

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

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

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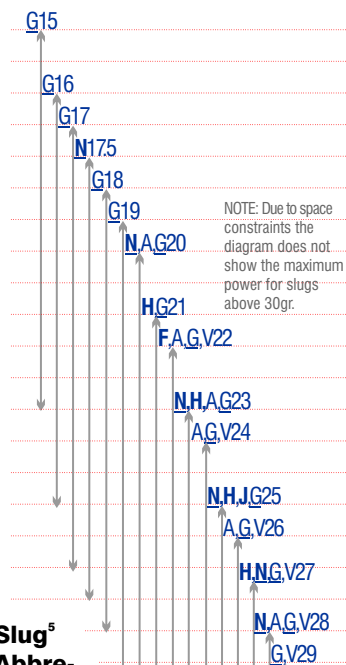
- (1) To avoid extreme levels of *drag and instability* at transsonic speeds – pellets should have a *max. velocity* of c. 950fps, slugs about 1000fps.¹
- (2) To avoid unreasonably *steep trajectories and instability* – pellets should have a *min. muzzle velocity* of c. 600fps – slugs preferably higher than 800fps².
- (3) In order to find just the

Muzzle Energy in FPE^{9/10}

- (4) To have a *flatter trajectory* at longer ranges – it is better for pellets/slugs to have a *higher velocity*.
- (5) For *hollow points to expand* – they need to have at least 650fps on impact! Normally 700 to 800fps,³ requiring high muzzle energies.

.22 cal Slugs⁶ with a Muzzle Velocity Between 800fps and 1000fps – for the Given Muzzle Energy Range (reduced by 3FPE)

For each of the blue slug weights the gray slug arrows indicate the power range at which that slug can be used at. E.g.: Slug G15 from 24 to 36 FPE.



NOTE: Due to space constraints the diagram does not show the maximum power for slugs above 30gr.

Slug⁵ Abbreviations and Prices⁵ per Shot

The blue letter indicates the brand, the number the weight, **bold** indicates low prices (in US cents):
A = Air Velocity Sport (12-13c) | Alt = Altaras (12c) | F = FX (12c) | G = Griffin: Up to 8 variations for each weight (bases, tips) (14,18,22c) | H = H&N (6c) | J = JSB (5c) | N = NSA (5-6c) in 5 diameters | V = Varmint Knockers (15, 20c)
Not included: • Bec. expensive (28-50c): Mr Hollow Point (26-51gr); Lead Fist Slugs (23gr); Pro Hunter (UK, 23-28gr).

.22 cal Pellets⁶ with a Muzzle Velocity Between 600fps and 950fps – for the Given Muzzle Energy Range

P1	P2	P3	P4	P5	P6	P7	P8	P9
•J RS 13.43gr 0.023BC Tin/Zinc Alloy: •J GTO Lead Free [\$] 11.75gr 0.023BC •Baracuda Green [\$] 12.96gr 0.023BC	•C Domed 14 14.30gr, 0.024BC •C Domed Copper 14.40gr, 0.023BC •J Express 14.35gr, 0.030BC •SIG Venom Lead 14.50gr, ???BC •H Field Target Trophy 14.66gr, 0.020BC •H Field Target Trophy Power 14.66gr, 0.026BC (HP, non-expanding:) •C Hollow Point 14.30gr, 0.023BC	•J Domed 15.89gr 0.031BC •R Super Field 15.90gr ???BC •Norma Golden Trophy FT 15.90gr ???BC Hollow Point: •J Hades 15.89gr 0.023BC •J P Polymag Short 15.89gr 0.023BC •J P Polymag 16.00gr 0.024BC •H Hornet [\$] 16.20gr 0.024BC •H Terminator 16.36gr 0.020BC	•SIG Dagger Lead 16.60gr ???BC Hollow Point: •SIG Zero Lead 16.66gr ???BC •J P Metalmag 17.00gr 0.028BC •C Gold Tip 17.40gr ???BC	•Norma Golden Trophy FT Heavy 17.60gr ???BC •J Heavy 18.13gr 0.032BC Hollow Point: •H Crow Magnum 18.21gr 0.020BC •H Baracuda Hunter 18.21gr 0.025BC	•C Domed 19 19.00gr 0.021BC Hollow Point: •H Baracuda Hunter Extreme 18.52gr 0.026BC	•H Baracuda (+Baracuda Match) 21.14gr 0.035BC •H Baracuda Power 21.14gr 0.036BC	•RWS Power Bolt [\$] 24.70gr ???BC •J Jumbo Monster V.1 25.39gr 0.036BC •J Jumbo Monster V.2 Redesign 25.39gr 0.039BC Hollow Point: •J Ultra Shock Heavy 25.39gr 0.022BC	•J Beast 33.95gr 0.046BC

