'ON-THE-BIT': A misleading and mischievous phrase¹

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Abstract

The vernacular phrase 'on the bit' is an inaccurate version of the phrase 'acceptance of the bridle' and this, in turn, is convenient shorthand for a 96-word description in the FEI "Rules for Dressage Events" that describes the sixth dressage objective - briefly - a performance devoid of evasion or resistance. Unfortunately, constant use of the vernacular phrase has led us to forget what this really stands for. It has fixed in rider's minds and even the minds of those riders who are members of national federation committees, the assumption that the bit is something without which dressage cannot be performed. It shifts the emphasis in the art of riding to the bit end of the rein-aid rather than the opposite end. the rider's hand.

The FEI's more succinct definition of 'on the bit' is "The acceptance of the bridle, with submissiveness throughout and without any tension or resistance." If this definition was remembered and the misleading phrase 'on the bit' was discarded in favor of 'acceptance of the bridle,' a purely semantic hurdle to welfare reform and rule change proposals would be swept away.

The phrase 'on the bit' was introduced in 1921 as the result of a mistranslation of the French phrase 'dans la main.' Its misinterpretation since then has encouraged riders to use the bit incorrectly to obtain false collection and become an obstacle to much-needed welfare reform of FEI and national federation rules.

In the last decade, the bit has been recognized as the cause of over 200 items of negative behavior in the ridden and driven horse, and 40 different diseases. If horsemen were permitted the option in FEI sponsored competitions of using a crossunder bitless bridle, the safety and welfare of horse and horseman would be enhanced, together with their happiness.

Because of the advance in equine welfare and safety that the crossunder bitless bridle has permitted since its introduction ten years ago, the FEI are no longer in compliance with any of the 12 items in their own Code of Conduct. National federations are urged to approve this option without delay.

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Introduction

The phrase 'on the bit' is misinterpreted by many dressage enthusiasts who compete under Federation Equestre Internationale (FEI) rules. As a result, they use the bit to achieve a certain frame and fail to realize that this is not collection. Many FEI judges and even FEI and national federation committee members also misinterpret the phrase. They assume that it requires the physical presence of a bit, rather than the defined behavior that the phrase describes. As a result, when proposals are advanced for a rule change to permit the crossunder bitless bridle for dressage, the proposal is denied. As the preferred behavior is obtained more humanely without a bit, this is a paradoxical situation (Fig 1). It results in the FEI and national federations being locked into a mind-set in which they are unwilling to consider permitting a more humane option to their current mandatory requirement of one or more bits and a chain.

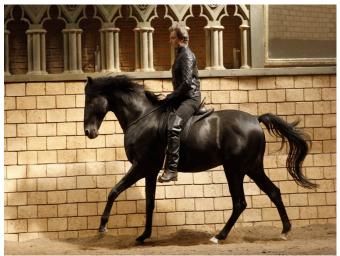


Fig. 1. Alexander Nevzorov and a bridleless young horse "on the bit" (photo courtesy Lydia Nevzorova)

The History of "On the Bit"

In the article already cited, Dr. Max Gahwyler and Bettina Drummond point out that the phrase "on the bit" is of very recent origin. It only dates back to 1921 when the FEI was formed and the first rulebook, in French, was compiled. The phrase is a misinterpretation of the French expression, "dans la main" which would have been better translated as "on the aids." As the authors remark, "No matter how hard you look, even going back to the 15th and 16th century, you do not find any expression equivalent to "On the bit."

This unfortunate phrase has encouraged riders and judges to focus on the forehand, when the focus should be on the hindquarters. It is refreshing to be reminded by Gahwyler that, in the 17th century, a master horsemen such as Galliberti started all his horses in a cavesson or hackamore. He did not even use

a snaffle until his horses were 'made.' Significantly, he rode his horses entirely from seat and leg.

Gawhyler and Drummond propose a much better translation of the original French for Article 410.6 when they suggest," *The horse in all its work, even at the halt, remains obediently under the influence of the rider's aids ...*" As they say, "this would be much closer to the true French meaning and removes the fixation to the hands, the bit and the front of the horse, and leads to a more integrated approach of <u>all the aids</u> ...[emphasis added]." They recommend that the phrase "On the bit' should be banished and I agree. There are so many alternatives, all of which convey the required meaning so much better ... terms such as "Acceptance of the Aids," "On the Aids," "Throughness," "Connection," "Lightness," "Self-Carriage," "Relaxation," "Balance' and "Engagement." The FEI's own term, 'acceptance of the bridle' is better than 'on the bit.'

