The array of bit types and shapes displayed in catalogs and hanging on tack room walls is daunting enough to consider, and when you add in the factor of what the bits are made of it’s hard to figure out where to start when selecting a bit.

The choice of a specific bit material matters most in its acceptance by the horse. Some materials are softer or harder, warmer or colder, sweeter or neutral in taste. Ideally, you want the horse to gently chew the bit while in work and to lightly salivate - a wet mouth is a more-lubricated mouth and thus a softer mouth.

Bit material can also be a matter of appearance. Stainless steel is the easiest to keep shiny. Bits that tend to rust have a duller finish, and bits that contain copper have a gold tinge. Many bits have a mouthpiece of one material and bit rings of stainless steel for the sake of both appearance and strength.

When it comes to price, rubber/plastics and straight copper are generally lower, while stainless is in the mid range. Lower price also generally corresponds to lower durability. With rubber/plastic and softer metals, you should frequently check the bit to make sure any chewed areas aren’t rough or sharp, which may cause sores.

Metal is usually preferred over materials such as plastic and rubber because it’s much more durable and also produces less friction. While rubber bits seem to be “soft” because of their thickness and plastic bits appealing because of their taste, they can be too thick for many horses and will tug on the skin at the corner of the mouth. Thicker isn’t softer, in rubber/plastic or metal, if the horse’s mouth inside is relatively small. Rubber and plastic bits also usually have a thin seam that can rub.

There are endless debates on the properties of various metals and how they act in the damp environment of a horse’s mouth. It’s generally believed that oxidation (rust) or copper promotes salivation. There are also considerable concerns over whether the nickel found in some bits can cause an allergic reaction and mouth sores. Some feel that mixing metals can set up a reaction in the mouth that irritates the horse.

As far as salivation is concerned, yes, certain materials promote a wet mouth better than others. However, the most important element in is the education of the hands holding the reins. A skilled rider can help a horse relax its jaw and flex at the poll, which naturally activates the salivary glands.

If you want to determine whether a particular material will make a positive difference to your horse, you need to swap out bits of the same type and size. Most people, however, don’t have access to such a variety of choices and when they try a bit with a different material it also might be a different design. In that case, there’s really no way to tell if any positive difference is really a matter of the material over the actual conformation and size of the bit.

**STAINLESS VS. SWEET**

For stainless steel, chromium is added to steel to reduce corrosion and make it shiny and strong, while up to 10% nickel is also added in varying amounts for even more durability, there’s really no way for a person buying a stainless steel bit to tell how much nickel is in the steel if they are at all concerned about a nickel contact allergy, although high-grade stainless steel is supposed to coat over the nickel and not cause any problems, even for humans sensitive to nickel.

When it comes to selecting a metal bit, the choice usually comes down to stainless, which is neutral in taste, or a metal that rusts somewhat or contains copper that is so-called “sweet” in taste, naturally encouraging gentle chewing of the bit and salivation. That’s a very individual call. There has been fairly extensive research in Europe, with specific brands touting their own

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**When You Go Shopping, remember:**

- A bit metal that tends to rust or that contains some copper will likely promote salivation.
- Synthetic materials have more friction than smooth metals.
- Stainless steel is the most durable choice.
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alloy, the most prominent being Herm Sprenger’s Aurigan, which contains no nickel. Copper-alloy bits are now very popular in sport-horse disciplines, although stainless is also still common.

**MIXING METALS**
The concern over whether mixing separate metals, especially steel and copper, could set up a mild electrical charge in the damp mouth of a horse was once so severe that it was specifically forbidden in USEF dressage rules, even to the point of not allowing bits of two different metals in a double bridle. The issue came to a head a decade ago when copper alloys became widely used in dressage bits. While these bits could differ widely in their copper content, there was little way to tell them apart by their appearance.

While an electrical charge is possible in theory, it really isn't in practical application. The horses seemed happy enough, and with no way to any longer consistently enforce the rule, it was tossed out. This is one area, however, where proponents are polar opposites - some feel mixing copper and steel is a potential irritant, such as with rollers, inlays or separate links, while others feel it is the best of both worlds.

**SHOPPING**
The predominant material in most tack shops is stainless steel. Depending on where the shop buys its inventory, and the likely interests - Western or English - of the customers, You'll see some rubber, a few plastics and various other metals.

The problem is that most bits rarely have tags that give you any real information about the bit materials. The price label may have abbreviations (SS for stainless steel, GS for German silver, and so on) for the material and manufacturer in such really tiny type that even the shop assistants won't be able to decipher it. When it comes to materials, you might be better off working from a catalog or website that can give you more information. However, what you can't tell from a catalog is whether there are any rough edges on the bit - never buy a bit until you've run your fingers over every portion, especially where the rings and mouthpiece join.

