A GROWING PROBLEM
SELECTIVE BREEDING IN THE CHICKEN INDUSTRY: THE CASE FOR SLOWER GROWTH

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EXECUTIVE SUMMARY

In an age when the horrors of factory farming are becoming more well-known and people are increasingly interested in where their food comes from, few might be surprised that factory farmed chickens raised for their meat—sometimes called "broiler" chickens—live miserable lives in horrendous conditions. But less well-known is the fact that the core problem for these birds starts long before they are even born: in effect, these birds are bred to suffer.

Hidden behind the closed doors of factory farms, most of the nearly nine billion chickens raised in the U.S. each year are selectively bred to grow so large, so fast that many struggle to move or even stand up. With disproportionately large "white meat" breasts, and bones and organs that often can't support their huge and distorted bodies, many of these birds spend much of their lives lying down in their own waste, with open sores and wounds that act as gateways to infection.

The type of chicken commonly used today grows at a rate 300% faster than those in 1960. They reach heavier weights than in years past but in significantly less time. In fact, according to researchers at the University of Arkansas, these chickens grow at a rate equivalent to a two-month-old human baby weighing 660 pounds!* Barely able to move at just a few weeks old, these overgrown "Cornish Cross" breed birds typically spend their lives warehoused in overcrowded massive sheds where dim, constant lighting keeps them continuously eating—virtually all they're able to do—in a constant pursuit of higher efficiency and productivity.

> **Why are chickens getting too fat?**
>
> – Jan 2008 issue of *USDA Agricultural Research* magazine

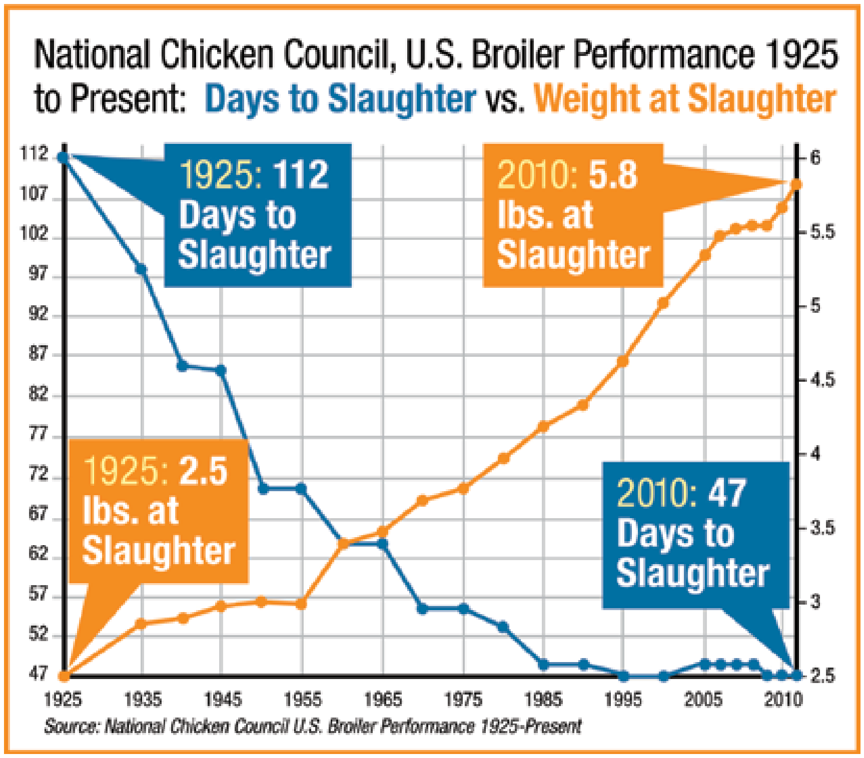
Today's fast growing birds are so heavy and weak that they often collapse or struggle to stay standing. All of this pushes their bodies and immune systems to the brink. Farms routinely feed them preventative antibiotics, creating a vicious cycle that allows them to perpetuate substandard conditions and raising significant questions about the implications for human health. These are the chickens that make their way to America's dinner plates every day.

There is a better way. We can raise chickens that grow at a more natural rate, providing relief from the current uncontrollable growth and freakish body shape that keep them prisoners in their own bodies. We can provide chickens with more space, better lighting and more enrichment, all of which will improve their overall welfare. Such reforms are prevalent in Europe, but only practiced by a handful of farms around the U.S. With no meaningful legal protections on the horizon, reform in the U.S. must, at this time, be market-driven.

For too long, "broiler" chickens have suffered in silence, laboring under weight they cannot bear and denied basic welfare measures. The time has come to reform these breeding practices so that chickens grow at a more natural, comfortable rate in more humane surroundings. It is the least we can do for these chickens – and for ourselves.

* Wideman, R.F., Rhoads, D., Erf, G., Anthony, N. 2013. Pulmonary arterial hypertension (ascites syndrome) in broilers: A review. Poultry Science. 92(1):64-83.

SELECTIVE BREEDING FOR FAST AND EXCESSIVE GROWTH



Numbering nearly nine billion each year, factory-farmed chickens constitute nearly all the land animals we raise for food.[1] In keeping with those astronomical numbers and growing demand, breeding practices have developed to achieve a machine-like efficiency. Chickens are the "fastest-growing farmed species,"[2] and that's not by accident. Following World War II, the U.S. began breeding chickens specifically for fast growth, heavy weights and massive breast size. These objectives have only increased over the years, leading to birds who now have a growth rate three times greater than those in 1960.[3] The modern chicken, conventionally known as a "Cornish Cross," is an "extreme organism"[4] unable to live normally in its own body.[5]

Through today's factory-farming system, birds are selectively bred to pack on excessive weight in just a few weeks. The National Chicken Council estimates that from 1925 to 2011, the average number of days it took to raise a chicken plummeted from 112 to 47, while the birds' average weight ballooned from 2.5 lbs to 5.8 lbs.[6] Since then, chickens' weights have continued to rise, hitting nearly six pounds in April 2013.[7] Even the USDA has declared today's chickens to be "too fat," and that was in 2008 when chickens weighed less than today.[8] These are conditions that are prevalent not just in the U.S., but on a global scale, as similar breeds are used internationally.

