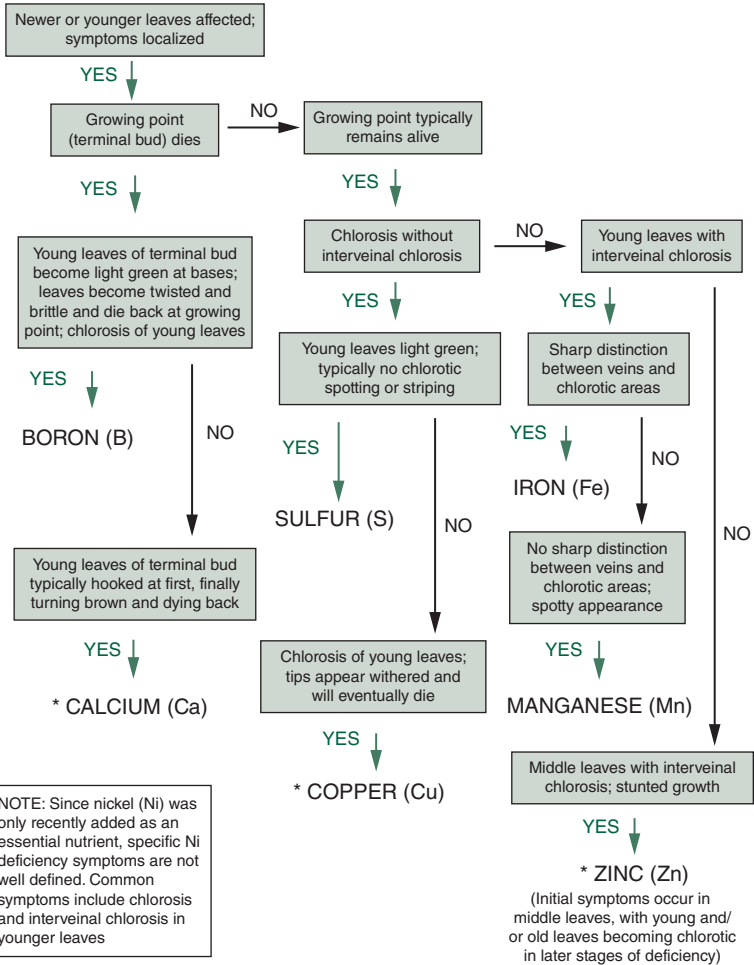IMMOBILE NUTRIENTS