

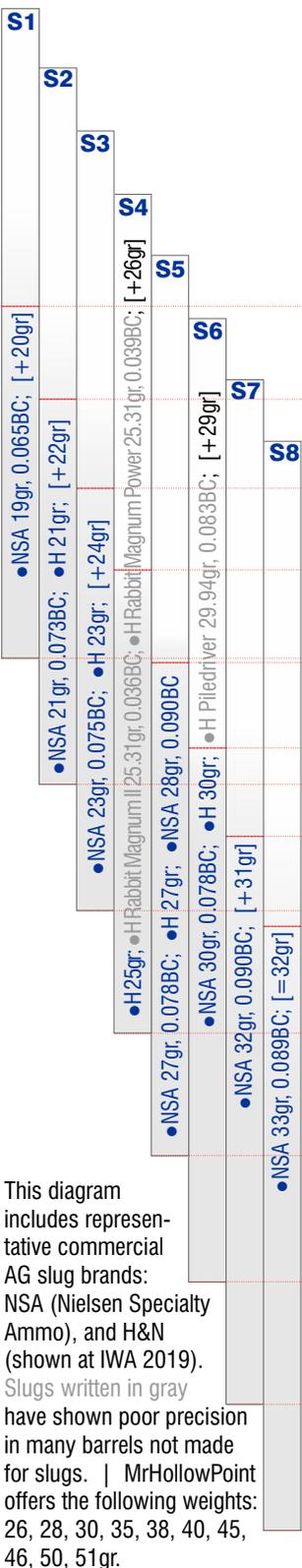
Choose the **Power** of Your Gun Wisely - As It Restricts Your **Pellet/Slug** Options

JungleShooterX@gmail.com (© 2019-04)

Considerations, for midrange shooting (30+ yards) and beyond:

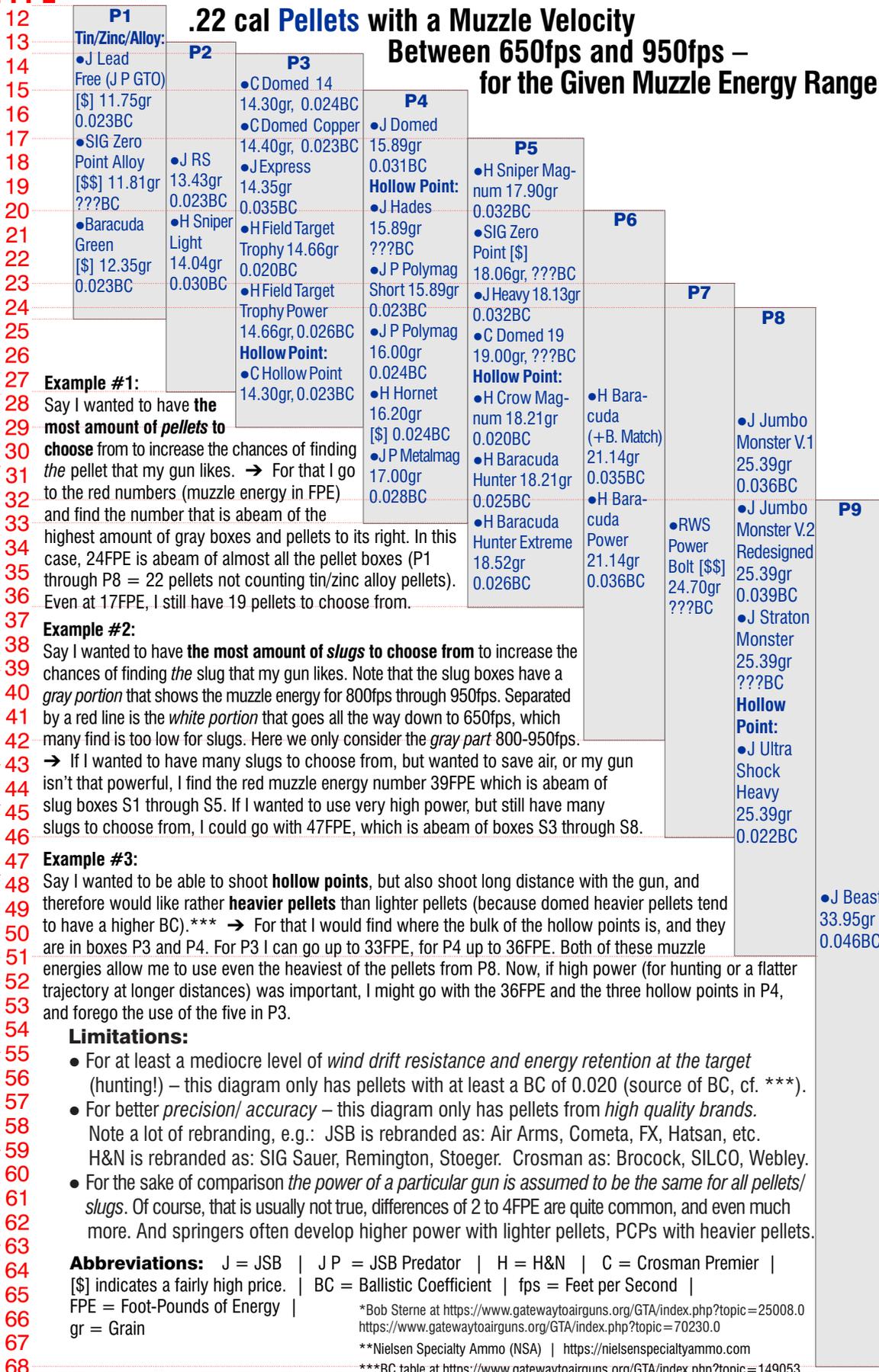
- (1) To avoid extreme levels of *drag and instability* at transsonic speeds – pellets/slugs should have a *max. velocity* of *c. 950fps*.*
- (2) To avoid unreasonably *steep trajectories and instability* – pellets should have a *min. velocity* of *c. 650fps* – slugs preferably higher like *800fps*.**
- (3) In order to find just the **Muzzle Energy in FPE** right pellet that the gun likes (*best precision*) – it is better to have *more* pellets to choose from rather than *less*.
- (4) To have a *flatter trajectory* for mid range and especially long range shooting – it is better for pellets/slugs to have a *higher velocity*. Also, hollow points have a *better expansion* at higher velocities.