Photo credit: Compassion in World

The chicken industry's productivity in the U.S. can be partly attributed to its structure:[9] Just 40 companies[10] own virtually all the nearly nine billion chickens and control nearly every aspect of the chickens' lives from their hatching through their slaughter. These 40 companies (known as integrators) have achieved tight control of the industry by owning virtually all necessary inputs: the hatcheries, chickens, feed mills, slaughterhouses and processing plants, allowing them to enforce detailed specifications for the birds' rearing, transport and slaughter. They provide the birds, food and (limited) veterinary care to the farmers ("growers") who do the actual rearing,[11] and allow the growers little discretion regarding husbandry or welfare practices.[12] Importantly, they also select the types of birds to be used: they buy birds directly from genetics companies (unless they own this portion of the industry themselves, which some do),[13] selecting the breeds and strains to be raised by their growers, who must follow the companies' precise rearing instructions.[14]

> "If humans grew at a similar rate, a 3 kg (6.6 lb) newborn baby would weigh 300 kg (660 lb) after 2 months."
>
> – Academics from the University of Arkansas in peer-reviewed article published in *Poultry Science*.

Importantly, while some large U.S. chicken companies are starting to have somewhat better welfare conditions for select product lines to appeal to concerned consumers,[15] they continue to use conventional, fast-growing birds. Thus, despite labels telling consumers the birds are raised more humanely than those in conventional systems, continuing the use of the fastest-growing birds significantly limits the companies' ability to achieve meaningful welfare improvements by skirting the underlying problems of unsustainable growth, weight and body shape.

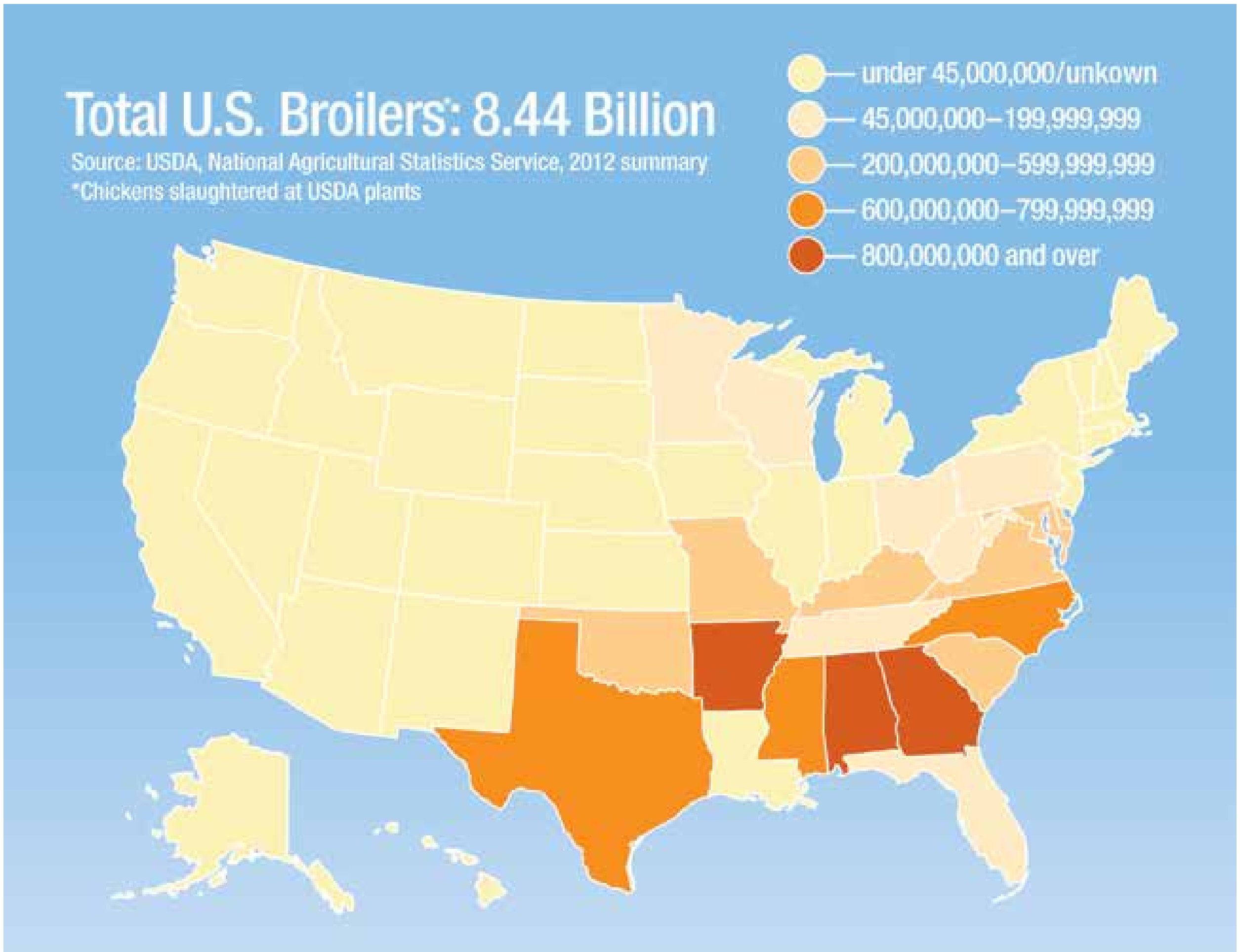
The breed developed in the U.S.—conventionally known as the "Cornish Cross"—has spread around the globe. The genetics companies breeding today's chickens are major, international companies, and while each produces slightly different strains of Cornish Cross birds, their genetics are roughly interchangeable.[16] In fact, the chicken breeding industry has shrunk to a mere three companies that now dominate the international market,[17] keeping the breeding a highly concentrated and insulated industry.

The Cornish Cross is a cross between two lines (the male side and female side) that are themselves each selectively bred through multiple generations to bring out exaggerated traits such as fast growth, large size and enormous chests, as well as reproductive ability.

