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# Ethical Poultry and the Bioethics of Poultry Production

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Running title: Ethical poultry

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Abstract

In this paper, we consider the ethics of poultry production from different perspectives, applying both intrinsic and extrinsic ethical principles. We consider the perspectives of the animal, farmer, consumer, breeders, researchers, and policy-makers. Intrinsic ethical factors include feeling pain and experiencing suffering , self-awareness and consciousness, future planning ability, the value of being alive, and individual love of life. Extrinsic factors include human necessity and/or desire, human sensitivity to animal suffering, fear of causing brutality in humans, disapproval of other animals, and the religious status of animals. The development of systems to create more ethical poultry production systems is a work in progress, and in the evolution of ethical standards, moral progress and what can be described as more ethical poultry are evident.

**Keywords**: agricultural ethics, animal rights, bioethics, food ethics, poultry, sentience

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# Ethical Poultry and the Bioethics of Poultry Production

Our historical studies of culture, religion, linguistics, archeology, anthropology, and genetics suggest that human beings have been living with and consuming poultry for millennia worldwide. Therefore, certain questions arise, namely: What is ethical poultry? Is there something special about our consumption of what is usually the cheapest meat in the supermarket—the great vendor of protein that urban citizens rely on for their satisfaction? This paper reflects on how we can decide what is ethical poultry. In this paper, I address this question from several perspectives.

*Ethical poultry from the perspective of a chicken*

While the same arguments might also be used by a turkey, duck, goose, fowl, or other poultry, let us take the arguments of a chicken. Ethical factors can be intrinsic or extrinsic to an organism. Some factors for judging animal use (Macer, 1998a) are summarized in Table 1.

The concept of non-maleficence or to "do no harm" is one of the basic principles of bioethics across most religions and culture. It is based at a fundamental level—the level of being alive—and argues against hurting any living organism. Schweitzer (1966) called this reverence for life. We express this as the passive term "value of being alive," or more actively as an "individual love for life" (Macer, 1998a), as listed under the intrinsic ethical factors in Table 1.

Intrinsic values exist without another being assigning value to something. We could also consider intrinsic value as some experience that has value in itself without instrumental reference by others. To perceive something of intrinsic value, we must have an object of value; whether the bone is thrown to a dog or the ball to a child, the object becomes of value. It becomes of value even if we cannot be conscious of the value or talk about it, as seen in the reaction of an animal to the removal of the object

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they are interested in. The list of intrinsic values in Table 1 is not exhaustive, but outlines people's main ideas.

For example, future planning will normally apply to the question of a more conscious activity than simply gathering sticks and material to make a nest in which to lay eggs. The use of a tool to gather food by a crow first requires the crow to gather suitable material before gathering food. Thus, it can be considered future planning. The annual migration of many bird species around the planet does not appear to be conscious planning, but remains a source of future research. It immediately illustrates some of the challenges in bioethics regarding setting limits on some of these factors, and distinguishing thought from instinct. That difficulty also applies to human behavior.

Christian scriptures and traditions have been important in influencing Western policies, and they accept that animals do have valid claims upon us. Animals cannot be viewed simply as expendable raw materials for our designs. They do not exist simply to serve us, and the doctrine of creation is opposed to anthropocentric notions. The Bible often mentions animals, as Israel was an agricultural community. God owns everything of creation, including all our cattle (Psalm 50:10), and He cares for them all (Genesis 8:17, 9:4,10; Exodus 23:5; Deuteronomy 12:23, 25:4; Numbers 22:32; Proverbs 12:10; Psalms 36:7, 104:10-11, 145:9,15-16, 147:9; Job 38:26-27,41; Jonah 4:11; Matthew 6:25, 10:29.). Animals should also rest on the Sabbath, and should be fed first, before the farmer (Exodus 23:12; Deuteronomy 5:14, 11:15; Numbers 20:8.).

