portable egg candler is an oval shaped and handy device made up of wood with dimension of 14 cm length, 9.5 cm breath and 1.8 cm height
- ❖ Portable egg candler requires 6 voltage power can be provided with 4 numbers of 1.5 volt battery
- ❖ Light source is heat sink LED lamp
- ❖ A rotating device is fixed on the oval platform, where the eggs can be kept and viewed for embryonic growth
- ❖ The growth of embryo will not be affected by this candler.
- ❖ Embryonic development can be viewed with maximum accuracy than conventional method.
- ❖ Portable egg candler can be viewed with minimum care than conventional method
- ❖ It is easy to carry and requires minimum skill for the operator
- ❖ Cost of production Rs.1,100/-



Innovators : Dr. P. Tensingh Gananaraj, Dr. A. Sundaresan and Dr. S. Ezhilvalavan



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## TANUVAS – URF - Poultry Waterer with Heater

- ❖ TANUVAS - URF - Poultry waterer with heater is used to heat the drinking water
- ❖ Poultry waterer with heater is made up of HDPE and 2.5 liter capacity
- ❖ Poultry waterer with heater consists of a heating element, thermostat and indicator
- ❖ The thermostat cut off temperature at 80o C, after reaching room temperature, the water will be given to chicks
- ❖ No need to add water sanitizer
- ❖ It is portable and washable
- ❖ Cost of production Rs.1,100



UIIC 032

Innovators : Dr. P. Tensingh Gananaraj, Dr. A. Sundaresan and Dr. S. Ezhilvalavan



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### DD in favour of

The Professor and Head, URF, Chennai - 51

### For online transaction

Bank Name : Union Bank of India  
Branch : Madhavaram  
Account No. : 332902010726941  
IFSC code : UBIN0533297

#### Remarks :

Goods / item will be delivered about 40 days from the date of order  
Transportation arrangements should be made at your own cost