The tight control of chicken production and breeding has locked in the use of oversized breeds throughout the chicken industry and effectively eliminated consumers' ability to select slower-growing birds. The fact that worldwide, most factory-farmed chickens look roughly the same also means that consumers have become used to the unnatural look of today's chickens, and are unaware of how far their genetics have been pushed in just the last few decades.

Although this highly concentrated industry has largely restricted consumer options in the marketplace, alternatives do exist that can address the chicken welfare concerns raised in this paper. Other strains and breeds run the spectrum from somewhat slower-growing chickens to heritage (the slowest-growing, pre-industrial breed) birds, all of which grow at a more natural rate and have improved locomotion, overall health and welfare.

Despite the vast animal welfare problems inherent in modern chicken farming, most chickens raised in the U.S. for meat have no meaningful legal protections. No federal animal protection laws apply to chickens on-farm, and the government does not conduct on-farm monitoring for animal welfare (for any species). A handful of states have animal cruelty laws that arguably include chickens, but these are not traditionally enforced on their behalf. In stark contrast, many other countries such as those in the European Union require welfare parameters for chickens.[18]



Welfare Costs

Producing some nine billion oversized birds a year as quickly as possible does not come without a cost. In fact, this model causes large-scale suffering. Conventional chickens raised for meat easily gain an average of 65 grams of weight per day or even more,[19] which is about 2.5% of their eventual total body weight. It becomes clear that this growth is at the root of chickens' poor welfare when we see the conventional fast-growing birds suffering even when raised in the highest welfare conditions with plentiful space, enrichment, veterinary care, fresh air, proper lighting and even pasture.[20]

Despite their astonishing growth rate, chickens are still juveniles when they're slaughtered at just a few weeks old. They have barely advanced past their chick days, still behaving as youngsters and a long way from sexual maturity.[21] While from the outside, their bodies are adult-sized, their organs and bones are much smaller and do not got quickly enough to support their massive muscles.[22] After only a few weeks, there is evidence that the birds' skeletons and organs cannot keep up: Their hearts, lungs and legs strain to work under severe pressure, causing severely low stamina,[23] shortness of breath,[24] trouble standing and walking, collapse and even

Photo credit: Mercy for Animals

congestive heart failure.[25] The birds' massive chests also make them top-heavy and awkward, putting too much weight on their lower bodies which leads leg bones, tendons and joints to develop improperly, degenerate or give way, causing pain and debilitation.[26] These conditions may become so severe that a chicken is unable to reach food or water (they must stand to drink water from their "nipple" drinkers which may spell death for a handicapped chicken).[27]

Photo credit: Wakker Dier

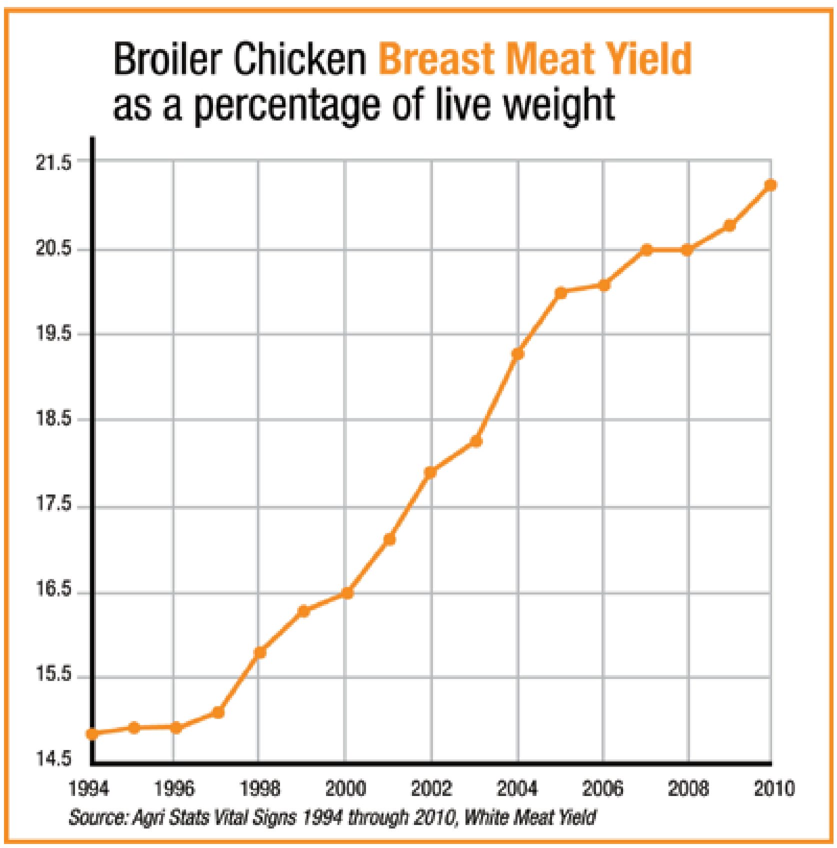
Conventional chickens eat an extraordinary amount of food, due partly to their breeding, which has resulted in "insatiable" appetites.[28] Selective breeding has reduced their ability to detect when they are actually full, so they eat larger meals[29] due to a "genetic defect in hypothalamic appetite regulation."[30] It has been suggested that broiler chickens will continue feeling hungry until they reach physical capacity (i.e., they cannot physically fill themselves any further), whereas other types of chickens feel satiated before this point of complete inundation.[31]

Overweight, weak and disproportionately sized chickens, particularly in their final weeks of life, often have trouble staying standing and spend long hours lying down. There is typically nowhere for them to lie but directly on the shed floor, which is covered in their own waste (see Interaction Between Growth and Living Conditions, below), so birds may develop lesions from their bodies pressing down on the wet, ammonia-soaked floor. These lesions are not only painful but they make it harder for the birds to move, forcing them to spend even more time lying down and acting as gateways to infections, thereby creating a downward spiral of suffering and potentially leading to foodborne illness in humans.[32] All of this pushes chickens' bodies and immune systems to the brink, so many producers feed chickens "subtherapeutic" (preventative) antibiotics. This creates a vicious cycle by allowing the chicken industry to perpetuate substandard conditions such as crowding and unhealthy lighting. These are the chickens that make their way to America's dinner plates every day.