However, early Christian theologians such as Aquinas regarded animals as irrational creatures that were not directly possible of human friendships. The general tradition of the Roman Catholic church is to regard animals as means to human ends, and the moral objections to cruelty toward animals are more concerned with the fear

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that those inflicting pain will contract habits of cruelty, which is also evident in the writings of Immanuel Kant (as listed under extrinsic reasons). The contrasting attitude of St. Francis of Assisi to talk of a sister cow or brother dog is an appropriate biocentric view. However, it was less popular during the development of industrial poultry production.

Nowadays, perhaps the most well-known criterion used in judging the use of animals is avoiding the infliction of pain (Kunzmann, 2005), an intrinsic ethical factor (Table 1). Some distinguish pain from "suffering,," but they are both departures from the ideal of avoiding harm. Suffering can be defined as prolonged pain of a certain intensity (Regan, 1983), and it is claimed that an individual incapable of experiencing pain cannot suffer. The capacity for suffering and/or enjoyment has been described as a prerequisite for having any interests (Singer, 1976). Judging pain is subjective, and there are parallels in the way animals and humans respond. In higher animals and humans, many neurotransmitters are similar. Possibly, animals do have a different quality of "pain," as the frontal region of the cerebral cortex of humans is thought to be involved in feelings of anxiety, apprehension, and suffering components of pain. This region is much smaller in animals, and if surgically treated in humans, can make them indifferent to pain. There are differences in the types of pain receptors: some respond to mechanical stimuli, some to noxious heat or irritant chemicals, and some to severe cold. The difference between the pain of animals and responses of plants (which include electrical responses like animals) is that a signal is only a signal, whereas pain occurs after the reception and processing of the signal in the nervous system (Macer, 1998a).

*Ethical poultry from the perspective of a farmer*

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Some people will continue to eat animals, and practical ethics must improve the ethical treatment of all animals. One area of particular concern is whether animals should be in a field, caged box, or factory farm. When we ask what the perspective of our chicken would be, it seems likely that the chicken will prefer a larger space, although they will likely nest and nurture eggs in a somewhat protected place. In addition, most animals will prefer to avoid extreme temperatures, which could mean entering a covered area from a free-range area. The confinement of poultry in small cages has been a significant political issue in many countries. Several countries have banned the use of battery-caged hens. For example, it has been illegal to use battery cages in Switzerland since 1992, and in Sweden from 1998. The possible boredom of animals on factory farms may be another ethical argument against their use. Interesting is that many farmers express concerns about animal use. They clearly perceive images of what is a "natural" and "just" life for an animal and what is not (Kanaly *et al*., 2010).

Kudo and Macer (1999) interviewed farmers in Ibaraki prefecture, Japan, and found that they had widespread empathy toward their farm animals, while at the same time considering them their economic livelihood. This was confirmed in a later study (Macer *et al*., 2004). The capacity to morally balance harm to animals and benefit to humans is also evident in people from various countries (Macer, 1994).

*Ethical poultry from the perspective of a poultry-eating consumer*

If we are going to harm life, a departure from the ideal of doing no harm and love of life, it must be for a good motive. One such motive might be survival, or "human necessity." This extrinsic ethical factor can be viewed as natural, as all organisms consume and compete with others (see Table 1). Plants compete with each other for space to grow; animals eat plants or other animals; bacteria and fungi compete for resources and space, sometimes killing other organisms and at other times

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competing without direct killing. Humans' destruction of nature and life is caused by two human motives: necessity and desire. Essentially, it is more ethically acceptable to cause harm if there is necessity for survival than if it is only desire. This distinction is required ever more as human desire continues to destroy the planet.