Definition of "On the bit."

The FEI's defines the phrase correctly as a certain position of the horse's head and, more importantly, as a certain attitude of mind on the part of the horse (Article 401.6). In the last decade, many dressage riders have rediscovered something that was well understood in the 17th century, that the much sought after attitude and desired position of the head (and the rest of the body too) is not dependent on a bit. On the contrary, they have recognized that the bit constitutes an impediment to achieving these objectives.

Article 401.6 of the 22nd edition of the FEI 'Rules for Dressage Events' describes and defines the sixth dressage objective as follows:

"In all the work, even at the halt, the horse must be "on the bit." A horse is said to be "on the bit" when the neck is more or less raised and arched according to the stage of training and the extension or collection of the pace, accepting the bridle [emphasis added] with a light soft contact and submissiveness throughout. The head should remain in a steady position, as a rule slightly in front of the vertical, with a supple poll as the highest point of the neck, and no resistance should be offered to the rider."

The above definition refers to acceptance of the bridle, not the bit.³ But the horseman's vernacular has resulted in usage of the shorter but ambiguous phrase 'on the bit.' The vernacular has become the familiar name of the objective but it is not a good précis of the objective. From a physiological and behavioral viewpoint, I believe that when a horse is free of resistance it is

³ If 'acceptance of the bit' were the intention there would be an internal contradiction in the objective. When a potentially painful rod of metal is inserted into a horse's sensitive mouth and manipulated from several feet away by the average rider it would be unreasonable to expect that such a horse should remain submissive, calm, relaxed and non-resistant.

accepting the bridle (not just resigned to it) because rein tension is minimal and it is not in pain.

A more accurate name for the objective would be 'on the aids.' The plural form is chosen deliberately as we are speaking of all three aids. In order of importance, 'seat' is the foremost aid, 'legs' next, and 'hands' least of all. If the phrase 'on the aids' was adopted, the objective - which is to obtain collection, throughness and impulsion - would not be overlooked and it would free the objective from being falsely tied to the bit.

But as 'acceptance of the bridle' is a term already embedded in the FEI Rules for Dressage Events (Article 401.2), let's work with it and acknowledge that it is this phrase that should be emphasized and quoted when rule changes are discussed rather than the vernacular and misleading phrase 'on the bit. Let's reconsider it by backtracking to the start at Article 401.1, the first sentence of which should be emblazoned over the door of every dressage barn:

"The object of dressage is the development of the horse into a happy athlete through harmonious education. As a result, it makes the horse calm, supple, loose and flexible, but also confident, attentive and keen, thus achieving perfect understanding with his rider. These qualities are revealed by:"

... and now I quote Article 401.2:

"The freedom and regularity of the paces.

- The harmony, lightness and ease of movements.
- The lightness of the forehand and the engagement of the hindquarters, originating from a lively impulsion.
- The <u>acceptance of the bridle</u>, [emphasis added] with submissiveness throughout and without any tension or resistance."

Please note that the last 'bullet' is a 14-word précis of the 96-word definition of 'on the bit.'

Lack of understanding leads to incorrect actions

1. Lack of understanding by riders:

The mistaken interpretation of "on the bit" is in the nature of a Freudian slip. Riders are tempted by it to take a training short-cut in the belief that collection can be achieved by traction on the bit. Yet every good horseman recognizes that correct head position ('collection') comes from years of fitness training and that the primary aids with which to signal for collection are 'seat' and 'legs,' rather than 'hands.' Acceptance of the idea that collection can be achieved with the bit leads to false collection. In this situation, the horse's poll may be flexed but he is not collected and neither is he a happy athlete, free of tension and resistance. As a result of too much 'hand' and not enough 'seat' and 'leg' the horse is being 'pulled together.' The rider is using the ability of the bit to cause pain or the threat of pain to produce a superficial facsimile of collection that should deceive

no one, least of all a judge. The horse will be on the forehand and, contrary to the general principles of dressage, will be unhappy, tense, resistant, nervous and in conflict with his rider. Evasion, In its most extreme form, results in the regrettable practice of overbending or "Rollkur" (Cook 2007e).