Labored Movement

In a study comparing conventional birds to heritage breed birds, conventional chickens were found to have breasts "dramatically" larger and faster-growing than their counterparts.[33] Their breasts, which continued to grow way beyond the age at which the heritage birds' stopped, grew at a rate 3.8 times faster than the heritage birds'. The conventional birds' breasts finally plateaued at a whopping 18% of their total body mass: twice that of the heritage birds.[34]

Chickens' unnaturally large breasts and heavy weight that comes on quickly make for painful and difficult locomotion. This is a complex problem with numerous contributors including fast growth, heavy weight, unnatural body shape, bacterial and viral infections and nutrition.



A 2012 study declared lameness to be "year in and year out" a leading cause of mortality.[35] A 2011 study found that "compared with chickens bred for high egg production, the motor ability of broilers has been compromised and is of increasing concern in broiler breeding and production."[36] A 2009 study done on U.S. farms found 41% of birds to have detectable gait problems,[37] while a 2013 study noted similarities between broiler chickens' slow, tentative walking style and that of obese humans.[38] At just six weeks old, the over-sized birds are already elderly in terms of their genetically-predetermined lifespan. They often walk slowly and unsteadily, becoming out of breath from the slightest exertion,[39] and grow progressively weaker, often spending the final portion of their lives lying in their own waste,[40] unwilling or unable to walk even a few steps.[41] The same 2013 study found that "musculoskeletal abnormalities and poor walking ability (commonly referred to together as 'leg weakness') are the most prevalent causes of culling and late mortality in the modern broiler."[42] There is evidence the birds are also in pain: studies have found they respond positively to food containing painkiller, increasing their activity levels after consuming it.[43]

Difficulty in standing, walking or exertion has major welfare implications for chickens. Beyond any immediate pain and frustration they might be experiencing, an additional cascade of secondary problems can occur: illness, injury, disease and even starvation or dehydration from not being able to reach food or water. Because they live in large numbers all together on a shed floor (see Interaction Between Growth and Living Conditions, below), ambulation is an important survival mechanism. Stilted movements mean less ability to access food and water and less ability to escape one another. It stands to reason that strained movement also leads to increased stress, which in turn further taxes their immune systems.[44]

Overweight, weak and with almost no room to move, birds spend up to 90% of their lives lying down[45] in their litter, a combination of bedding and excrement, causing a series of secondary welfare problems. It's common for a farm to place a new flock directly on top of a previous flock's waste. In fact, one quarter of respondents to a 2008 USDA survey of chicken farmers raising birds under production contracts reported not fully cleaning out their sheds at all in 2006.[46]

As a result of these conditions, chickens' eyes and lungs frequently become injured from the high ammonia fumes and dust content in their sheds. Many birds suffer from eye infections,[47] and the USDA condemned over 4 million chicken carcasses in 2012 for respiratory infections.[48]

When chickens so much time lying or standing in their own waste, the skin is exposed to moisture and ammonia, which can lead to open sores on their feet, legs and chests.[49] These wounds may become deep ulcers[50] that can then further develop into abscesses.[51] These lesions are something the chicken industry is keenly aware of but struggles to control, despite a growing acknowledgement that they can directly impact bird welfare[52] by causing pain, reduced mobility and trouble eating and drinking.[53] A leading chicken genetics company admits that foot lesions among chickens are "a common and wide spread problem."[54]

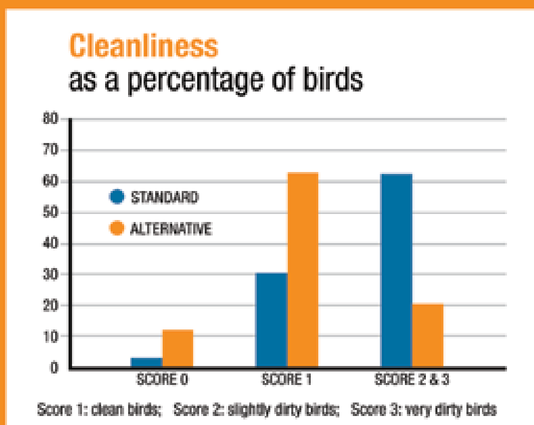
Similarly, the "hock burns" found on the backs of chickens' legs (the portion coming in contact with their litter when they lie down) have also been declared "a common disease."[55] A 2009 U.S. on-farm study found 14% of birds had foot lesions and 20% had burns on the backs of their legs. It explained "lame broilers spend more time lying in the litter and can be stepped on by other birds. These 2 factors could cause more lesions in the skin of the breast and legs."[56] It has been speculated that the sores birds develop on the backs of their legs are akin to pressure sores tracing back to their heavy body weights.[57] These lesions and burns can make the birds' already compromised ability to move around even harder by making it painful to stand and walk.

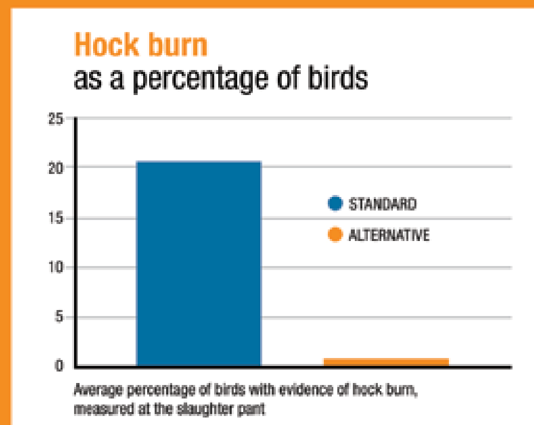
Photo credit: Hillside Animal Sanctuary

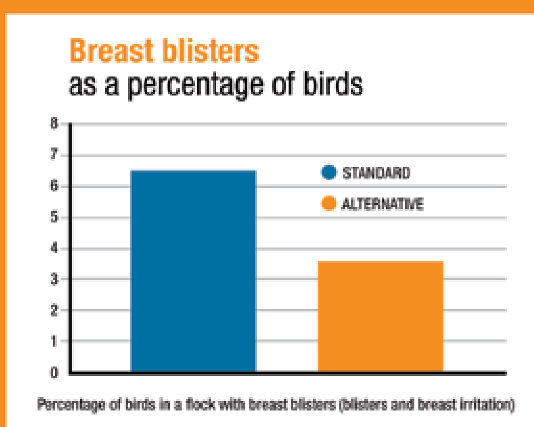
A 2005 study of Grade A chicken carcasses in UK supermarkets found that 82% had hock burns, with larger burns being more common among the heavier chickens.[58] These lesions were interpreted by the study's authors as being "painful" and an indication of "poor welfare."

