

Stable  
Management

VOLUME 23

# EXTRA

SMART  
STORAGE  
AROUND  
THE BARN



*Brought to you by:*



Boehringer  
Ingelheim

# Helping every horse escape the shadows of joint disease.

FREE TO MOVE is more than just a comprehensive joint health portfolio from Boehringer Ingelheim. It's how we want every horse to feel.

From elite athletes to backyard companions, when sidelined by joint disease, that horse lives in the shadows of its former self. It's painful for them, and heartbreaking for you.

As an industry leader in joint health, we go beyond providing a trusted lineup of flexible solutions. We offer education and support, so you can understand the ins and outs of joint health and feel confident your horse is receiving the best care.

Learn more about our joint health solutions at  
[THEARTOFHORSE.COM](http://THEARTOFHORSE.COM)



**EQUIOXX IMPORTANT SAFETY INFORMATION:** As a class, non-steroidal anti inflammatory drugs may be associated with gastrointestinal, hepatic and renal toxicity. Use with other NSAIDs, corticosteroids or nephrotoxic medication should be avoided.

**LEGEND IMPORTANT SAFETY INFORMATION:** The following adverse reactions have been reported following intravenous injection: occasional depression, lethargy, and fever. Following intra-articular injection: lameness, joint effusion, joint or injection site swelling, and joint pain.

**HYALOVET and HYVISC IMPORTANT SAFETY INFORMATION:** A mild inflammatory response may occur post injection. For intra-articular injection in horses only. Do not use in horses intended for food. Caution: Federal law restricts this drug to use by or on the order of a licensed veterinarian.

**SURPASS IMPORTANT SAFETY INFORMATION:** SURPASS topical cream is only approved for use in horses and has not been evaluated in breeding, pregnant, or lactating horses, or in horses under 1 year of age. Do not exceed the recommended dose.



Store maintenance items—manure forks, rakes, shovels, wheelbarrows, etc.—in a closet or empty stall area where horses or humans can't knock them over.

# Smart Storage

## Keep horses and humans safe by storing your supplies and equipment properly

Diane Rice

The cycle repeats itself every year: Spring turns to summer, summer to fall, and, before you know it, winter arrives, then spring again. Have your supplies been sitting on the same shelf (or in the horse trailer or truck glove compartment), exposed to light and temperature fluctuations all that time? Are your feeds, supplements, medications, and other necessities stored safely and securely so they are inaccessible to horses, pets, and children but also in optimal environments to preserve their quality or condition?

Light and heat are the enemies of feeds, medications, and other supplies. And cold can turn a tin of soft and squishy ointment into a rock-hard solid block in the winter.

Read on to learn what our experts—Christine Skelly, PhD, extension specialist at Michigan State University and director of MSU's My Horse University; and Tommy Hays, DVM, a partner at Elgin Veterinary Hospital, in Texas, and a founding member of the Texas Equine Veterinary Medical Association—recommend for safe, smart storage in your barn.

### Vitamins and Supplements

Store these items in a dark, cool, dry environment such as a cabinet in a temperature-controlled room, says Skelly. "Temperature and humidity control are important to keep the product from degrading over time; a refrigerator may be too humid, and a kitchen

area may get too hot."

The same goes for feed rooms that aren't climate-controlled; while it might be convenient to store supplements here, they could be exposed to high temperatures in the summer and/or light.

Also, keep them in their original packaging. "Packaging not only identifies the product but also provides protection from light exposure," Skelly says. It also contains the product's expiration date and administration instructions. Some supplements are preportioned into packages to allow for more storage options, which can be particularly helpful when traveling, she says. Their labels should include this information, as well.



GETTY IMAGES

**Stack your hay so it can't fall on you when you're pulling down bales from below.**

Don't leave feeds, supplements, drugs, or health supplies in a vehicle or trailer for long periods. "Unload as soon as you reach your destination," says Skelly. "Extreme temperatures can damage most equine-related health products."