The phrase "on the bit" is used 14 times in Chapter 1 of the 'Rules for Dressage Events.' No wonder that, in the English-speaking dressage world, so much misdirected attention is paid to the bit as a method of communication. The translator of the original FEI rules from French to English seems to have recognized the vernacular nature of the phrase because, on every occasion, it is fenced about with apologetic quotation marks. He, or she, probably recognized that the phrase "on the bit" was not a literal or even an accurate translation of the original French idiom, 'dans la main' (literally, 'in the hand') which is more appropriately translated as 'on the aids.' (Gahwyler & Drummond 2002). It is significant that, on those four occasions in which the translator used the more accurate phrase 'acceptance of the bridle' or the phrase 'accepting the bridle,' no quotation marks were used.

In 2003, in her excellent newsletter at www.horse-sense.org , Dr. Jessica Jahiel wrote the following paragraph as part of her answer to a question from a reader about the use of a mechanical hackamore. I quote the paragraph as it further amplifies a common misunderstanding of the phrase 'on the bit.' The reader was concerned that she might be causing her horse harm with a hackamore and wrote 'I always try to keep a soft contact and don't ask him to go on the bit.' Jahiel replied:

"Don't worry about "on the bit" - I suspect you've misunderstood what it means, anyway. Think about "on the aids" instead! It's a better and more accurate phrase. Both phrases are about balance and communication meaning that you are in constant gentle communication with the horse, and he with you, so that you have a calm riding dialogue. "On the bit" in dressage terms refers to a particular carriage of head and neck that the horse develops AS A RESULT of long-term progressive correct training; it can come ONLY from such training, and is not something that can be attained in any other way. People tend to look at a horse that is "on the bit" and try to duplicate the only thing they can SEE - the head and neck position - but they shouldn't try. It doesn't work because it can't work. "On the bit" is not a frozen position, it's a live communication that is not just the result of a process and style of training, but is part of the training itself. You and your horse are just at the very beginning of this training. Keep him comfortable, happy, and able and willing to respond to your quiet signals quickly and cheerfully - and you'll have a horse that is truly "on the aids", listening to your legs and seat and balance and breathing, not just to vour hands."

2. Lack of understanding by committee members

A failure to understand the true meaning of the phrase 'on the bit' and the scientific evidence about the harmful effects of the bit (Cook and Strasser 2003, Cook and Mills 2009) becomes an obstacle to welfare reform, a barrier to improved safety, and a denial of a rider's right to the pursuit of happiness.

Above and Behind the Bit

Further elucidation of the phrase 'on the bit' occurs in Article 416.2:

"Submission does not mean subordination, but an obedience revealing its presence by a constant attention, willingness and confidence in the whole behaviour of the horse as well as by harmony, lightness, and ease it is displaying in the execution of the different movements.

The degree of submission is also manifested by the way the horse <u>accepts the bridle</u> [emphasis added], with a light and soft contact and supple poll, or with resistance to or evasion of the rider's hand, being either "above the bit" or "behind the bit" respectively."

Once again, a vernacular phrase that emphasizes the bit is used to describe two positions of the head, both of which on this occasion are unacceptable positions. Resistance is here defined as a horse moving or tossing his head upwards (above the vertical). Resistance should also be recognized as existing, though it is often overlooked by judges, when bit pressure is needed to prevent him doing this - as when a horse is 'pulled together' into the desired frame (Fig.2). Evasion is here defined as bit pressure causing him to lower his head, bend his neck and bring his chin closer to his chest (behind the vertical). This ducking of the head used to be known as boring (Self 1946). Though the term is seldom used today, the evasion is more common than ever (Fig. 3). Sadly, dressage judges do not always penalize riders whose horses exhibit these behaviors. Yet the FEI 'Rules for Dressage Events' clearly indicates that they should, both during the test and the warm-up.

The logical way for riders to avoid such resistance and evasion is to remove the cause, i.e., to remove the bit. In this way, the 'Object and general principles' of dressage (Article 401) can be achieved. Recognition needs to be given to the physiological fact that, regardless of how mature a horse is, how much training he has had, and how fit the rider (all factors of importance), no horse that is in pain can be a happy athlete, calm, collected, supple, loose and flexible. But by removing the bit, one removes a prime source of pain (Cook 2009). By so doing, a major source of rider/horse discord can be banished, the horse is more likely to

become a happy athlete and riders have a far better chance of experiencing the harmony of 'heaven on horseback.'



