Canola (*Brassica napus*), Turnips (*Brassica rapa L. var. rapa (L.) Thell*), Collards (*B. oleracea* var. *acephala* and *B. juncea*), Kale (*Brassica napus L. var. pabularia*), Mustards (*Brassica* spp.) Several brassicas are used in cover crop mixtures. If planted early in fall, they provide weed suppression. In this region, brassicas are planted primarily for biomass, but can also loosen the soil, scavenge nitrogen, and provide early flowers for beneficial insects and pollinators. All brassicas need to be planted early, preferably before before 1st week in October. They can be planted early in hotter August weather if adequate moisture is present.

Recommended Varieties

Variety	Reasons Why	Source
Dwarf Essex, Bonar, Pasja (Forage), Appin (Forage)	Rapeseed varieties provide early flowers and fibrous root systems. Forage varieties typically produce more aboveground biomass. Can be used in row crop/animal operations.	
T-Raptor	Hybrid between turnips and rape.	
Hunter and Winfred Hybrid turnips	Provide good cover and some weed control.	Green Cover Seed

Planting Information

Information	Comments		Source
Drilled Seed Depth (inches)	¼ - ¾		Managing Cover Crops Profitably
Drilled Seeding Rate (lbs/acre)	5 - 12		Managing Cover Crops Profitably
Broadcast Seeding Rate (lbs/acre)	8 - 15		Managing Cover Crops Profitably
Aerial Seeding Rate (lbs/acre)	N/A		

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Termination Information

Information	Source
Brassicas will winter kill after two consecutive nights of temperatures below ~20 ° F. These may not reliably winterkill in the Piedmont. Brassicas can be terminated by herbicides, mowing, heavy grazing, and tillage. They need to be killed before full bloom to seed set. Termination with herbicides is most effective when the plant is less than 10 inches tall. Rapeseed has proved difficult to kill with glyphosate, requiring a higher than normal rate of application – at least 1 quart/ac of glyphosate – and possibly multiple applications. Many Extension recommendations are for glyphosate + 2,4-D at 1 pt to 1 qt/acre. Addition of atrazine before corn/sorghum or metribuzin before soybeans should be considered. Dicamba has no herbicide activity. If not completely killed, rapeseed volunteers can be a problem in the subsequent crop. Turnips can be rolled and crimped when they are in flower, but roller crimping is not usually a reliable termination method for brassicas. Consult your local Extension and state Pest Management Handbook for herbicide recommendations. Always follow the herbicide label.	Managing Cover Crops Profitably, USDA Field Mustard Plant Guide, VA county agent – personal communication

Cultural Traits

Traits		Comments	Source
Typical Dry Matter Range (lbs/acre)	2,000 - 5,000		Managing Cover Crops Profitably
Typical Total N Range (lbs/acre)	N/A	Rapeseed is very good at N scavenging and mustards are good.	Managing Cover Crops Profitably
Life Cycle	Winter annuals or biennials		Managing Cover Crops Profitably
Growth Habit	Upright		Managing Cover Crops Profitably
Preferred Soil pH	5.5 - 8.0		Managing Cover Crops Profitably
Relative Seed Cost ($/acre)	$$ - $$$$	Kale and mustard are more expensive than rapeseed.	Based on survey of seed costs using maximum price and max seeding rate
Min. Germination Temp (F)	40 - 45°		Managing Cover Crops Profitably, USDA Field Mustard Plant Guide
Cautions		You should use caution including brassicas in mixtures if other brassicas are in your crop rotations. These could serve as a disease bridge. Whiteflies are known to overwinter on collards.	

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Sources:

Green Cover Seed: https://www.greencoverseed.com/

Managing Cover Crops Profitably: https://www.sare.org/Learning-Center/Books

USDA Field Mustard Plant Guide: https://plants.usda.gov/plantguide/pdf/pg_brrar.pdf