Buying used bits can be a huge bargain, but you likely won't be able to specifically identify the material. Avoid bits with plating of nickel or chrome that can chip, especially if any worn spots are showing

### Comparing Bit Materials

<table>
<thead>
<tr>
<th>Composition/Material</th>
<th>Price/Durability</th>
<th>Acceptance</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stainless Steel</td>
<td>Mid price, very durable.</td>
<td>Neutral taste. Low</td>
<td>Shiny. Often combined with other metals.</td>
</tr>
<tr>
<td>Nickel/Brass</td>
<td>Mid-high price, medium</td>
<td>Sweet taste. Good</td>
<td>Dull finish. Also called “Never Rust.”</td>
</tr>
<tr>
<td>Cold-Rolled Steel</td>
<td>Mid price and durability.</td>
<td>Sweet taste. Good</td>
<td>Often called “sweet iron.” Prone to rust, which promotes salivation. Used often in western bits.</td>
</tr>
<tr>
<td>German Silver (Up to 60% copper + zinc and nickel)</td>
<td>Mid-high price, medium durability.</td>
<td>Sweet taste. Good salivation.</td>
<td>Often used in dressage bits. Golden tint.</td>
</tr>
<tr>
<td>High-copper alloys (no nickel)</td>
<td>Mid-high price, medium durability.</td>
<td>Sweet taste. Good salivation.</td>
<td>85-90% copper. Sprenger’s Aurigan is copper/zinc/silicon. Used often in dressage bits. Golden color.</td>
</tr>
<tr>
<td>Copper</td>
<td>Low-mid price, low durability.</td>
<td>Sweet taste. Good salivation.</td>
<td>Golden color. Used only in mouth pieces, combined with steel rings for strength. Warms in mouth more quickly than steel. Inspect regularly for wear.</td>
</tr>
<tr>
<td>Multi-metals (Usually stainless steel with copper inlays or rollers)</td>
<td>Mid-price, medium durability.</td>
<td>Sweet taste. Good salivation.</td>
<td>Combines the durability of stainless with taste of copper.</td>
</tr>
<tr>
<td>Plastic/Nylon</td>
<td>Mid-price, low durability.</td>
<td>Sweet taste. Varied salivation.</td>
<td>Can be flexible or have steel core for strength. Happy Mouth most well-known and has “apple” taste.</td>
</tr>
<tr>
<td>Rubber over steel</td>
<td>Low to high price, low durability.</td>
<td>Varied acceptance. Low salivation.</td>
<td>Thick. A “grinder” can chew right through it. A latex wrap can turn any bit into a rubber bit with the thickness you want.</td>
</tr>
</tbody>
</table>
Bit material may be the least of your concerns when choosing a bit or trying to figure out why your current bit isn’t working as well as it should. Look first to the size and shape of your horse’s mouth, particularly whether your horse has a relatively low palate or particularly thick tongue and lips—something that doesn’t necessarily correspond to the size of the horse. Other things to consider:

**Size.** A snaffle should be roughly a half inch wider than the mouth to avoid pinching the lips.

**Thickness.** More surface generally means a milder effect. However, a horse with a small mouth or low palate may not have enough room for a thick bit and will be more comfortable in a thinner choice.

**Type.** Hundreds of options here, depending on performance needs. The snaffle bit most likely to be accepted has two joints and a short rounded center set at an angle (around 45 degrees) that allows it to drape over the tongue when the reins are taken up rather than pointing up into the roof of the mouth.

**Adjustment.** A snaffle should be high enough in the mouth to have two small wrinkles at each corner. A bit that is too low in the horse’s mouth will bang against the teeth or could encourage too much tongue activity, even allowing the tongue to get over the bit.

**Rein attachment.** If a bit has multiple rings, placing the rein on lower rings will create greater pressure on the poll.

**Cleanliness.** Make it part of your routine to dunk the bit in your horse’s water bucket when you unbridle. When gunk solidifies on the bit, it can rub the horse’s mouth.

**Dental.** Lack of competent dental care can be a greater source of bit issues than the choice of the bit itself.

**Rider.** The education of the rider’s hand is the most important element to acceptance of the bit. A rider with a soft, steady connection to the reins and who knows how to encourage a horse to relax its jaw and poll can make most bits look like the “right choice” as long as the size and adjustment is correct.

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**BOTTOM LINE**

The most basic training bit is a stainless steel, loose-ring, double-jointed snaffle with a short, rounded center section. Stainless should be your place to start when considering materials for any type of bit—it’s durable, attractive, moderate in price and neutral in taste.

If you want to particularly promote salivation, consider copper or a copper-alloy. Certain high-copper alloys also are available without nickel, if that is a priority. Otherwise, if you’re trying to solve a “problem” in bitting, look first to dental, fit and equitation before testing out an array of bit types and materials.

*Article by Associate Editor Margaret Freeman.*