Fig. 2. Resistance ("above the bit") Photo courtesy Lydia Nevzorova



Fig. 3. Evasion ("behind the bit") Photo courtesy of 'Horses For Life'

It is quite difficult, without the pain of a bit, for a rider to train a horse to go "above" or 'behind' the bit, as this is an unnatural position of the head at exercise. It is relatively easy to train a bitless horse to go "on' the bit (Fig 1) as this is a natural position. It is exactly where the horse will choose to place his head when he is perfectly fit, balanced and accommodated to the weight of a rider on his spine, i.e., when he is collected and in self-carriage.

FEI Rules should enhance welfare

Removal of the cause is also required in order to achieve the objectives stated in Article 416.2.1. "Putting out the tongue, keeping it above the bit or drawing it up altogether, as well as grinding the teeth and swishing the tail are mostly signs of nervousness, tenseness or resistance on the part of the horse and must be taken into account by the judges in their marks for the movement concerned as well as in the collective mark for "submission"

The presence of a bit in a horse's mouth is the <u>most common</u> cause of a horse lolling its tongue (Cook 2009). It is the <u>only</u> cause of a horse defending itself from the bit by placing the bit under its tongue or by retracting the tongue so that the tip lies behind the bit. The bit is also by far the most common cause of a horse grinding its teeth, tail swishing, nervousness, tension and resistance. Bits frighten horses and are the most potent cause of a horse becoming unhappy, excitable, 'highly strung,' apprehensive, spooky and generally unmanageable. I

have documented over 200 clinical signs of negative behavior caused by the bit (Cook 2009, Cook 2007d. See also the behavioral profile questionnaire at www.bitlessbridle.co/FOTB-Q.pdf). I use the term 'negative behavior' for convenience but it should be remembered that these unwanted behaviors from the rider's point of view, are perfectly normal behavioral responses from the horse's point of view. Inconvenient though they may be to the rider (and even life-threatening), they are a horse's healthy neurological responses to pain and fear. In the wild, such responses enhance survival but, for example, when the domesticated horse bolts in a man-made environment replete with unnatural hazards such as walls, wire, concrete and traffic, the opposite is true. The flee response - exacerbated by intensification of the oral pain that may have caused the horse to run in the first instance - can lead to panic and the death of both horse and rider. Removal of the bit, on the other hand, promotes calmness and that 'constant attentiveness,' 'willingness' and freedom from 'the paralyzing effects of resistance' that are referred to in the general principles of dressage.

By mandating one or more bits and a chain for dressage, the FEI are causing horses unnecessary and avoidable pain. By penalizing riders whose horses exhibit negative behaviors caused by mandated equipment, the FEI are adding insult to injury. A humane, safe and effective alternative to the bit, the crossunder bitless bridle, has been available for the past decade. During this time it has been thoroughly field-tested by riders of all ages and experience, on horses of all breeds and temperaments, in most disciplines and under a wide set of circumstances in many different countries.

Because of the advance in horse welfare and rider safety that the crossunder bitless bridle makes available, the FEI are no longer in compliance with their own Code of Conduct, let alone the laws of many countries on cruelty to animals. Cruelty is defined as the infliction of avoidable pain and suffering. Because the pain and fear of a bit is now avoidable, riders who continue to use bits are now vulnerable to a charge of cruelty. An interesting point of law arises as to whether the FEI or any national federation that mandates the use of a cruel device could also be indicted.

The Non-Compliance of the FEI with its own Code of Conduct

The items in italics below are taken verbatim from the long version of the FEI Code of Conduct. Each item is followed by an explanation of its non-compliance.

- "...the welfare of the horse is paramount." Sadly, the FEI have not yet shown any readiness to take advantage of the indisputable welfare advance that the crossunder bitless bridle makes available.
- "Good horse management... must not compromise welfare." The bit causes over two hundred signs of compromised welfare, mostly caused by pain and fear (Cook 2007, Cook 2009).