.22 cal Slugs with a Muzzle Velocity Between 650/800fps and 950fps – for the Given Muzzle Energy Range



Muzzle Energy in FPE

.22 cal Pellets with a Muzzle Velocity Between 650fps and 950fps – for the Given Muzzle Energy Range



Example #1:

Say I wanted to have the most amount of pellets to choose from to increase the chances of finding the pellet that my gun likes. → For that I go to the red numbers (muzzle energy in FPE) and find the number that is above of the highest amount of gray boxes and pellets to its right. In this case, 24FPE is above of almost all the pellet boxes (P1 through P8 = 22 pellets not counting tin/zinc alloy pellets). Even at 17FPE, I still have 19 pellets to choose from.

Example #2:

Say I wanted to have the most amount of slugs to choose from to increase the chances of finding the slug that my gun likes. Note that the slug boxes have a gray portion that shows the muzzle energy for 800fps through 950fps. Separated by a red line is the white portion that goes all the way down to 650fps, which many find is too low for slugs. Here we only consider the gray part 800-950fps. → If I wanted to have many slugs to choose from, but wanted to save air, or my gun isn't that powerful, I find the red muzzle energy number 39FPE which is above of slug boxes S1 through S5. If I wanted to use very high power, but still have many slugs to choose from, I could go with 47FPE, which is above of boxes S3 through S8.

Example #3:

Say I wanted to be able to shoot hollow points, but also shoot long distance with the gun, and therefore would like rather heavier pellets than lighter pellets (because domed heavier pellets tend to have a higher BC).*** → For that I would find where the bulk of the hollow points is, and they are in boxes P3 and P4. For P3 I can go up to 33FPE, for P4 up to 36FPE. Both of these muzzle energies allow me to use even the heaviest of the pellets from P8. Now, if high power (for hunting or a flatter trajectory at longer distances) was important, I might go with the 36FPE and the three hollow points in P4, and forego the use of the five in P3.

Limitations:

- For at least a mediocre level of *wind drift resistance and energy retention at the target* (hunting!) – this diagram only has pellets with at least a BC of 0.020 (source of BC, cf. ***).
- For better *precision/ accuracy* – this diagram only has pellets from *high quality brands*. Note a lot of rebranding, e.g.: JSB is rebranded as: Air Arms, Cometa, FX, Hatsan, etc. H&N is rebranded as: SIG Sauer, Remington, Stoeger. Crosman as: Brocock, SILCO, Webley.
- For the sake of comparison *the power of a particular gun is assumed to be the same for all pellets/slugs*. Of course, that is usually not true, differences of 2 to 4FPE are quite common, and even much more. And springers often develop higher power with lighter pellets, PCPs with heavier pellets.

Abbreviations: J = JSB | J P = JSB Predator | H = H&N | C = Crosman Premier | [\$] indicates a fairly high price. | BC = Ballistic Coefficient | fps = Feet per Second | FPE = Foot-Pounds of Energy | gr = Grain

*Bob Sterne at <https://www.gatewaytoairguns.org/GTA/index.php?topic=25008.0>

**Nielsen Specialty Ammo (NSA) | <https://nienspecialtyammo.com>

***BC table at <https://www.gatewaytoairguns.org/GTA/index.php?topic=149053>

This diagram includes representative commercial AG slug brands: NSA (Nielsen Specialty Ammo), and H&N (shown at IWA 2019). Slugs written in gray have shown poor precision in many barrels not made for slugs. | MrHollowPoint offers the following weights: 26, 28, 30, 35, 38, 40, 45, 46, 50, 51gr.