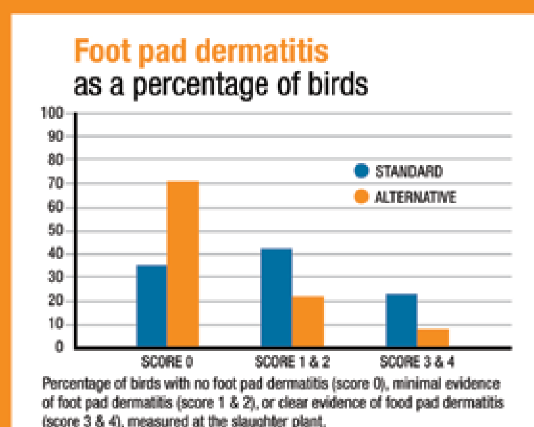
Charts comparing birds with standard growth rates, stocking densities and living conditions to slower growing genotypes of chickens raised with more room, natural light and enrichments.

Source: Waginingen UR Livestock Research, 2011. Simplifying the Welfare Quality assessment protocol for broilers.









Chronic Hunger for Breeding Birds

While chickens raised for meat are allowed to eat as much as they like, their parents, who breed and hatch the next generation of chickens, are not. It takes five to seven months before a chicken can lay eggs but these birds are predisposed to gain weight so rapidly that they often collapse at just a few weeks old.[59] The chicken industry faces a dilemma: It must breed these birds for fast growth and unnatural size so they may pass these traits to their offspring, but it must keep them as lean and trim as possible to stave off death, morbidity and infertility. As a result, breeding birds are fed only a fraction of the calories they crave. Some are fed to only 25% satiety; others are fed only every other day.[60] Many also have water withheld to stop them from desperately trying to quell their hunger with liquid.[61] This is an extreme form of cruelty that stems from the industry's commitment to fast growth and uncontrollable size.

Compromised Physiological Function

According to what is known as "resource allocation theory," growth, maintenance (including immune function) and production are three physiological functions that must always work in balance with one another. Anytime an animal is bred to strongly emphasize one of these traits—such as excessive growth, in the case of chickens— it is a "zero-sum paradigm": the other two traits are necessarily tampered with. This has far-reaching consequences for welfare.[62] Thus it is no surprise that chickens, being bred for excessive growth, suffer from a "weak physiological structure"[63] and the plethora of problems described above.

Metabolically, they also suffer from several life-threatening conditions that stem from their bodies' demands for massive amounts of oxygen to fuel their over-paced metabolisms.[64] Their hearts are sometimes hard-pressed to meet their oxygen demands since their unnatural selection for large breast muscles appears to have caused a simultaneous shrinkage of heart size.[65] Congestive heart failure is a common problem for chickens. Pulmonary hypertension, known as "water belly," is one symptom:[66] Fluid backs up in the abdomen because the heart and lungs cannot sufficiently oxygenate the body. When this condition is present, chickens' overall growth outpaces their lung capacity, making their pulmonary vascular capacity only "marginally adequate."[67] Slowing down their growth is the key to avoiding this condition.

Another result of chickens' struggles to oxygenate their bodies is "Green Muscle Disease," a condition where the breast muscles hemorrhage and may even die and atrophy inside the body, turning purple, green or brown. The underlying cause is the breast muscles growing so large that they have no further room to expand in the breast cavity when even the simplest physical movement requires increased blood flow to that region.[68] A motion as simple as a bird flapping its wings can trigger this event. Green Muscle Disease was found to be increasing among chickens as of 2013 and can only be expected to further increase as it is tied to the selection of birds for breast muscles.[69] Called "a hidden problem" by the industry,[70] this growth-related disease was estimated in a recent study to be costing the industry $50 million every year in losses.[71] The discolored and slimy meat is not detectable from the outside, and so is not discovered until a chicken's carcass is cut open, often by a consumer.[72]

Photo credit: Bengt-Erik Norum, Three Birch Farm, U.S.

Sudden Death Syndrome is another result of inadequate blood and oxygen flow. It is a sudden form of heart failure in which the fastest-growing, largest birds suddenly drop dead with no forewarning. It can happen as early as the first week of life. As would be expected, slower growth rates decrease its prevalence.[73]