- "Any practices which could cause physical and mental suffering, in or out of competition, will not be tolerated." The bit has been shown to be a prime cause of mental and physical suffering (Cook & Strasser 2003, Cook 2009) and yet the FEI are tolerating this with equanimity.
- "[Horses] must not be subjected to any training methods which are abusive or cause fear ..." Article 143 of the General Regulations (22nd edition, 2007) defines "Abuse" as "an action or omission which causes or is likely to cause pain or unnecessary discomfort to a Horse..." The evidence explaining the abusive effects of bitted bridles was published five years ago (Cook & Strasser 2003) and the evidence relating to the inhumanity of overbending (Rollkur) with the bit was published more recently (Cook 2007e) yet the FEI continues to endorse overbending and to mandate the use of the bit.
- "Tack must be designed and fitted to avoid the risk of injury." A list has been published of 40 different diseases caused by the bit (Cook 2007c). Bit-induced bone spurs on the bars of the mouth, for example, are present in over 75% of museum specimens examined (Cook 2007b). Severe bit-induced erosion of the first cheek tooth in the lower jaw is also a common finding in the same specimens (Cook 2007b).
- "Participation in competition must be restricted to fit horses ..." The bit is incompatible with the physiology of exercise (Cook 1999). A bitted horse is a handicapped horse and, by definition, unfit.
- "No horse showing symptoms of disease ... or ailment.... should compete ..." Bit-induced negative behavioral signs are commonplace and each is a sign of disease or ailment, mostly associated with pain and fear.
- "Any surgical procedures that threaten a competing horse's welfare or the safety of other horses and/or competitors must not be allowed." The word 'surgery' is derived from a Greek word with the literal meaning 'a working with the hands.' Indisputably, the bit which invades and applies pressure to a sensitive body cavity is 'a working with the hands.' It is undeniable that bitting a horse is a surgical procedure, albeit carried out on the fully conscious and mobile patient, largely by riders with no medical qualifications (Cook 2008b). At best, it is a lip retractor but at worst it is a cutting instrument that damages both hard and soft tissues. It is also a device that obstructs respiration and interferes with locomotion. Finally, it is too often an instrument of torture, causing pain and fear. Undoubtedly, a bit threatens a horse's welfare and endangers the safety of other horses and competitors.

- "Abuse of a horse using natural riding aids or artificial aids ... will not be tolerated." See above ... use of the abusive bit is mandated.
- "The incidence of injuries sustained in competitions should be monitored."
 Many accidents are caused by the bit, some of them fatal to horse and rider. Yet currently these are not acknowledged by the FEI and are not monitored. Injuries to the mouth and teeth have been documented but, to date, have resulted in no action (Cook 2007b, Cook 2009)
- "The FEI urges all those involved in equestrian sport to attain the highest possible levels of education in their areas of expertise relevant to the care and management of the competition horse." Many riders have educated themselves and now recognize the dangers of using a bit. Yet they receive no support from the FEI when they submit proposals to permit the use of a safer and more humane method of communication.
- "This Code of Conduct for the Welfare of the Horse may be modified from time to time and the views of all are welcomed. Particular attention will be paid to new research findings and the FEI encourages further funding and support for welfare studies." My experience when presenting research findings on the bit to the FEI is one of unacceptable delays in response to letters and an absence of any constructive action. On the other hand, blocking action has been taken with alacrity. In the early days of the crossunder bitless bridle, as there was nothing in the FEI rules that required reins to be actually connected with the bit, I recommended that dressage competitors should hang a dummy bit from their bitless bridle. Action was quickly taken to outlaw such a strategy.

Communication with the FEI

My own experience of this has been disappointing. After corresponding with the General Secretary over a period of two years, no comments were given me on the evidence I submitted (Cook 2006). The FEI declined to take any action and advised me that this was a matter for the national federations. But national federations, when approached, reply that they take their lead from the FEI. As the FEI fail to provide any such leadership, this produces a vicious circle and an administrative impasse. Each organization 'passes the buck' to avoid dealing with the issue. Neither the FEI, nor any national federation to date, has ever tried to refute the scientific evidence in support of permitting the crossunder bitless bridle for dressage. The only argument ever advanced is one based on tradition. But as I have said, tradition should not be invoked to prevent an advance in welfare (Cook 2007a).

My correspondence with the FEI has been published (see April issue, 2007 of 'Horsesforlife.com) and also online (Cook 20007f), so here below is an example of a response from a national federation. After considerable effort had been

invested by a rider in proposing a rule change to the British Horse Society, the following reply was eventually received from David Holmes who, at the time, was the British Dressage Chief Executive.

Dear Sheila

I saw the correspondence on this issue and suggested to Ruth [the British Dressage, Sport and Technical Officer] that I respond on her behalf.

The reason that we do not allow bitless bridles is because the FEI do not. We are trying to mirror more and more what the FEI do, as are the other disciplines.

In the area of bitting we have always followed the FEI lead.

I am sorry that I cannot be more expansive in terms of a justification - but as you see there is no need I feel.