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 abeam of the highest amount of pellets in the gray pellet boxes to its right. In this case, 24FPE is abeam of all the pellet boxes (P1 through P9 = 3/32 lead pellets + 2 tin/zinc alloy pellets). Even at 15FPE, I still have 26 lead + 2 alloy pellets to choose from (P1-P6).

Example #2:

Say I wanted the **largest amount of slugs** to choose from in order to increase the chances of finding the slug that my gun likes. → For that I go to the red numbers (muzzle energy in FPE) and find the number that is abeam of the highest amount of slugs – i.e., a slug is appropriate for a certain power if the red dotted line crosses the gray slug arrow. So, for 27FPE, there are 4 slugs to choose from (G15 through N,A,G20). For 31FPE, there are 10 slugs (G15 through N,A,G20). For 36FPE – 19 slugs (G15 through N,H,A,G23). For 43FPE – 37 slugs (the max.).

Example #3:

Say I wanted to shoot **hollow point pellets**, but also shoot long distance, and therefore would like to use **slugs** (super high BC), which usually requires a high powered gun. → For that I first find where the bulk of the hollow point pellets is: they are in boxes P3, P4, P5, and P6. For P3 I can use up to 33FPE, for P4 34FPE. With 33FPE I have 11 HP pellets and 12 slugs available. With 34FPE: 7 HP pellets and 16 slugs.

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. ⁴).
- For better *precision/ kill power* – only domed high BC and expanding pellets from *high quality brands* are included here. Note that a lot are rebranded, e.g.: JSB is rebranded as: Air Arms, Cometa, FX, Hatsan, etc. H&N is rebranded as: 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*. But 2-4FPE differences are common. Often, heavy pellets develop higher power in PCPs and lower power in springers.
- Slugs often have several FPE less than pellets shooting from the same gun (because of more friction in the barrel). The diagram adjusts for this by showing the slugs needing 3FPE more than the pellets.

Abbreviations:

J = JSB | J P = JSB Predator | H = H&N | C = Crosman Premier | R = RWS | [\$] indicates a relatively high price. | BC = ballistic coefficient | fps = feet per second | FPE = foot-pounds of energy | HP = hollow point

Footnotes:

- ¹ Drag increases (and BC decreases) *dramatically* beyond these velocities! Due to aerodynamics (i.e., form factor) for wadcutters and HP this happens earlier – for slugs a bit later. Cf. Bob Sterne at: <https://www.gatewaytoairguns.org/GTA/index.php?topic=25008.0> | <https://www.gatewaytoairguns.org/GTA/index.php?topic=70230.0> | <https://www.gatewaytoairguns.org/GTA/index.php?topic=159961.0>
- ² Nick Nielsen, Nielsen Specialty Ammo (NSA), at: <https://niensenspecialtyammo.com/pages/ordering-q-a> | and: *What Is the Best Hunting Pellet*
- ³ Hector Medina at: <https://www.ctcustomairguns.com/hectors-airgun-blog/the-universal-pellet-is-here>
- ⁴ Pellet Table/ BC List at: www.gatewaytoairguns.org/GTA/index.php?topic=149053
- ⁵ Slug Table at: <https://www.airgunnation.com/topic/slug-table-a-spec-list-of-what-slugs-are-out-there-in-22cal>
- ⁶ Discontinued: SIG Zero Point and Wraith series; H&N Piledriver, Sniper series; Not included: H&N Rabbit.