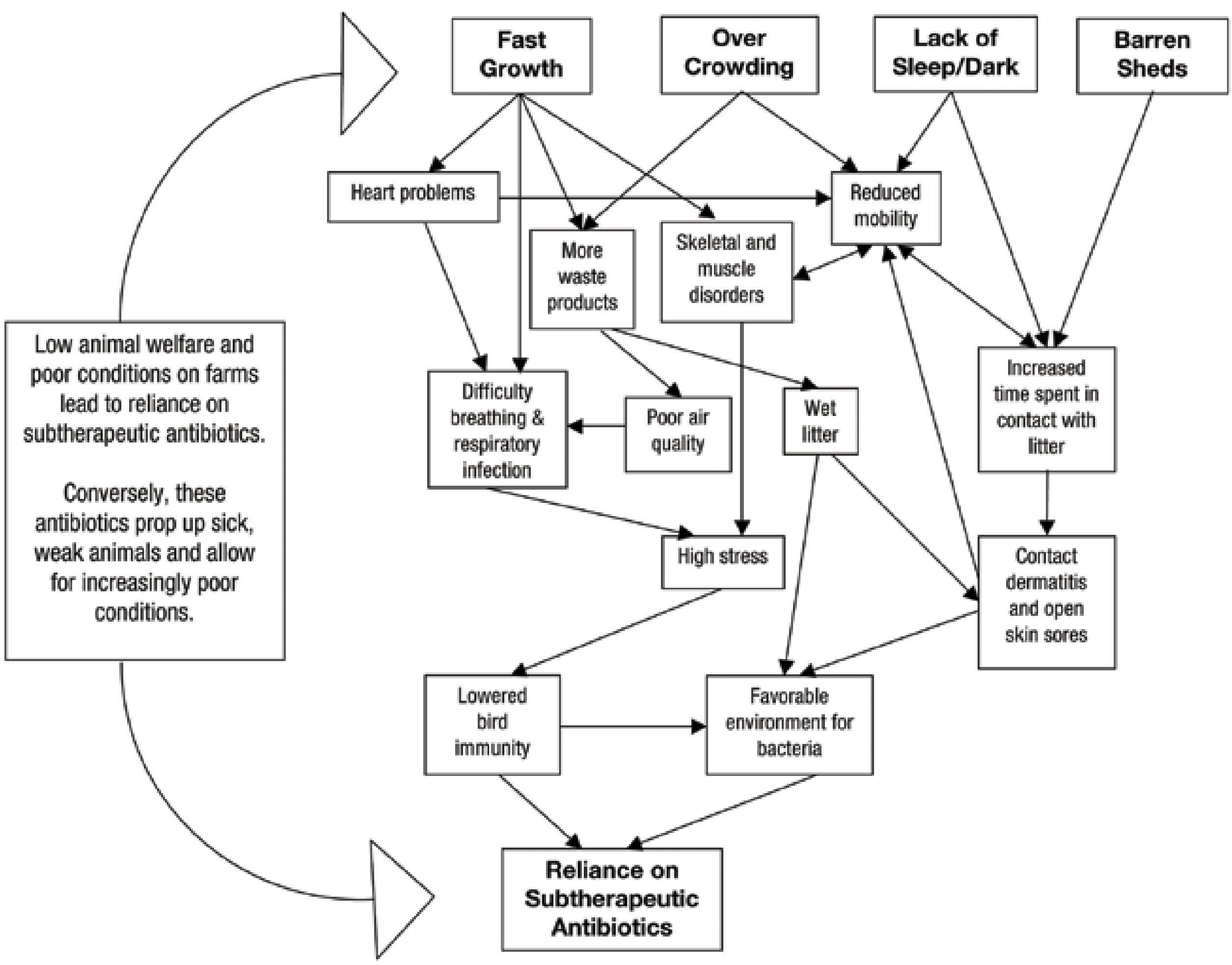
Addressing chickens' myriad welfare problems ultimately requires changes to the current practice of selective breeding for fast growth, massive body size and disproportionate body shape. Even small movements on the growth spectrum can make a significant difference for birds' health and welfare, not just for the chickens that are eaten but also for their parents used for breeding.

INTERACTION BETWEEN GROWTH AND LIVING CONDITIONS

The negative impacts of chickens' unbridled growth are exacerbated by the poor conditions they usually live in: cramped, barren sheds that limit their ability to move; lighting that keeps them awake enough to eat continuously and food that is designed for fast weight gain. Virtually nothing about chickens' life on a factory farm resembles a chicken's existence fifty years ago.[74]

The size of the average chicken production operation has blown up since the 1940s: by 2006 the average farm produced 605,000 chickens[75] with one shed holding at least 20,000 birds.[76] Today average sheds hold closer to 40,000 chickens.[77] The goal is to minimize inputs (food, utilities and so forth) while maximizing and standardizing the "output." Factory farms feature high stocking densities, artificial lights kept on nearly all day and night, no outdoor access and no indoor enrichments. These elements, combined with a specifically formulated diet laced with antibiotics, promote fast growth and extreme body weight.

Chickens need much more space than is generally offered on typical factory farms. As they grow, it is commonly the case that each chicken has less than one square foot of space.[78] This limits their ability



to exercise (important for maintaining strong legs). It also makes rest virtually impossible, increases their potential for overheating, to which they are susceptible,[79] and exposes them to extreme ammonia fumes, causing burns, sores, irritation and infections.[80] Other countries have set legal limits on stocking density[81] while U.S. producers largely follow the National Chicken Council's voluntary guidelines that allow for severe crowding.[82] In addition, crowding is a factor in the spread of disease, not only due to sheer congestion[83] but also because it can increase birds' stress levels, lowering their immune systems.[84]

Moreover, chickens have complex personal and social needs. Intelligent and socially oriented,[85] they are forced into flocks numbering in the tens of thousands—far too many to establish a stable social order,[86] creating stress and anxiety.[87] This is compounded by their lack of outlets for natural behavior. Healthy chickens enjoy a wide range of activities such as preening, running, flapping, scratching, jumping, dust bathing, pecking and stretching, but industrial chicken sheds offer few such opportunities.[88]

Slower-growing chickens with natural light and perching objects. Photo: David Pitman, Mary's Chickens, U.S.