Organizing and storing products properly can help you ensure each horse receives its veterinarian-recommended or prescribed supplements or medication(s) at the correct time and in the correct amount, she adds.

## Hay and Feeds

The storage guidelines for supplements also apply to hay and feeds: Keep them dry and as cool as possible. "Humidity is what's going to affect your feed quality," Skelly says, adding that the molasses in some feeds can mold and clump in extremely hot climates or turn into a solid block in cold climates.

If you don't have access to a climate-controlled feed room, Skelly recommends buying textured and added-fat feeds (which are prone to spoiling) in small quantities

that can be fed within two weeks during summer.

Light primarily affects the color of hay; oxidation is what affects vitamin content. "Whether it's stored in the dark or in the light, as soon as it's harvested from the field, it's going to start losing vitamin content, and by three to six months hay will lose most of its vitamin content," she says. "That's one of the reasons why, when we're developing rations for horses, we don't include the vitamin content from hay in our formulations. We just look at vitamin content outside the hay, from grains, ration balancers, and fresh forages."

When stacking hay—and differing opinions exist on methods, Skelly says—mind your safety. Be sure it's stacked so it can't fall on you when you're pulling down bales from below or that you don't fall through when you're on top of the stack throwing bales down.

"Ideally, the bottom layer will have good ventilation to discourage moisture," she says. "A lot of people use wooden pallets under the bottom bales to keep them off the floor. You can also just space out 1-by-4-inch or 2-by-4-inch boards to keep hay off the ground and dry."

And, she adds, avoid packing your bales too tightly together; stack the bottom bales on their cut sides to encourage air circulation, and organize stacks in alternating perpendicular crisscross patterns that are supported against a wall to stay secure.

In addition to quality, hay and grain's accessibility can be a safety issue. Make sure your horses can't get into the grain bin and gorge themselves (a risk factor for the hoof disease laminitis).

"I've had some really determined horses where that has happened; even when you think everything is secure, double-check," Skelly says. "If a horse gets loose, can it get to your grain bin? It's not uncommon to leave the feed room door open when we're going in and out all the time but, if it isn't latched, a lot of savvy horses will just push that door open and open up the grain bin. For your horse's safety, always think worst-case scenario."

When storing hay, especially, consider its combustible properties and nearby machinery, heaters, and other sources of electricity. "I prefer to store combustibles in a separate



Store feeds and supplements in a cool, dry, secure place that horses and critters can't access.

structure from livestock,” says Skelly. “And I prefer to store machinery and fuel in a building separate from hay, although sometimes that just isn’t possible. Also, make sure that all electrical in your barns is properly installed, situated, and enclosed and suited for outdoor (use).”

Fire risk can also stem from rodents and other animals chewing on wires. And given the opportunity, rats and mice will consume and contaminate horse feeds.

Speaking of contamination, opossums can be potential equine protozoal myeloencephalitis (EPM) threats via *Sarcocystis neurona* sporocysts they can shed into feed or hay, water, or pasture via their feces.

Metal bins work best to keep out pests, as long as you secure them correctly, Skelly says, adding that rats and mice can chew through wooden or plastic bins (keep in mind sealed plastic bins can also cause feed to sweat and spoil). Be sure to secure your pet food as well, which is another big wildlife attractant.

## Medications and Vaccines

When storing medications, both over-the-counter and veterinarian-prescribed, the most important thing to do is read the

product guide ([bit.ly/3m9KiST](http://bit.ly/3m9KiST)) or data sheet (searchable online) and strictly adhere to the manufacturer’s recommendations. Some might need refrigeration or other special handling.

Some medications lose efficacy when exposed to heat or light, or even just with age, so check them periodically (for instance, set a quarterly reminder in your phone’s calendar app) to see if they’re at the toss-it point. If they are, then discard them (more on this in a moment). Some medications simply don’t work as well with age; others become dangerous or even potentially deadly.