The motive for using animals also alters the morality of their use in some religions, suggesting that these concerns have a long history. Animal sacrifice for worship is used in Islam, but it generally condemns scientific research or battery farming. However, in modern societies where economics have become dominant and there is a majority Muslim population, battery farming for poultry is still evident. The use of animal sacrifices does not mean animals should be sacrificed for the selfish pursuits of humans. The practice thereof in Judaism and Islam was to bring God into the focus of human hearts in place of their own selfish desires. Animal sacrifice was not necessary for Christians who refer to Christ as the sacrificial lamb; so in some sense, this was a welcome liberation for animals, and a significant event in the history of animal rights. We could also reflect that they may have been catching up with Southern and Eastern Asian religions such as Hinduism, Jainism, and Buddhism.

People must decide how much more they are prepared to pay for the better treatment of animals, such as the costs of eliminating battery farming or of not using new animal treatments that produce cheaper milk or meat, such as bovine growth hormone. Appleby (2005) reported that the actual cost increases to consumers might not be that high.

The consequences of these decisions pertaining to changes in animal production and consumption on the different communities involved in agriculture must be considered, alongside various external factors that must also be considered with love. Japan has a special week during the year, "animal loving week," although like in

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most countries, people draw distinctions between their pets and their food (Kanamori *et al*., 2001). Most people will find it difficult morally to eat a pet, but they can still love their farm animals.

*Ethical poultry from the perspective of a vegetarian*

Some human beings make the moral choice to not eat meat, using some of the arguments discussed above from the perspective of a chicken. Often, these are based on their interpretation of the intrinsic ethical factors listed in Table 1, but some extrinsic factors are protective of animals as well.

Hindus, Jains, and Buddhists believe that we will be reborn as another living animal, which creates the bond of caring and compassion for animals. Thus, they reject animal sacrifice, even though the sacrifice of an animal will not kill what is essential, in reality, the soul of that animal. Numerous Hindus and Buddhists today do eat poultry; thus, there is variation in the way in which people view the consumption of animals.

Among the Buddhists in Thailand, many eat poultry and smaller-sized farm animals, but often reject eating beef, because cows are large animals. This is a different reason to why most Hindus do not eat beef: Hindus view the cow as a particularly holy animal. Most Hindus respect cows for their gentle nature and strength, and because butter (ghee) can be produced from their milk. Cows are honored highly, and not just because of a belief in the reincarnation of souls. In Table 1, these reasons are categorized as extrinsic ethical factors.

*Ethical poultry from the perspective of an animal breeder and researcher*

Twenty years ago, while working in Japan, I was asked by the director of a National Institute about my opinion on the ethics of experiments to determine the LD50 for heat stress for chickens (LD50=lethal dose at which half of the organisms in

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that situation die). They were supporting research to assist chicken farmers to determine the maximum temperature that should be allowed inside chicken farms at times of extremely hot weather. My response was that there should already be data on the fatality of chickens in extreme weather on animal farms, and the optimal temperature should be prioritized. However, gathering existing data is not always possible, but our response should be to improve data management from real farms.

The creation of very diseased animals as models of human disease has become routine. In this case, we must try to balance the pain caused to the animal by the real benefit to animals and/or people (Porter, 1992). There are agricultural reasons to make faster growing animals or to use animals to produce specific products ("bioreactors"). To make a chicken lay an egg full of interferon, a protein that can treat some forms of cancer, is not beyond the daily use of animals. Ethically, it would be better if such proteins can be produced in soybeans at a similar cost, and a great advance would be if the interferon could be delivered to the body through eating only beans. Research to make edible vaccines in vegetables or bananas is underway, which most people would accept if it can provide affordable, acceptable, and safe healthcare to more people in the world.

Genetic engineering can also reduce the number of animals used in toxicity testing, because cloned or genetically similar modified animals have less variability in response to compounds or the environment, reducing the number that would be used to give the same degree of statistic reliability in an experimental trial. This is not only more ethical from the perspective of the reduction of suffering, but saves costs. It is ethically consistent to use lower organisms, cells, or computer models if possible, and to use human volunteers and epidemiological research.

