



Contact : [guy.reinaud@pronatura.org](mailto:guy.reinaud@pronatura.org)

Animal Type	References	Feeding method	Results
Cows	Henning Gerlach, Hans-Peter Schmidt (Biochar Journal, 2015)	200g-400g per day of biochar added in combination with sauerkraut brine (acetylcholine, lactobacilli, enterococci, B-vitamins, vitamin C) in the feeding ration	Generally improved health, vitality and appearance Improved udder health and post-partum health Minimisation of hoof problems Reduced diarrhoea, faeces subsequently generally more solid Decline in the mortality rate Increase in milk protein and/or fat Bad smelling reduction
Cows	Fine Fettle Feed	20g per day of Happy Tummy added in the feeding ration	Adsorbs toxins, pesticides... Improves milk production yields Improves semen and colostrum Strengthen the immune system Raises the lifespan up to 20% By adsorbing methane, biochar could release 10% more energy into meat and milk production. Leng et al. (2012) proved that 12% of methane rejection could be avoided by adding 1% of biochar in the feeding ration.
Cows	Stephen Joseph, Doug Pow (Pedosphere, 2015, West Australia)	0,33 kg per day of jarrah (eucalyptus) biochar with 0,1kg per day of molasse added in the feeding ration over 3 years to 60 cows in a 53 ha farm	Reduces costs to the farmer Improves the global health Feeding cows with biochar is a way to improve the soil fertility through the biochar added slurry
Cows	National Livestock Research Institute (Food & Fertilizer Technology Center, 2002, Corea - Suwon)	Biochar made of bamboo powder, pottery and iron. This powder after being burned during one hour is added at 1-2% in the feeding ration	Improves udder health Raises the milk production Reduces the number of somatic cells in the milk Prevents kidney stones Prevents gastric torsions
Cows	Faculté d'Agriculture et des Ressources Forestières, RA Leng, Sangkhom Inthapanya, TR Preston (LRRD Newsletter, 2012, Laos - Luang Prabang)	DM (cassava roots + cassave leaves + 0,4% copper sulfate + 0,5% sodium chloride) + 6% potassium nitrate + 0,6% biochar	Reduces the methane rejections by 41% by combining biochar and nitrate
		DM (cassava roots + cassave leaves + 0,4% copper sulfate + 0,5% sodium chloride) + 1,83% urea + 0,6 % biochar	Raises by 25 % the cow weight Improves the FCR
Goats	Do Thi Thanh Van, Nguyen Thi Mui, Inger Ledin (Science Direct, 2004, North of Vietnam)	Acacia mangium + Para grass + concentrate (rice bran + soya) + 0,5 g of bamboo biochar per day per kg of the animal weight	Improves the digestion of DM (dry matter) by 11%, organic matter, proteins Improves the nitrogen conversion Boosts the growth (+9g per day)
Pigs	National Livestock Research Institute (Food & Fertilizer Technology Center, 2002, Corea - Suwon)	Biochar made of bamboo powder, pottery and iron. This powder after being burned during one hour is added at 1-1.5% in the feeding ration	Decline in the mortality rate Reduces bad smelling Improves the FCR Reduces the amount of left overs
Poultry	David Yarrow (Terra Char, 2015)	Biochar added at 1-3% in the feeding ration	Improves by 22% the feed conversion ratio : better conversion of nitrogen into amino acids and useful proteins Reduces the methane rejections by 28% Improves the body weight gain by 20%
Poultry	Jean Raphael Kana, Alexis Teguia, Berrian Musa Mungfu, Joseph Tchoumboue (Springer, 2010, Cameroon)	Canarium Schweinfurthii engl. or maize seeds burned with biochar (0,2% to 0,6%) before being drenched with water and dried (ash, 46.95% DM; calcium, 7.00 meq/100 g; phosphorus, 40.98 ppm et Ca-Mg, 83.50 meq/100 g)	Improves the feed conversion ratio : food consumed (kg) / Weight gain (kg)). The FCR of the biochar free chicken pool was around 2,51 while the chicken pool feeded with biochar was 2,31
Laying hens	Jean Raphael Kana, Alexis Teguia, Berrian Musa Mungfu, Joseph Tchoumboue (Bulletin of animal health and production in Africa, 2012, Cameroon)	Canarium Schweinfurthii engl. or maize seeds burned with biochar (0,2% to 0,4%) before being drenched with water and dried (ash, 46.95% DM; calcium, 7.00 meq/100 g; phosphorus, 40.98 ppm et Ca-Mg, 83.50 meq/100 g)	Raises the egg production (+2,7 to +8,6) Improves the feed conversion ratio Improves the lifespan of the laying period to 74 weeks
Poultry	Henning Gerlach, Hans-Peter Schmidt (Ithaka Journal, 2012)	0,4% to 0,6% of biochar in the feeding ration	Van, Kana, Ruttanvut : Adding biochar up to 0,6% improves the growth of young chickens by a 17% on average Needs for biochar uptake to be withheld for 2-3 days every 10-15 days
Cattle	Swiss Biochar	Biochar added in the feeding ration : Wheat bran (40 %), biochar (15 %), sugar cane molasses, linseed, alpine herbs, corn flakes, wheat flakes, barley flakes, minerals Dairy cows: 200g per day Calves: 50 g per day Pigs: 120 g per day Horses: 150 g per day Poultry: 1 - 2 % per day	Protections against mutagens and pathogens Reduces the amount of nutrients lost into excrements and manure (methane rejections, less polluted slurries) Needs for biochar uptake to be withheld for 5 days every 15 days
Cattle	National Livestock Research Institute (Food & Fertilizer Technology Center, 2002, Corea - Suwon)	Biochar made of bamboo powder, pottery and iron. This powder after being burned during one hour is diluted at 1% in the drinking water for the sane cattle or at 0,1% for the ill cattle	Reduces the bad smelling Prevents diseases