“I have seen numerous times over the years when expired medications have had bacterial or fungal growths in them that caused severe illness and even the death of horses,” says Hays. “The multidose vials seem to be the worst, as every time you stick a needle in the vial you likely can introduce a contaminant. I’ve actually seen red pieces of the rubber seal floating around in the bottle. If you’re not extremely careful to keep the top clean and the medication stored properly, you risk severe consequences.”

As for vaccines, transport, storage, preparation, and delivery are all key to guarantee they have good efficacy when administered,

says Skelly. “Your veterinarian will have the knowledge, storage equipment, and skill to ensure your horse is vaccinated properly.

“Make sure all drugs and needles are kept locked away from the general public, both at home and when traveling,” she adds.

“Also, medication should never be stored or handled in a common area where there is human food or drink.”

Disposal is just as important as storage. “When the drugs are no longer needed or have expired, make sure they’re disposed of safely,” says Skelly. “Follow FDA guidelines for disposal of drugs ([bit.ly/3t0RVOL](http://bit.ly/3t0RVOL)) and sharps, including needles and glass vials immediately after every use ([bit.ly/3ytUiKY](http://bit.ly/3ytUiKY)). A community drug take-back program might exist in your area.”

Importantly, don’t reuse a needle under any circumstance. “Dispose of (sharps) containers when they’re three-quarters full by following your community health guidelines,” she says.

Another safety factor to consider is drug recalls. You can subscribe to consumer updates at [fda.gov/consumers/consumer-updates](http://fda.gov/consumers/consumer-updates).

If you have any doubts, Skelly says, contact the manufacturing company’s help line.

**Brief Summary:** This information is not comprehensive. Before using Equioxx® (firocoxib) tablets, please consult the product insert for full prescribing information. The product insert may be obtained from your veterinarian or by visiting [www.equioxx.com](http://www.equioxx.com).

**CAUTION:** Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian.

**Indications:** EQUIOXX Tablets are administered once daily for up to 14 days for the control of pain and inflammation associated with osteoarthritis in horses.

**Dosage and Administration:** Always provide the Client Information Sheet with the prescription. The recommended dosage of EQUIOXX Tablets is one 57 mg tablet administered orally to horses weighing 800–1300 lbs, once daily for up to 14 days. For ease of administration, EQUIOXX Tablets may be given with food.

The overall duration of treatment with any firocoxib formulation in horses, including EQUIOXX Tablets, Injection or Oral Paste, should not exceed 14 days. Please see the package insert for EQUIOXX Injection or Oral Paste for appropriate prescribing information for those formulations.

**Contraindications:** Horses with a hypersensitivity to firocoxib should not receive EQUIOXX Tablets.

**Warnings:** For use in horses only. Do not use in horses intended for human consumption. Store EQUIOXX Tablets out of the reach of dogs and other pets in a secured location in order to prevent accidental ingestion or overdose.

**Human Warnings:** Not for use in humans. Keep this and all medications out of the reach of children. Consult a physician in case of accidental ingestion by humans.

**Precautions:** Horses should undergo a thorough history and physical examination before initiation of NSAID therapy. Appropriate laboratory tests should be conducted to establish hematological and serum biochemical baseline data before and periodically during administration of any NSAID. Clients should be advised to observe for signs of potential drug toxicity and be given a Client Information Sheet with each prescription. See Information for Owner or Person Treating Horse section of this package insert.