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A response to the ethical objection that it is wrong to cause pain could be to use animals that do not feel pain in experiments for food or some other human utility. We could call such animals "vegemals" (vegetable animals). Because pain is a basic sensation, we may object to manipulating it permanently from strains of animals (Macer, 1989). These types of experiments involve altering the mental requirements of animals to suit our means. In fact, these futuristic beings could be engineered to give consent. The motive is anthropocentric, and the means may not be interested in the lives of the animals themselves. However, if they did not suffer pain, they could be regarded by many as being better off than beings that do and the many organisms currently used for human benefit.

If we object to these experiments, we are forced away from arguments based on pain, in which the capacity of a subject for sensation is the pre-eminent quality on which attitudes toward the treatment of that being by others is based. If we object to making painless animals, it may be because we hold religious views according to which we should not grossly alter the creatures of the earth, because it is "unnatural." It could be based on each being having a self, a suffering being viewed as a threat to the characteristic worldly activities that threaten the integrity of the self (Donnelley, 1990), as would the removal of sentience. Using the principle of love, we could ask if we are acting out of love for the animals or only for human desire (Macer, 1998a). We may also have concerns about changing our own value of love to nature and others. However, farming already treats animals as the long-term property of humans, and decides when or how they come into existence and die, as well as their reproduction.

There is a long history of breeding domestic animals targeted at different roles. This breeding has led to great diversity in the case of domestic dogs, with a range of sizes and behavioral traits selected for. For several breeds of poultry, past selection to

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become fighting cocks has meant they may be easily aroused to fight. Such breeding of aggressive cocks (or dogs as another example) is a sad case of the treatment and manipulation of other life forms. It occurred before the invention of genetic engineering techniques, which could also be used to further increase poultry variety. It would support a limit on the use of new technologies to make more behavioral modifications to other species to please the whims of people.

Among religions, the general principles to avoid suffering apply. Vivisection in Islam is allowed under circumstances where there is no pain or disfigurement and if other animals benefit. The use of animals in science falls under the same moral codes applied to humans.

Research is also being conducted to further understand animals. The highly regarded ethical factor of "self-awareness" or consciousness is listed in Table 1, yet research has provided data to enhance our understanding of the degree of self-awareness possessed by different animals. This includes non-destructive research such as linguistics, animal behavior studies, and the use of neuroimaging methods, as well as invasive studies using electrical probes and neuro-stimulation (Macer, 1998b). There is knowledge of some advanced learning in birds such as crows and parrots. Even though the animals possess a lower consciousness, Islam says animals know their own mode of prayer and psalm, a voluntary act of praise. Killing any breathing beings, except for food or religious sacrifice, is high on the list of deadly sins.

We can also see signs of love in many animal species. I suggest that an unloving person would kill another being who can love, and we know enough about the minds and behavior of certain species to say they can love others, even across species boundaries, meaning we should at least reciprocate (Macer, 1998a). I have no data to suggest that this is seen in poultry. When setting criteria for moral reasoning,

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we should also show toward animals part of the empathy we expect animals to show. Love is give and take, and includes trying to do our best for others. We are often guilty of neglecting the interests of others, but species lines should no longer be so easily drawn at animals said to be "lower" than Homo sapiens.

*Ethical poultry from the perspectives of policy-makers*

The government has a responsibility to limit the liberty of citizens so that they do not reduce the choices of and harm other persons in a society. The government represents the people in a country; so when there is public support for the enhanced protection of animals, this may be expressed in laws (Swanson, 2008; Thompson *et al*., 2007). Europe has been leading the legal protection of poultry production. In the USA, the primary federal regulation concerning the treatment of food animals, the Humane Methods of Livestock Slaughter Act (7 USC 1901 *et seq*.), excludes poultry.

Industry policy-makers also play important roles in the poultry industry. Quality assurance and labeling standards may be enforced by industry, so that particular labels are available for use by manufacturers to indicate that their product meets a certain condition: for example, free-range eggs, antibiotic-free farms, free-range poultry, organic, GM-free, and grain-fed are a few labels that can be sold at a premium price to consumers. As professional labels, industry may conduct spot inspections at farms and manufacturing plants to demonstrate a strong disincentive to any farmer or company breaking the rules. It is not ethical in policy-making to promote something that cannot be verified, because it may mean the unfair and arbitrary discrimination of certain farmers or even countries as sources of poultry. Thus, it is important that verification mechanisms are developed.