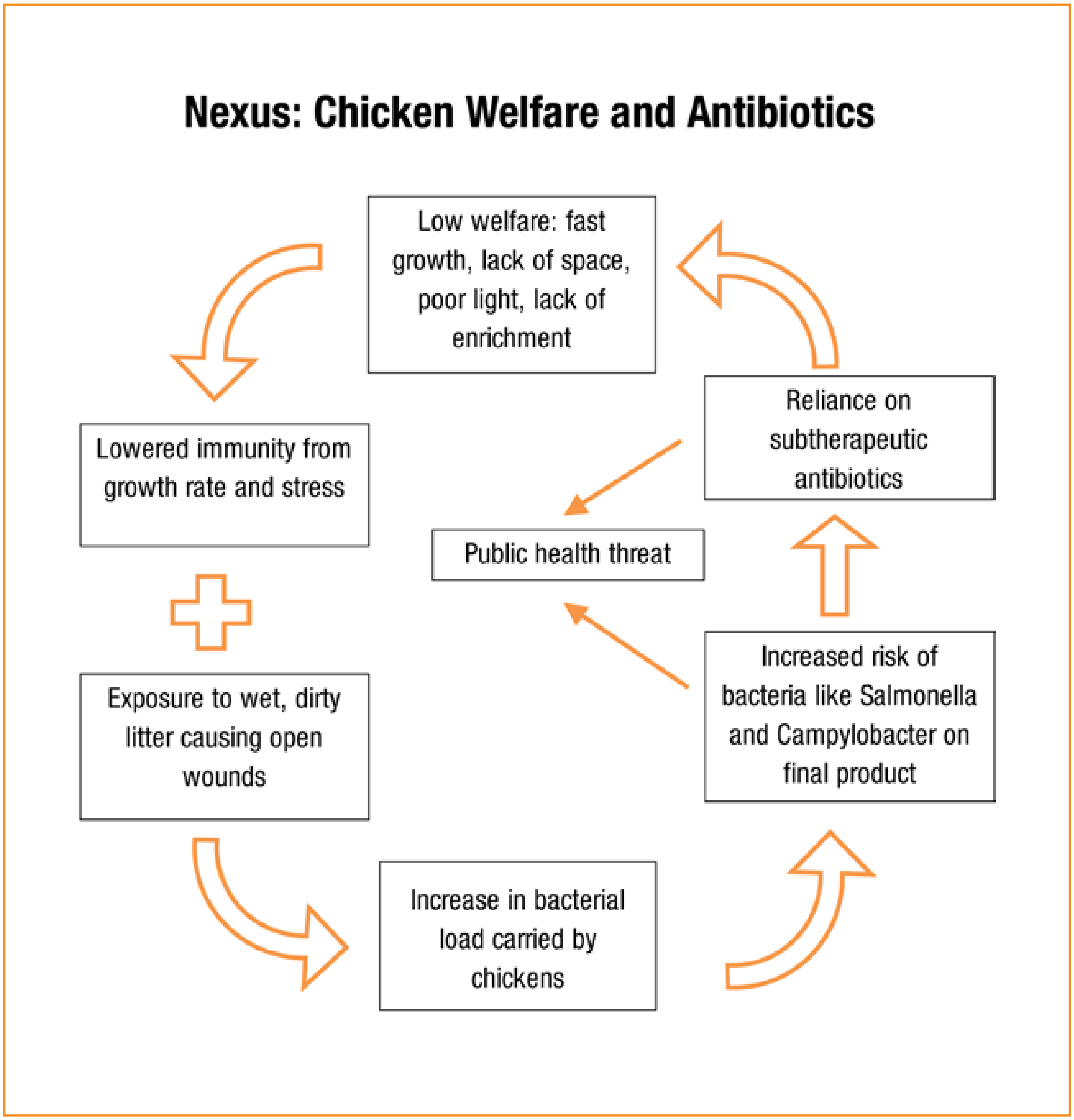
Finally, chickens need both natural light and a naturally timed cycle of light and darkness. For chickens, just as for people, darkness helps with sleep, which is essential for their overall well-being including mobility, disease rates and liveability.[89] However, many chicken farms keep their sheds lit for much of the day and night[90] to keep chickens awake so they will grow faster by eating more. This causes chronic sleep deprivation.[91] Chickens are stimulated by sunlight: those raised in natural light are more likely to be physically active.[92] This is key to helping them strengthen their muscles and express natural behaviors. Spending more time up on their feet improves chickens' walking ability, lowers the rate of burns they develop on their chests and legs from laying in their litter and lowers the moisture levels in their litter—likely because they aerate it as they move—which in turn limits skin sores.[93]

Human Health Concerns

Antibiotic Resistance

Conventionally raised chickens are fed low levels of antibiotics on a routine basis.[94] These "subtherapeutic" drugs are mixed with their feed, both to increase their growth and to help them endure stressful and unsanitary conditions.[95] The drugs help the birds stave off infections that could otherwise take over their already compromised bodies, though the birds still regularly carry dangerous pathogens.[96] Since chickens live packed into sheds by the tens of thousands, one infected bird can quickly become a flock of sick birds, so producers try to curb infections before they can take hold. Given that chickens raised for meat only live a few weeks, it speaks volumes that the chicken industry feels the need to go to these lengths to keep them alive for such a brief window of time.

A number of the drugs routinely fed to chickens are also given to humans.[97] In fact, some 80% of all U.S. antibiotics are purchased for use on farm animals.[98] Because these drugs are fed to chickens at very low but constant levels, they pose a significant risk for creating "superbugs": bacteria that become resistant to antibiotics as a result of low-dose exposure to these medicines.[99] With sufficiently low and constant exposure, bacteria have the opportunity to become familiar with a particular medicine and adapt themselves in such a way that they are no longer susceptible to it. This has occurred with various bacteria found on farms.[100] From there, the antibiotic-resistant bacteria can be passed from the animals to humans, thereby exposing people to potentially deadly and antibiotic-resistant infections.[101]



While antibiotics should indeed be used to treat sick animals, they are abused in modern chicken farming, creating potential health threats for both animals and people. Subtherapeutic antibiotic use allows the industry to perpetuate a vicious cycle: It can avoid providing birds with a proper level of cleanliness and care, and continue subjecting them to high levels of stress and physiological pressure—including already-reduced immunity as a result of their excessive growth[102]—by providing a crutch that helps keep otherwise unhealthy birds alive and even gaining weight. The surest way to successfully phase out these drugs is to slow the birds' growth so they are immunologically stronger, suffer from fewer burns and wounds, and experience less physical strain. In addition, keeping the facilities clean, and creating a less stressful environment by offering more space, natural light and environmental enrichments, will all help phase out the use of unnecessary antibiotics on farms.