Treatment with EQUIOXX Tablets should be terminated if signs such as inappetence, colic, abnormal feces, or lethargy are observed. As a class, cyclooxygenase inhibitory NSAIDs may be associated with gastrointestinal, renal, and hepatic toxicity. Sensitivity to drug-associated adverse events varies with the individual patient. Horses that have experienced adverse reactions from one NSAID may experience adverse reactions from another NSAID. Patients at greatest risk for adverse events are those that are dehydrated, on diuretic therapy, or those with existing renal, cardiovascular, and/or hepatic dysfunction. Concurrent administration of potentially nephrotoxic drugs should be carefully approached or avoided. NSAIDs may inhibit the prostaglandins that maintain normal homeostatic function. Such anti-prostaglandin effects may result in clinically significant disease in patients with underlying or pre-existing disease that has not been previously diagnosed. Since many NSAIDs possess the potential to produce gastrointestinal ulcerations and/or gastrointestinal perforation, concomitant use of EQUIOXX Tablets with other anti-inflammatory drugs, such as NSAIDs or corticosteroids, should be avoided.

The concomitant use of protein bound drugs with EQUIOXX Tablets has not been studied in horses. The influence of concomitant drugs that may inhibit the metabolism of EQUIOXX Tablets has not been evaluated. Drug compatibility should be monitored in patients requiring adjunctive therapy. The safe use of EQUIOXX Tablets in horses less than one year in age, horses used for breeding, or in pregnant or lactating mares has not been evaluated. Consider appropriate washout times when switching from one NSAID to another NSAID or corticosteroid.

**Adverse Reactions:** The safety and effectiveness of EQUIOXX Tablets was established in a relative bioavailability study comparing EQUIOXX Tablets and EQUIOXX (firocoxib) Oral Paste. In this study, the potential for adverse effects was not performed to support the effectiveness of EQUIOXX Tablets.

In controlled field studies, 127 horses (ages 3 to 37 years) were evaluated for safety when given EQUIOXX Oral Paste at a dose of 0.1 mg/kg (0.1 mg/kg orally once daily for up to 14 days). The following adverse reactions were observed. Horses may have experienced more than one of the observed adverse reactions during the study.

Table 1: Adverse Reactions Seen in U.S. Field Studies with EQUIOXX Oral Paste:		
Adverse Reactions	EQUIOXX n=127	Active Control n=125
Abdominal Pain	0	1
Diarrhea	2	0
Excitation	1	0
Lethargy	0	1
Loose Stool	1	0
Polydipsia	0	1
Urticaria	0	1

In these field trials, EQUIOXX Oral Paste was safely used concomitantly with other therapies, including vaccines, antelmintics, and antibiotics. The safety data sheet (SDS) contains more detailed occupational safety information. To report suspected adverse events, for technical assistance, or to obtain a copy of the SDS, contact [Boehringer Ingelheim Animal Health USA Inc.](http://BoehringerIngelheimAnimalHealthUSA.com) at 1-888-637-4251. For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VECS or online at [www.fda.gov/reportanimal](http://www.fda.gov/reportanimal).

**Animal Safety:** The safety of EQUIOXX Tablets was supported by a relative bioavailability study comparing EQUIOXX Tablets and EQUIOXX Oral Paste (see CLINICAL PHARMACOLOGY, Relative Bioavailability Study), pharmacovigilance information, and target animal safety data for existing firocoxib containing products in horses. No additional target animal safety studies were conducted with EQUIOXX Tablets.

In a target animal safety study conducted to support the approval of EQUIOXX Oral Paste, firocoxib was administered orally to healthy adult horses (two male castrates and four females per group) at 0, 0.1, 0.3 and 0.5 mg firocoxib/kg body weight (1, 3 and 5X the recommended dose) for 30 days. Administration of firocoxib at 0.3 and 0.5 mg/kg body weight was associated with an increased incidence of oral ulcers as compared to the control group but, no oral ulcers were noted with 0.1 mg/kg. There were no other drug-related adverse findings in this study.

In another target animal safety study, firocoxib was administered orally to healthy adult horses (four males or male castrates and four females per group) at 0, 0.1, 0.3 and 0.5 mg firocoxib/kg body weight (1, 3 and 5X the recommended dose) for 92 days. Administration of firocoxib at 0.1, 0.3 and 0.5 mg/kg body weight was associated with delayed healing of pre-existing oral lip, tongue, gingival and nostril ulcers. The incidence of oral ulcers was higher in all treated groups as compared to the control group.