Regards

David

Who is in Charge?

As exemplified above, the national federations defer to the FEI over rules and regulations, stating that they wish to be in accordance with the FEI. Yet the FEI cannot dictate rule changes to national federations and, much as it would be appropriate for the FEI to at least give a lead to the national federations over rule change proposals they don't do this. So it is the national federations that have the sovereign right and responsibility for making changes in their own countries and, in due course, for recommending these changes to the FEI for international competitions.

Conclusion and Recommendations

The phrase "on the bit' does not merit its sacred status. Because of the ambiguities and misunderstandings that it has fostered, it would be better to discontinue its use altogether. By banishing the phrase a purely semantic obstacle to reform would be removed. The FEI and national federations would be free to consider the evidence for permitting a more humane option to a Bronze Age instrument. But rather than wait for the FEI rules to be edited and the offending phrase replaced, the reform could be introduced immediately if only national federation committee members would think in terms of "on the aids." By so doing, they could claim credit for introducing a reform that, in the future, will rank as one of the most important contributions ever made to the welfare of the horse. In addition, they will be thanked by riders who can now achieve true

harmony with their happy horse. Litigation will be avoided, accidents reduced, safety enhanced and the pleasure of riding returned.⁴

References and further reading

Most of the author's articles are available online at www.bitlessbridle.com

Cook, W.R (1999).: Pathophysiology of Bit Control in the Horse. *Journal Equine Veterinary Science* 19: 196-204

Cook, W.R (2002).: Bit-induced asphyxia in the horse: Elevation and dorsal displacement of the soft palate at exercise. *Journal of Equine Veterinary Science*, 22, 7-14, Cook, W.R (2003).: Bit-Induced Pain; a cause of fear, flight, fight and facial neuralgia in the horse. *Pferdeheilkunde*, 19, 1-8

Cook, W.R (2006): 'Traditional (pain-based) bitless bridles. Available online at www.aebm.org.au

Cook, W.R (2007a).: Tradition and the Status-Quo or Science and Advance?" *Veterinary Times*, 29th January 2007, p16-18

Cook, W.R (2007b).: "Bit-Induced Fear Part 1; From Human Hand to Horse's Head. *Veterinary Times*. April 9, 2007, p 18-23.

Cook, W.R (2007c).: "Bit-Induced Fear Part 2: Bits and Diseases They can Cause." *Veterinary Times*. April 30 2007. Vol 37, No. 15, pp 22,23,25

Cook, W.R (2007d). "Bit-Induced Fear Part 3, Use of the Bit and Bad Behaviour. *Veterinary Times*. May 28, 2007.

Cook, W.R (2007e) "Why is Rollkur Wrong.' A 51 page monograph published in the February 2007 issue of "Horses For Life. Available online at www.horsesforlife.com"

Cook, W.R. (2007f) "The FEI and the bitless bridle: Correspondence about a rule change proposal. Available online at www.bitlessbridle.com/FEI%20Proposal.pdf

Cook, W.R (2008a): "Metal, Myth and Equine Misery." Animal Welfare Science, Ethics and Law Veterinary Association Journal, *In Press* January 2008

Cook, W.R. (2008b): "Do-it-yourself surgery on the horse in motion." Published online at www.bitlessbridle.com

Cook, W.R. (2009) "Prevention of Accidents to Riders Caused by Tack; Feel it, log it, fix it." Published online at http://www.bitlessbridle.com/cat/Articles.html

Cook, W.R. and Strasser, H (2003) "Metal in the Mouth: The Abusive Effects of Bitted Bridles." Sabine Kells, Qualicum Beach, BC Canada, 2003

Cook, W.R, Strasser, H, and De Beukelaer, E.R.J.M. (2007) "Compliance with physiology as the foundation for animal welfare guidelines: Exemplified by the rehabilitation of the horse's foot & mouth." Proceedings of the University Federation of Animal Welfare/British Veterinary Association Ethics Committee International Symposium "Quality of Life: The Heart of the Matter." Royal Society, London, UK Abstract published in *Animal Welfare* 2007 16(S) 166-167

Gahwyler M and Drummond B (2002): The Definition of "On the Bit." Eclectic Horseman magazine #6

Self, M.C (1946): The Horseman's Encyclopedia. A.S.Barnes and Company, New York

⁴ Insurance companies in Germany now offer a 10% discount on premiums for bitless riders