For example, the Farm Animal Welfare Council (2009) set our principles to lessen suffering in terms of the five freedoms:

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1) Freedom from hunger and thirst: access to fresh water and good nutrition.

2) Freedom from discomfort: suitable housing with protected areas to rest.

3) Freedom from pain, injuries, and diseases: prevention, diagnostics, and treatment.

4) Freedom to express normal behavior: sufficient space, adequate equipment, and contact with pen mates.

5) Freedom from fear and suffering: husbandry conditions and treatment that does not cause psychic suffering.

**Future directions for the Bioethics of Poultry Production**

Science and technology are rapidly advancing and present new opportunities to enhance poultry production and our understanding of poultry that could make us more ethical than we have been in the past. A few hundred years ago, little or no attention was paid to the pain poultry experience during their use in agriculture, and many philosophers denied that poultry were even sentient beings (Macer, 1998). Nowadays, it is widely recognized that poultry are sentient, and ethical guidelines apply to all aspects of production, breeding, farming, transport, and humane killing. Implementing these guidelines is still an area that needs improvement.

As our understanding of animal behavior grows, we may eventually be able to communicate more meaningfully with some poultry species. We may be able to genetically engineer them not to feel pain, not to suffer, or even to enjoy factory farming. Society may decide that such genetic manipulation is not in the interests of the animals, even though it would diminish arguments that limit our use of poultry. We may design production facilities that make the poultry happy through music, color, smell, temperature, or pheromones, for example. Happier poultry will produce better quality meat, increasing economic gains, while also ensuring more ethical production.

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There are also unanswered questions such as whether organic poultry are actually happier than their brethren treated with antibiotics.

It is good to include some of these ethical issues in the agricultural ethics education that has long existed in agricultural colleges. We should also expect more scholars to spend more time on research to address the questions discussed in this paper to better guide the ethical policy that society needs to develop in response to advances in our knowledge and technology.

## Conclusions

We may all agree that animals can suffer, and we can attempt to develop an animal husbandry and production system that minimizes this suffering. We may even develop a system where there would not be suffering with the humane killing of individuals unaware of their impending demise. Only in some cases are we forced to make a direct choice between human welfare and the suffering of nonhuman animals.

At the practical level, the feeling of pain is the major guiding principle for animal treatment. Another that may define the boundaries of killing is if they have self-awareness, and therefore, many countries outlaw the confinement or killing of higher apes and dolphins, for example. We need to consider the findings of animal studies on the level of self-awareness that some may possess, and, as scientists, there are interesting times ahead as we understand more about poultry and wild birds. Our bioethics must be based on all data including reasoning, philosophy, and biological knowledge, and thus policy will evolve over time. It is only decades in some cases, or a century since human society outlawed human slavery in agricultural production systems.

In conclusion, human love does extend to animals, but many questions have emerged about the limits love should impose on our actions for the treatment of

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animals. In this paper, we considered the question of ethics from different perspectives, applying both intrinsic and extrinsic ethical principles. The creation of systems to create more ethical poultry production systems is a work in progress, and all human beings are better for moral progress.

## Notes

The author declares no conflict of interest.

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Table 1: Intrinsic and Extrinsic Ethical Factors in the Bioethics of Animal Use

| **Intrinsic Ethical Factors** | **Extrinsic Ethical Factors** |
|---|---|
| - Pain and suffering | - Human Necessity / Desire |
| - Self-awareness and consciousness | - Human sensitivity to animal suffering |
| - Future planning | - Brutality in humans |
| - Value of being alive | - Other animals' disapproval |
| - Individual love of life | - Religious status of animals |

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