Clinical chemistry and coagulation abnormalities were seen in several horses in the 0.5 mg/kg (5X) group. One 5X male horse developed a mildly elevated BUN and creatinine over the course of the study, prolonged buccal mucosal bleeding time (BMBT), and a dilated pelvis of the right kidney. Another 5X male had a similar adverse event during the study but the study did not have any gross abnormal findings. One female in the 5X group had a prolonged BMBT, bilateral tubulointerstitial nephropathy and bilateral papillary necrosis.

Tubulointerstitial nephropathy occurred in one 3X female, two 3X male horses, and the 5X female horse discussed above with the prolonged BMBT. Papillary necrosis was present in one 1X male horse and the 5X male horse discussed above. Despite the gross and microscopic renal lesions, all of the horses were clinically healthy and had normal hematologic, clinical chemistry and urinalysis values.

In another target animal safety study, firocoxib was administered orally to healthy adult horses (three females, two male castrates and one male per group) at 0, 0.25 mg/kg, 0.75 mg/kg and 1.25 mg/kg (0.25, 0.75 and 1.25X the recommended dose of 0.1 mg/kg) for 92 days. An additional group of three females, two male castrates and one male per group, was dosed at 1.25 mg/kg for 92 days but was monitored until Days 14F-14S. There were treatment-related adverse events in all treated groups. These consisted of ulcers of the lips, tongue and nostrils and erosions of the skin of the mandible and head. Gross and microscopic lesions of the kidneys consistent with tubulointerstitial nephropathy were seen in all treated groups. Papillary necrosis was seen in the 2.5X and 12.5X groups. In addition, several 12.5X horses had elevated liver enzymes (GGT, SDH, AST and ALT). One 2.5X horse had increased urine GGT and urine protein levels which were due to renal interstitial nephropathy. Gastric ulcers of the margo plicatus and glandular area were more prevalent in the 2.5X and 7.5X groups, but not seen in the 12.5X group. The group of horses that were monitored until Days 14F-14S showed partial to full recovery from oral and skin ulcers, but no recovery from tubulointerstitial nephropathy.

**Storage Information:** Store at room temperature, between 59°–86° F (15°–30° C). Brief periods up to 104° F (40° C) are permitted.

**How Supplied:** EQUIOXX is available as round, beige to tan, half-scored tablets, containing 57 mg firocoxib. EQUIOXX Tablets are supplied in 60 and 180 count bottles.

<sup>1</sup> McCann ME, Rickes LH, Hora DF, Cunningham PK et al. In vitro effects and in vivo efficacy of a novel cyclooxygenase-2 inhibitor in cats with lipopolysaccharide-induced pyrexia. *Am J Vet Res*. 2005 Jul;66(7):1278-84

<sup>2</sup> McCann ME, Anderson DR, Broude C et al. In vitro activity and in vivo efficacy of a novel COX-2 inhibitor in horses. Proceedings of the Academy of Veterinary Internal Medicine. 2002. Abstract 114, p.785.

<sup>3</sup> Data on file Made in France.

EQUIOXX® is a registered trademark of [Boehringer Ingelheim Animal Health USA Inc.](http://BoehringerIngelheimAnimalHealthUSA.com) ©2023 [Boehringer Ingelheim Animal Health USA Inc.](http://BoehringerIngelheimAnimalHealthUSA.com) All rights reserved. US-EQU-0381-2022 Ref: 053920787 / 053920791 11-2018



Make sure barn aisles are free of clutter that could cause horse and human accidents.

## Grooming Products

Bring all liquids and solids into a temperature-controlled environment during extremely hot or cold weather. “I live in Michigan and need to bring my summer supplies in during the winter,” says Skelly. “If they freeze, their active ingredients may be compromised. Solids, such as hoof conditioners, shampoos, and conditioners, may separate. And liquids, such as fly sprays and ointments, may lose their potency.”