Diseases

There are indications that chickens' genetics, as well as the stressful conditions in which they are forced to live, suppress their immune systems, leaving them more prone to infections.[103] It is not surprising that as birds lie with open wounds directly in their own waste, in which live bacteria is known to survive,[104] their sores can become "a gateway for bacteria which can cause… secondary infections (Staphylococci spp. and E. coli)"[105]—some of the most notoriously common foodborne pathogens that are often traced back to chicken farms.[106]

Photo credit: Hillside Animal Sanctuary

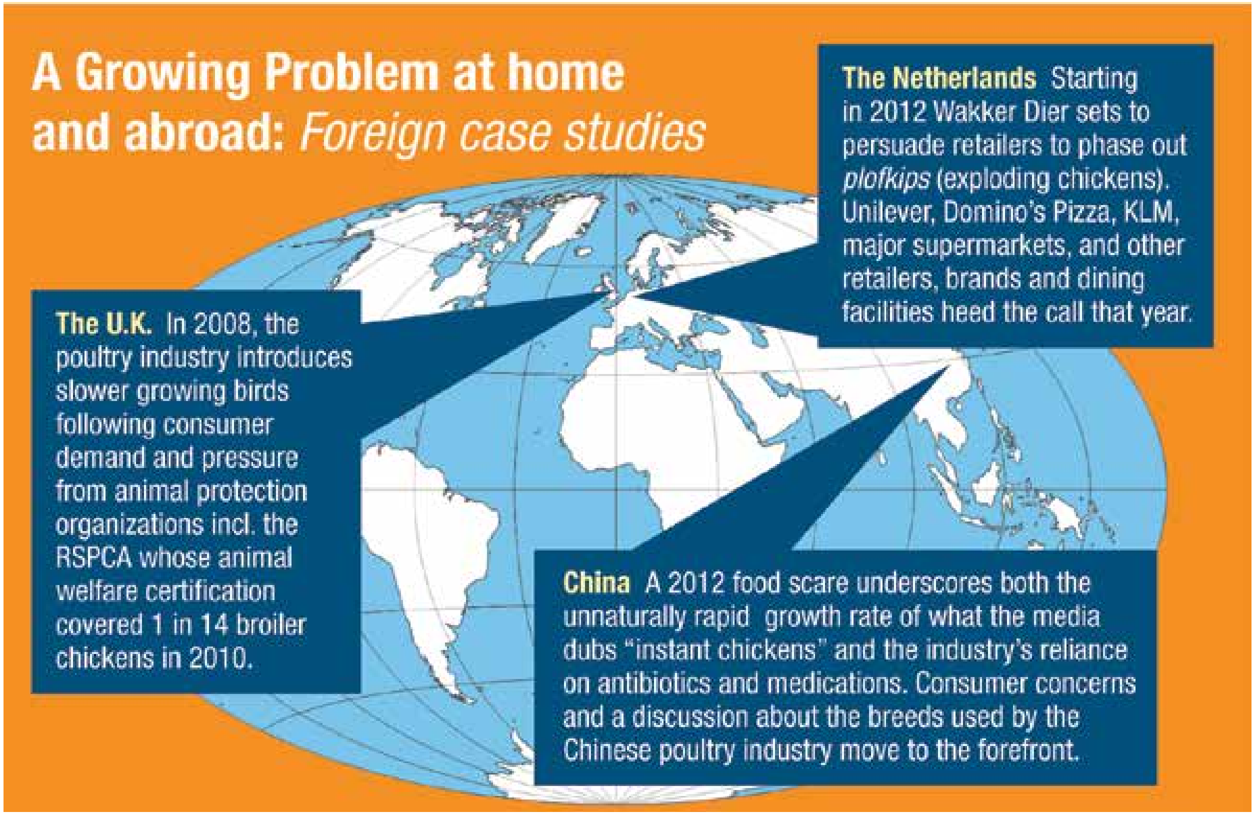
In 2012, the USDA condemned over eight million chickens for septicemia: a system-wide blood infection.[107] It is known that both Salmonella and Campylobacter—the two most common foodborne bacteria leading to illness in humans[108]—are common in chickens.[109] A 2013 zoonotic diseases report found these infections to be increased through intensive farming practices and further identified chickens' fast growth as a potential contributor to Campylobacter,[110] and a 2013 report declared chicken to be the riskiest type of meat for consumers alongside ground beef.[111]

Bacteria are passed to humans in various ways including through workers who come into contact with animals on-farm or with their waste, through workers at slaughter plants who handle infected animals, and through infected meat which may be handled improperly or cooked inadequately to kill bacteria.[112]

Chickens' low immunity in factory farm settings makes them susceptible to viruses as well:[113] the world has seen various outbreaks of "bird flu" in commercial chicken flocks[114] and a new strain has now been discovered, with the first cases of human infection detected in the last decade.[115] The United Nations' Food and Agriculture Organization continues to view bird flu as a serious threat to human safety,[116] and the spread of poultry diseases in general is a growing concern to the U.S. government, as reported by the U.S. Department of Agriculture.[117]

A closer look needs to be taken at the role of both viruses and bacteria in modern chicken farming and the extent to which these may be putting humans at risk.

MOVING TO SLOWER GROWTH



When it comes to modern chicken production, bigger and faster is not better. Raising chickens to be huge and misshapen and crowding them into sheds with ammonia-laden air and wet litter means billions of miserable, suffering birds who can barely hold themselves up. Many spend much of their lives lying in their own waste, creating open wounds that act as gateways for bacteria like Salmonella and Campylobacter, potentially putting consumers' health at risk. This in turn spurs on the routine use of preventative antibiotics, which can cause dangerous drug resistance in human beings. We must break this vicious cycle.

Meaningful reform begins with tackling the most fundamental welfare problem. This means moving to birds with better breeding for slower growth. Until we do this, no amount of improvement to chickens' living conditions alone will get to the root of our problems. There are many slower growing breeds of bird available that can be phased in to the market, creating a ripe opportunity for industry to cater to growing public demand for better welfare.

The switch to slower-growing birds must be accompanied by better conditions that will improve welfare in their own right as well as support the slower-growing, more active birds. These improvements—including more space, environmental enrichments and better lighting—can be implemented relatively simply in chicken sheds across the country. Because each change in conditions interacts with the others in important ways,[118] they should ideally all be adopted together as a package.

Chickens produced for food simply cannot be treated like widgets. There is a point at which "efficiency" backfires, and we have long since reached that point. Following the recommendations in this paper will allow the chicken industry to begin on the path to better animal welfare, a value becoming increasingly important to Americans. Taking these important steps is better for chickens and better for us.

Photos: Left, Wakker Dier. Right, RSPCA

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