

- PI 574632 **origin:** United States. **cultivar:** PH2. **pedigree:** Resistant wild Helianthus accessions X HA 89. F1 plants resistant to all 4 North American rust races backcrossed to HA 89. BC1F1 resistant plants backcrossed to HA 89. Self-pollinated resistant BC2F1, BC2F2 and BC2F3 plants. **remarks:** Most plants single-headed and self-compatible. Plant height 1.5m. Seeds either black or black with white stripes, 1,000 seed weight of 34g. 87.5% cultivated H. annuus and 12.5% wild Helianthus nuclear genes in HA 89 cytoplasm. BC2F4 generation has dominant resistance genes against each of the four predominant North American rust races with an approximate frequency of 66%. Spring Annual. Breeding Material. Seed.
- PI 574633 **origin:** United States. **cultivar:** PH3. **pedigree:** Resistant wild Helianthus accessions X HA 89. F1 plants resistant to all 4 North American rust races backcrossed to HA 89. BC1F1 resistant plants backcrossed to HA 89. Self-pollinated resistant BC2F1, BC2F2 and BC2F3 plants. **remarks:** Most plants single-headed and self-compatible. Plant height 1.5m. Seeds either black or black with white stripes, 1,000 seed weight of 34g. 87.5% cultivated H. annuus and 12.5% wild Helianthus nuclear genes in HA 89 cytoplasm. BC2F4 generation has dominant resistance genes against each of the four predominant North American rust races with an approximate frequency of 66%. Spring Annual. Breeding Material. Seed.
- PI 574634 **origin:** United States. **cultivar:** PH4. **pedigree:** Resistant wild Helianthus accessions X HA 89. F1 plants resistant to all 4 North American rust races backcrossed to HA 89. BC1F1 resistant plants backcrossed to HA 89. Self-pollinated resistant BC2F1, BC2F2 and BC2F3 plants. **remarks:** Most plants single-headed and self-compatible. Plant height 1.5m. Seeds either black or black with white stripes, 1,000 seed weight of 34g. 87.5% cultivated H. annuus and 12.5% wild Helianthus nuclear genes in HA 89 cytoplasm. BC2F4 generation has dominant resistance genes against each of the four predominant North American rust races with an approximate frequency of 66%. Spring Annual. Breeding Material. Seed.