Also, don’t reuse spray bottles or other containers for various chemical compounds. “Have a dedicated spray bottle for each formula,” Skelly says. “Some horses may be sensitive to specific chemicals, and the residue could trigger a reaction.”

## Barn Safety

In addition to feeds, supplements, and medications, barn safety encompasses how to store all the gear you need to care for your four-legged friends: the hoses, tools, and other equipment that can clutter barn aisles and cause horse and human accidents if we don’t take the time to return them to their designated spots.

Hoses should be out of the way of traffic so people aren’t tripping over them and horses aren’t stepping on them, Skelly says. “Ideally, you want to roll your hoses up, being careful that they’re situated where a horse walking by won’t knock them and become scared or injured.”

She recommends buying hose reels that you crank, which are easier to manage than winding hoses by hand.

“I also like hoses in wash stalls that are mounted on the ceiling from an arm you can pull around,” she adds. “That way, you don’t

have to deal with dragging hoses around your horse on the ground.”

Ideally, store other maintenance items—manure forks, rakes, shovels, wheelbarrows, etc.—in a closet or empty stall area where horses or humans can’t knock them over. “Make sure your equipment is clean before you store it, and hang tools in a safe manner (manure fork tines facing the wall, for instance, unless they’re hung where they won’t snag a horse or human) with enough space between them that if you pull one down, others don’t come crashing down behind them,” she says. “Pay attention to how much space you have, and keep things organized.”

Lastly, trash can be a rodent attractant, fire hazard, and cause of injury to horses, other animals, or humans. “Covered cans are nice (for aesthetics and to discourage trash picking), especially in larger facilities where the public visits,” Skelly says, and you want them heavy enough that they won’t fly away with a gust of wind or tip over if you brush by them. “At our barn, we have a dumpster that trash is taken to twice a day, and the manure is put into the tractor to take to the compost pile. For a smaller barn at a residence, you can use your household dumpster or take trash to the dump, depending on how you and your community handle your other trash.”

## Take-Home Message

A little homework, organization, and adherence to package directions can save you from potential disaster in your barn. Heed our experts’ advice, and you’ll spend much less time dealing with mishaps and more time enjoying your horse. **SM**

# Feel confident in their comfort

**EQUIOXX® (firocoxib) HAS MORE  
SAFETY DATA THAN ANY OTHER NSAID.<sup>1,2</sup>**

For a horse, joint disease means living in the shadow of its former self. EQUIOXX helps them escape the shadows with up to 24 hours of pain relief in just one dose!  
Talk to your veterinarian about EQUIOXX.

To explore the full **Free To Move** joint health portfolio visit  
**THEARTOFHORSE.COM**

**Equioxx®**  
(firocoxib)



**IMPORTANT SAFETY INFORMATION:** As with any prescription medication, prior to use, a veterinarian should perform a physical examination and review the horse's medical history. A veterinarian should advise horse owners to observe for signs of potential drug toxicity. As a class, nonsteroidal anti-inflammatory drugs may be associated with gastrointestinal, hepatic and renal toxicity. Use with other NSAIDs, corticosteroids or nephrotoxic medication should be avoided. EQUIOXX has not been tested in horses less than 1 year of age or in breeding horses, or pregnant or lactating mares.

<sup>1</sup> EQUIOXX product labels and FOI summaries and supplements

<sup>2</sup> Kvaternik V, Pollmeier M, et al. Pharmacokinetics and metabolism of orally administered firocoxib, a novel second generation coxib in horses. J Vet Pharmacol Ther. 2007;30(3):208-217.

EQUIOXX® is registered trademarks of Boehringer Ingelheim Animal Health USA, Inc. ©2023 Boehringer Ingelheim Animal Health USA Inc., Duluth, GA. All rights reserved. US-EQU-0392-2022-B